Financial Literacy

Scope and Sequence
of Expectations

2011
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PREFACE

Since making financial decisions has become an increasingly complex task in the modern world, people need to have knowledge in various areas and a wide range of skills in order to make informed decisions about financial matters. They need to be aware of risks that accompany various financial choices. They also need not only to develop an understanding of world economic forces, but also to become aware of ways in which they themselves can respond to those influences and make informed choices. It is therefore essential that financial literacy be considered an important attribute of a well-educated population so that Ontarians may continue to prosper in the future.

It is in this context that the Ministry of Education is emphasizing the importance of ensuring that Ontario students have the opportunity to improve their financial literacy. Financial literacy may be defined as “having the knowledge and skills needed to make responsible economic and financial decisions with competence and confidence”.\footnote{\textit{A Sound Investment: Financial Literacy Education in Ontario Schools}, Report of the Working Group on Financial Literacy (Toronto: Ministry of Education, Ontario, 2010), p. 7.} In addition to acquiring knowledge in such specific areas as saving, spending, borrowing, and investing, students need to develop skills in problem solving, inquiry, decision making, critical thinking, and critical literacy related to financial issues. The goal is to help students acquire the knowledge and skills that will enable them to understand and respond to complex issues regarding their own personal finances and the finances of their families, as well as to develop an understanding of local and global effects of world economic forces and the social, environmental, and ethical implications of their own choices as consumers.

This \textit{Scope and Sequence} resource document is designed to assist teachers in achieving this goal by highlighting opportunities that already exist to help students acquire skills and knowledge related to financial literacy in each discipline in Grades 9 to 12. The Ministry of Education is working to embed financial literacy expectations and opportunities in all subjects in Grades 4 to 8 and all disciplines in Grades 9 to 12 in the Ontario curriculum, as appropriate, as part of the ongoing curriculum review process. This document will be updated regularly to reflect changes related to financial literacy in revised curriculum policy documents that have come into effect.

Some disciplines, by virtue of their content, are more closely linked to the development of skills and knowledge related to financial literacy than others, but all disciplines provide opportunities to make connections to financial literacy to some extent. This document identifies both the expectations that are connected explicitly with aspects of financial literacy and those that can provide opportunities for teachers and students to make connections to financial topics or issues in various ways. Brief explanations of such opportunities are provided in the introductory paragraph(s) for various disciplines, where necessary.
The expectations listed in this resource document are taken from the current Ontario curriculum policy documents for Grades 9 and 10 and Grades 11 and 12 in the following disciplines:

- the arts
- business studies
- Canadian and world studies
- classical studies and international languages
- computer studies
- English
- English as a second language and English literacy development
- French as a second language
- guidance and career education
- health and physical education
- interdisciplinary studies
- mathematics
- Native languages
- Native studies
- science
- social sciences and humanities
- technological education

The date of publication of each of the documents represented is given in the heading at the start of the section for each discipline.

The disciplines are organized alphabetically in the document, and expectations are presented under the name of the strand within which they appear in the curriculum policy document. (Examples and teacher prompts are included only if they have a connection to financial and economic considerations.)

Expectations are cited in the way in which they appear in the various documents. For example, the overall and specific expectations from recently revised documents are identified using the numbering system that is used in the particular document (e.g., “1”, “1.1”, “1.2”, or “A1”, “A1.1”, “A1.2”). Expectations from older documents are identified as follows:

- for overall expectations
  - for specific expectations

Expectations that are related to one another (e.g., an overall expectation and its corresponding specific expectations; several specific expectations from the same subsection) are grouped wherever possible. Subheadings from the curriculum document are used where necessary to indicate that expectations are from separate sections in the same strand.

For the purposes of this document, the text that normally precedes the expectations – “By the end of this course, students will” – has been omitted.
THE ARTS, GRADES 9 AND 10 (2010) AND
GRADES 11 AND 12 (2010)

See the Preface for important information on the organization of the following material.

All courses in the arts curriculum require students to identify and explore arts-related careers and postsecondary pathways in which their interests and skills in the arts can be applied. Such career exploration relates directly to financial literacy, as students consider the ways in which their financial needs can be met by pursuing careers connected to their interests, skills, and aptitudes. Connections to financial literacy can be made throughout all arts courses, in which students are expected to develop skills related to reflecting, responding, and self-awareness. These skills are transferable and can also be applied in contexts involving financial considerations.

Dance, Grade 9, Open (ATC1O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify knowledge, skills, and personal qualities/attitudes they have acquired or strengthened through dance studies that can be applied in other settings and to a variety of careers (e.g., personal qualities such as willingness to take risks, discipline, cooperativeness, empathy, willingness to take responsibility)

Teacher prompt: “Is the behaviour expected of you in dance class the same as or different from your usual behaviour outside of class? What situations outside dance class might have behavioural expectations similar to those in the class?”

Dance, Grade 10, Open (ATC2O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify physical, intellectual, and artistic skills that are developed through dance and explain how they can be applied to a variety of careers (e.g., with a partner, research and report on possible summer volunteer or employment opportunities where their learning in dance could be helpful)

Teacher prompt: “What skills that you’ve learned in dance class are required for employment in any field?”
Drama, Grade 9, Open (ADA1O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.3 identify and describe various roles, responsibilities, and competencies of key personnel in theatre work (e.g., director, actor, stage manager, set/costume designer, front-of-house administrator, executive producer)

*Teacher prompt:* “What skills and preparation would you need for the role of a stage manager?”

Drama, Grade 10, Open (ADA2O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.3 identify connections between their learning in drama and possible employment opportunities in the broader educational and arts sector (e.g., production and/or performance roles in community theatre, television/radio broadcasting, filmmaking)

*Teacher prompt:* “How would you go about gaining experience if you were interested in working in television? What skills might you need to be successful in that field?”

Integrated Arts, Grade 9 or 10, Open (ALC1O/ALC2O)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom
B4.1 identify skills, character traits, and work habits that are developed through the processes of creating, analysing, presenting, and/or promoting art works, including integrated art works/productions (e.g., problem-solving skills; technical skills; their ability to express themselves; character traits developed through collaboration, such as cooperativeness, flexibility, and respect for the opinion of others; ability to work in teams and independently), and describe how they can be applied outside the classroom (e.g., create a visual organizer to compare integrated arts skills with Essential Skills in the Ontario Skills Passport or Human Resources and Skills Development Canada [HRSDC] Essential Skills; describe how their cooperative work habits can be applied in family situations or in their job; …)

*Teacher prompt:* “What decision-making and problem-solving skills developed in this course can be applied in your part-time job?”
B4.2 identify and explore arts-related careers and secondary and postsecondary pathways that reflect their interests and skills (e.g., create a list of college and university programs and apprenticeships related to their field of interest in the arts; conduct on-line research on arts-related careers; hold mock interviews for a position in the arts and culture industry; create a personal skills inventory and compare it to the skills required in their field of interest; interview [online or in person] an artist in their community about that person’s career choice)

Teacher prompts: “What arts-related career opportunities exist in our community?” “Are there any local artists working in your area of interest? What types of skills would you need to develop to do this kind of work?”

Media Arts, Grade 10, Open (ASM2O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.2 identify and describe the skills required in careers related to media arts (e.g., animator, music composer for film/video, special effects artist, video editor)

Teacher prompt: “What skills do you need in order to become a successful interactive online game designer? Describe how these skills are used in this career.”

B3.3 identify and describe skills and understandings acquired through the creative and critical analysis processes in the media arts (e.g., collaborative, technical, analytical, and communication skills; ability to meet deadlines; ability to understand multiple points of view; cultural awareness), and describe how they can be applied in everyday life (e.g., to analyse an item in the mass media)

Teacher prompts: “What skills have you learned through media arts that make you a more critical consumer of media? How might this critical ability affect the decisions you make in your personal life?” “Describe how media arts processes have improved your communication skills. How can these skills help you in your job, at school, or with your friends and family?”

Music, Grade 9, Open (AMU1O)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom
B4.1 identify and describe a variety of work or career possibilities related to music study (e.g., explore job websites; interview a freelance musician and report on his or her typical work week; identify the positions and track the responsibilities of all the people involved in the production and marketing of a commercial recording, including those involved in touring and publicity)

Teacher prompts: “What are some of the benefits and drawbacks of pursuing a career in music?” “What sorts of activities might a freelance musician combine to make a living in the music field?”
Music, Grade 10, Open (AMU2O)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom

B4.1 identify and describe a variety of music-related work opportunities that reflect their own skills and knowledge (e.g., identify music-related part-time jobs and/or work-related activities that would be appropriate for them at their skill level, such as providing singing lessons for younger children, teaching music at a summer camp, job shadowing a music producer; identify cooperative education opportunities; create a résumé and job search list for summer employment in the field of music; list possible performance opportunities; create a business plan that outlines ways they could generate income through music)

Teacher prompt: “Where might you find information about summer or part-time jobs related to music that would suit your interests and skills?”

Visual Arts, Grade 9, Open (AVI1O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify types of knowledge and skills acquired in visual arts (e.g., knowledge related to visual literacy; creative problem-solving skills; visual communication skills), and describe how they could be applied in a variety of areas of personal and professional life

Teacher prompts: … “Describe how you have used your creative problem-solving skills in a situation that was not related to making or looking at art.”

B3.2 identify a variety of secondary and postsecondary pathways and careers related to visual arts (e.g., postsecondary arts programs; careers in advertising, animation, art therapy, fashion design, graphic design)

Teacher prompt: “What careers can you think of that are related to visual arts? How could you go about expanding and varying this list? Would a college pathway allow you to enter all of these careers, or would some require a different pathway?”

B3.3 identify, on the basis of exploration, a variety of personal opportunities in their community in cultural or other fields related to visual arts (e.g., volunteer or job opportunities at a local organization where they could use and/or develop their skills in visual arts)

Visual Arts, Grade 10, Open (AVI2O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify types of knowledge and skills acquired in visual arts (e.g., knowledge related to visual literacy; creative problem-solving skills; skills related to visual communication, spatial organization, and presentation), and describe how they could be applied in a variety of careers and in various areas of study
Teacher prompts: “Can you think of ways in which your visual arts skills could be used in the future, either for work or for school? What are some fields, other than fine arts or commercial art, in which you could apply these skills?”

B3.2 identify, on the basis of research, a variety of secondary and postsecondary pathways and careers related to visual arts (e.g., apprenticeships; postsecondary art programs; art-related careers in advertising, animation, fashion design, filmmaking, graphic design, industrial design, photo journalism) and the education required for these careers

Teacher prompts: “What sorts of apprenticeships are available for someone wanting to pursue a career in fashion design?” “Would you require a college certificate or university degree to pursue a career in art therapy?”

C. Foundations

C3. Responsible Practices

C3.1 identify legal and ethical issues associated with visual arts (e.g., copyright; ownership of virtual and intellectual property; …), and demonstrate legal and ethical practices when creating, presenting, and/or promoting art works (e.g., seek permission before incorporating copyrighted materials in their art work; show respect for intellectual property; …)

Teacher prompts: …“What does the term intellectual property mean?”

Dance, Grade 11, University/College Preparation (ATC3M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify a variety of career options that are available in the dance arts and the skills required for each (e.g., dancer, choreographer, instructor, set/costume/lighting designer, publicist, production manager, dance reviewer)

Teacher prompts: “What are some careers in the dance arts that support performers?” “How many people are required to work on a professional dance show and what are their duties?”

Dance, Grade 11, Open (ATC3O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 identify physical, intellectual, and artistic skills that are developed through dance, and explain how they can be applied to a wide range of careers (e.g., identify occupations that require the type of discipline and patience needed to participate in ballet class)

Teacher prompt: “What skills or personal qualities are developed through studying classical East Indian dance? What careers require similar skills or qualities?”
Dance, Grade 12, University/College Preparation (ATC4M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 Identify and describe a variety of postsecondary destinations in the field of dance and the training or education required for each (e.g., occupations in dance arts advocacy, administration, creation, design and production, education, fund-raising, performance, staging).

Teacher prompt: “What postsecondary institution(s) provide instruction in dance notation? What were some of the career options and choices made by individuals who have embarked on that career?”

Dance, Grade 12, Workplace Preparation (ATC4E)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.2 Identify and document transferable workplace skills they have acquired through their dance studies, and possible workplace applications of those skills (e.g., compile a record of the skills developed during task planning, decision making, problem solving, and information gathering for dance activities).

Teacher prompts: “What did you learn about problem solving while creating choreography in a small group?” “Could the verbal skills you developed while giving feedback to your peers be useful in a professional environment? In what kinds of situations?” “How would maintaining a portfolio of your learning in dance help you in developing a résumé or describing your skills and experience to a prospective employer?”

Drama, Grade 11, University/College Preparation (ADA3M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.1 Identify the collaborative skills and techniques they used to produce ensemble drama works, and explain how they can be applied in a variety of other contexts …

Teacher prompt: “How could you use the teamwork skills learned in drama in other areas of our school? In the community? In the workplace?”

B3.3 Relate the various functions they have performed in drama activities to educational and career opportunities in the broader educational and arts sectors (e.g., describe, in a portfolio, how the skills acquired through involvement in community theatre can be applied elsewhere in the arts; identify postsecondary careers and university and college programs in the field of drama and theatre where they could apply their drama experience and skills).

Teacher prompt: “What roles are open to volunteers in community theatre? How might volunteer work with a community theatre group contribute to your learning in drama?”
Drama, Grade 11, Open (ADA3O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.3 relate skills and knowledge they have developed through drama to opportunities for employment in the broader educational and arts sectors (e.g., create a scrapbook or portfolio that showcases their set design work; identify cooperative education placements that reflect their particular theatre interests; write a résumé to support an application for an audition; write a review of a community theatre production and post it on the Internet or submit it for publication to a community newspaper)

Teacher prompt: “What have you learned from your drama studies that you can apply to your part-time job, postsecondary study, or potential employment opportunities?”

Drama, Grade 12, University/College Preparation (ADA4M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.3 identify current and potential educational and career opportunities in the dramatic arts, and describe the competencies required in those fields (e.g., volunteer, part-time, or career opportunities in local media or arts organizations such as a television station, community theatre, art gallery, or summer arts camp)

Teacher prompts: “Which postsecondary programs offer the best training for actors?”
“What jobs and careers have your drama skills prepared you for?”

Drama, Grade 12, Workplace Preparation (ADA4E)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.3 identify and describe employment opportunities and careers in the theatre industry, and describe the competencies they require (e.g., outline the responsibilities of different types of theatre workers, such as actor, backstage technician, front-of-house staff, custodial staff, arts administrator)

Teacher prompt: “What skills and preparation would you need for these workplace roles? How have your classroom drama activities equipped you for some or all of these roles?”
Exploring and Creating in the Arts, Grade 11 or 12, Open (AEA3O/AEA4O)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom

B4.2 describe, on the basis of research, arts-related careers and secondary and postsecondary pathways that reflect their interests and skills (e.g., reflect on their interests, conduct personal skills inventories, and research employment opportunities that reflect their interests and skills; explore college and university arts programs and arts-related apprenticeships; compile a list of arts organizations in their community and the types of career opportunities available with them)

Teacher prompts: “What arts-related career opportunities that are of interest to you exist in our community? What types of educational background and work experience do they require?” “What arts career opportunity most interests you? What skills do you see as necessary in order to succeed in this area?”

Media Arts, Grade 11, University/College Preparation (ASM3M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.2 analyse skills connected with design, production, distribution, or management processes in media arts (e.g., skills needed for image manipulation, digital video editing, sound editing, multimedia authoring; skills related to leadership, innovation, teamwork), and explain how these skills can be applied in a range of careers related to media arts (e.g., animation, commercial photography, filmmaking, graphic design, journalism, photojournalism)

Teacher prompt: “How has research into a number of fields related to media arts informed your awareness and understanding of future opportunities in these fields? Do you have all the skills necessary to be successful in one of these fields? If not, what other skills would you need to develop to help you achieve success?”

Media Arts, Grade 11, Open (ASM3O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom

B3.2 identify skills associated with media arts (e.g., planning and organizational skills; skills in using web-creation software or 2D and 3D animation software; skills related to digital imaging, digital sound recording, video editing), and explain how these skills can be applied in a range of careers related to media arts (e.g., e-learning designer, graphic artist, storyboard artist)

Teacher prompt: “What skills do you need to become a successful web designer or sound engineer? Explain why these skills are important in this career.”
Media Arts, Grade 12, University/College Preparation (ASM4M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.2 analyse and assess their personal skills and interests in relation to careers connected with design, production, distribution, or management processes in media art (e.g., strong technological skills and interest in evolving technologies and media, incisive analytical skills, the ability to respond in a timely fashion to fast-changing demands, leadership and interpersonal skills, communication skills; the relationship between these skills and careers such as animator, artistic director, educator, entrepreneur, media critic, producer)

Media Arts, Grade 12, Workplace Preparation (ASM4E)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.2 identify their personal skills and interests as they relate to jobs associated with media arts (e.g., conduct an inventory of their skills and interests as they relate to jobs such as producer, web designer, media critic, video game designer, interactive television producer, on-line journalist, DJ; perform a gap analysis to determine the skills they need to acquire or improve on in order to achieve their employment goals), and describe the educational requirements for those jobs
B3.3 explain how media arts skills and processes can facilitate tasks in the workplace (e.g., explain how the critical analysis process could be applied to assess the artistic merits of an advertising campaign, how presentation skills developed during the creative process could be applied in a business presentation, or how collaborative skills could be used in working with other people; compare media arts skills to the skills listed in the Ontario Skills Passport)

Music, Grade 11, University/College Preparation (AMU3M)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom
B4.1 assess their interests, skills, and knowledge in relation to a variety of music-related careers (e.g., create a reverse plan, from a music career they would like to pursue to their prospective educational pathway; summarize their skills, interests, and experience in a résumé that could be used to apply for work in a recording studio, music store, or musical theatre production; determine the skills and educational requirements of a range of jobs generated by the musical entertainment industry)
Teacher prompts: “What skills, knowledge, and attitudes are required for work as a recording engineer? A disc jockey? A studio musician? What skills and/or knowledge would you have to acquire to work at one of these jobs?” “What skills and background does a professional classical musician require?” “What is the salary range for a member of a classical ensemble? How might a professional musician supplement this salary?”
Music, Grade 11, Open (AMU3O)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom

B4.1 identify and describe the skills and knowledge required to pursue careers connected to the arts and culture industry (e.g., describe possible music industry careers and the requirements for specific jobs; use a career-profiling website to assess their own interests, skills, and aspirations and match these with appropriate careers in the cultural industry; investigate the skills required for careers that support musicians and composers, such as artist management, instrument making or repair, music promotion and marketing, recording or sound engineering)

Teacher prompts: “Based on your current interests, skills, and level of knowledge, what music-related career could you pursue that would provide an adequate living?” “What types of jobs does the production of a large-scale musical generate? What skills do these jobs require?”

B4.2 describe educational pathways that would enable them to prepare for careers in planning, promoting, producing, and/or performing in musical presentations (e.g., conduct a live or electronic interview with a music producer or promoter in their community, focusing on the educational prerequisites and ongoing learning requirements for the field; create a promotional poster for a postsecondary school of music that illustrates possible careers associated with its music program)

Teacher prompts: “What non-music courses would help you acquire skills and knowledge related to the promotion or production of musical presentations?” “How might you assess the value or appropriateness of a course or program in music?”

Music, Grade 12, University/College Preparation (AMU4M)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom

B4.1 assess their interests, skills, and knowledge in relation to a variety of careers in the arts and culture industry (e.g., interview a Canadian composer to determine the skills necessary to succeed in this profession and to discover how this individual makes a living; identify and assess the requirements of careers related to the promotion and marketing of artists, including musicians; identify and evaluate the requirements of careers related to music education; identify opportunities at arts advocacy organizations, and describe the background required for these jobs)

Teacher prompts: “What kinds of careers in music would allow you to combine your interest in the arts with social or political activism?” “What type of experiential learning might you pursue to help determine whether a career in the arts and culture sector suits you?”
Music, Grade 12, Workplace Preparation (AMU4E)

B. Reflecting, Responding, and Analysing

B4. Connections Beyond the Classroom
B4.1 identify, and assess the requirement for, jobs or careers that utilize skills and knowledge acquired through the study of music (e.g., prepare for and conduct a mock job interview, focusing on the skills developed through the study of music; invite a master who supervises an apprenticeship program in a trade related to music to visit the class and discuss the skills and training necessary for the trade; job-shadow a worker in a career in the music industry that can be accessed through a workplace pathway)

Teacher prompts: “What music-related jobs and careers can be accessed directly out of high school?” “How might you use the skills you have developed through the study of music in jobs outside the music industry?”

Visual Arts, Grade 11, University/College Preparation (AVI3M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.1 identify a variety of careers in fields related to visual arts (e.g., advertising, art direction for theatre or films, art therapy, costume design, graphic design, industrial design, museum or gallery curation, photojournalism), and describe the skills, education, and training they require

Visual Arts, Grade 11, Open (AVI3O)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.1 explain how knowledge and skills acquired in visual arts (e.g., knowledge related to visual literacy; creative thinking and problem-solving skills; skills related to visual communication, spatial organization, and presentation; interpersonal skills developed through collaboration) could be applied in a wide variety of careers and in areas of future study

Teacher prompt: “Which skills have you acquired in visual arts that would contribute to your leadership potential in a career outside the arts? Explain how you could use these skills.”
Visual Arts, Grade 12, University/College Preparation (AVI4M)

B. Reflecting, Responding, and Analysing

B3. Connections Beyond the Classroom
B3.1 analyse, on the basis of self-directed research, the requirements for postsecondary study and for careers of personal interest in arts-related fields (e.g., college and university programs and scholarship opportunities; apprenticeships; opportunities for independent artists; careers in architecture, arts advocacy, art therapy, education, filmmaking, museum or gallery curation, photography)

B3.3 analyse a variety of local, national, and global arts-based advocacy organizations with reference to the type of work they do, their effectiveness, and the possibility of students’ working with them or receiving funding from them (e.g., investigate organizations such as the Ontario Arts Council, the Ontario Crafts Council, the Canada Council for the Arts, UNESCO, the International Association of Art, private foundations that provide grants to artists; prepare an application for a grant or other funding)

Visual Arts, Grade 12, Workplace Preparation (AVI4E)

B. Reflecting, Responding, and Analysing

B2. Art, Society, and Values
B2.2 explain ways in which art works, particularly applied or commercial art works (e.g., advertising, ... product packaging, ...), reflect the values of the society in which they were created

Teacher prompt: “In what ways do advertisements for cosmetics and clothing reinforce cultural ideas about personal appearance?”

B3. Connections Beyond the Classroom
B3.1 describe, on the basis of research, a variety of work opportunities related to the field of visual arts (e.g., apprenticeships or internships in fashion design, graphic arts, or stage or set construction; jobs in interior design, jewellery design, website design; jobs in the sale and promotion of pottery or woodwork), describe the skills they require, and compare these skills to their own skill set

Teacher prompts: “What arts-related opportunities in the world of work exist for someone with visual arts skills and knowledge?” “What particular skills do you possess that are well suited to a job that interests you in the visual arts field?”

See the Preface for important information on the organization of the following material.

Introduction to Business, Grade 9 or 10, Open (BBI1O/BBI2O)

Business Fundamentals

Note: Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
• demonstrate an understanding of how businesses respond to needs, wants, supply, and demand
• compare types of businesses
• demonstrate an understanding of ethics and social responsibility in business
• demonstrate an understanding of the benefits and challenges for Canada in the field of international business

Functions of a Business

Human Resources
• explain the role of human resources in business
  – describe the functions of human resource management
  – identify key employability skills (e.g., time management, Conference Board of Canada employability skills)
  – identify the rights and responsibilities of employees and employers (e.g., as set out in labour laws, employer–union agreements/contracts, and equity, human rights, and harassment policies)
  – describe a variety of business career paths

Marketing
• demonstrate an understanding of the importance and role of marketing in business
  – explain the role and the impact of marketing (e.g., for businesses, non-profit organizations, events)
  – identify the four Ps (product, price, place, and promotion) and the two Cs (competition and consumer) of marketing and apply the concepts by developing a strategy to market a good, service, or event
  – compare the advantages and disadvantages of the major types of advertising (e.g., TV, radio, print, Internet, billboards)
  – design an advertisement appropriate for a specific good, service, or event
  – identify and describe different types of marketing research tools (e.g., interviews, questionnaires, focus groups, telemarketing)
  – design and implement, using appropriate tools, a marketing research plan for a good, service, or event, and produce a report on the results
Accounting
- demonstrate an understanding of the importance and role of accounting in business
  - define basic terms used in accounting (e.g., profit, loss, income, asset, liabilities)
  - describe how accounting procedures (e.g., calculating profit, tracking income and expenses, determining the worth of a company) contribute to the success of a business
  - create and analyse simple balance sheets and income statements

Finance

Note: Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
- demonstrate an understanding of income and spending issues facing individuals and businesses
- demonstrate an understanding of how banks and other financial institutions operate
- demonstrate an understanding of effective investment practices
- analyse the role and importance of credit in personal and business finance

Entrepreneurship

Characteristics, Skills, and Contributions
- describe characteristics and skills associated with successful entrepreneurs and demonstrate an understanding of the contributions to Canadian business of selected entrepreneurs
  - describe the characteristics and skills often associated with successful entrepreneurs at the local, national, and international level
  - analyse their own entrepreneurial strengths and interests
  - describe the lives and accomplishments of a variety of Canadian entrepreneurs
  - describe and evaluate either their own or an existing idea for an entrepreneurial endeavour in their school or community

Invention and Innovation
- describe how entrepreneurs discover opportunities in people’s needs, wants, and problems

Information and Communication Technology in Business, Grade 9 or 10, Open (BTT1O/BTT2O)

Productivity Software

Spreadsheet
- use spreadsheet software to perform a variety of tasks
  - input, organize, and format data in a spreadsheet
  - use formulas and functions (e.g., sum, average, minimum, maximum) to perform specific spreadsheet tasks
  - produce spreadsheet documents (e.g., budget, inventory, payroll, invoice) to manage data
  - use software to produce charts that visually represent spreadsheet data
**Ethics and Issues in Information and Communication Technology**

**Privacy and Security Issues**
- analyse privacy and security issues relating to information and communication technology
  - describe privacy and security issues related to information and communication technology (e.g., protection of credit card information; cookies; identity theft; spyware; …)
  - explain the importance of keeping information secure and confidential (e.g., through the use of passwords, encryption, biometric authentication, firewalls)
  - analyse the form and potential impact of computer viruses
  - explain how anti-virus software applications in a business environment enhance system security

**ACCOUNTING, GRADES 11 AND 12**

There are four accounting courses offered in the Grade 11 and 12 business studies curriculum. All expectations in these courses relate directly to financial literacy. All businesses use accounting to organize, understand, and communicate all aspects of their financial position. Ultimately, it is this understanding that helps people make wise business decisions. Students who learn not only the fundamentals of accounting, but also how to think and apply that knowledge, will have the confidence to integrate accounting principles and practices into their work in a wide spectrum of careers.

For each of the four accounting courses, only the strand titles and overall expectations are included. For all expectations in these courses, go to the Grade 11 and 12 business studies curriculum document on the ministry’s website, at www.ontario.ca/edu.

**Financial Accounting Fundamentals, Grade 11, University/College Preparation (BAF3M)**

**Fundamental Accounting Practices**
- describe the discipline of accounting and its importance for business
- describe the differences among the various forms of business organization
- demonstrate an understanding of the basic procedures and principles of the accounting cycle for a service business

**Advanced Accounting Practices**
- demonstrate an understanding of the procedures and principles of the accounting cycle for a merchandising business
- demonstrate an understanding of the accounting practices for sales tax
- apply accounting practices in a computerized environment
Internal Control, Financial Analysis, and Decision Making
• demonstrate an understanding of internal control procedures in the financial management of a business
• evaluate the financial status of a business by analysing performance measures and financial statements
• explain how accounting information is used in decision making

Ethics, Impact of Technology, and Careers
• assess the role of ethics in, and the impact of current issues on, the practice of accounting
• assess the impact of technology on the accounting functions in business
• describe professional accounting designations and career opportunities

Accounting Essentials, Grade 11, Workplace Preparation (BAI3E)

Fundamentals of Accounting for Business
• describe the nature of accounting and explain its importance in managing a business
• analyse the different types of business ownership
• describe the differences among various sources of financing available to businesses

The Accounting Cycle
• describe the accounts for a service business
• apply the appropriate procedures at each stage of the accounting cycle for a service business
• apply accounting procedures for sales tax for a service business

Internal Control, Banking, and Computerized Accounting
• demonstrate an understanding of the importance of proper internal control
• apply the recording and reporting procedures for banking and cash management
• use accounting or applications software to complete the accounting cycle for a service business

Decision Making, Ethics, and Careers
• describe how accounting information is used to help in decision making
• explain the importance of ethics in accounting and in business in general
• demonstrate an understanding of career opportunities in accounting
Financial Accounting Principles, Grade 12, University/College Preparation (BAT4M)

The Accounting Cycle
• demonstrate an understanding of accounting principles and practices
• demonstrate an understanding of the accounting cycle in a computerized environment for a service business and a merchandising business
• demonstrate an understanding of ethics and issues in accounting

Accounting Practices for Assets
• demonstrate an understanding of accounting procedures for short-term assets
• analyse accounting procedures for inventories
• demonstrate an understanding of methods of accounting for capital assets

Partnerships and Corporations
• demonstrate an understanding of accounting in partnerships
• demonstrate an understanding of accounting in corporations

Financial Analysis and Decision Making
• compare methods of financing
• explain and interpret a corporation’s annual report
• use financial analysis techniques to analyse accounting data for decision-making purposes

Accounting for a Small Business, Grade 12, Workplace Preparation (BAN4E)

Service and Merchandising Businesses
• demonstrate accounting skills related to the accounting cycle for a service business
• demonstrate an understanding of inventory systems
• demonstrate accounting skills related to the accounting cycle for a merchandising business

Accounting Practices
• demonstrate an understanding of special journals
• apply accounting procedures for accounts receivable
• apply accounting procedures for accounts payable

Fixed Assets, Payroll, and Income Tax
• describe and apply accounting procedures for fixed assets
• demonstrate an understanding of payroll practices
• demonstrate an understanding of income tax procedures

Ethical Issues, Budgets, and Business Expansion
• identify and describe ethical challenges for, and the impact of current issues in, accounting
• explain the budgeting process
• describe issues facing a growing business
Entrepreneurship: The Venture, Grade 11, College Preparation (BDI3C)

Entreprising People and Entrepreneurs

Characteristics and Contributions of an Entrepreneur

- compare the characteristics and contributions of various entrepreneurs
- identify the skills (e.g., negotiating, interpersonal, money management, selling) required for entrepreneurial success
- outline the importance of incorporating ethical practices and social responsibility when operating a business venture
- describe the impact that local entrepreneurs have had on the community (e.g., by creating jobs, providing community leadership, funding scholarships)
- describe the effect that changes brought about by entrepreneurs have had on the lives of people (e.g., workers, consumers, business people)

Ideas and Opportunities for New Ventures

Sources of Opportunities and Ideas

- analyse various methods of generating ideas and identifying opportunities to satisfy needs and wants
- explain how new ventures have been developed in response to consumer needs or wants
- analyse, using a variety of sources (e.g., books, magazines, personal observation, the Internet), current economic trends (e.g., greater discretionary income of youth) and social trends (e.g., aging population, increasing cultural diversity) in order to generate ideas for new ventures

Generating Ideas and Identifying Opportunities

- generate realistic new ideas and identify possible opportunities for a school-based or student-run business
- apply creative-thinking strategies (e.g., mind mapping, brainstorming) to determine possible solutions to unsatisfied needs and wants in the school or the community
- use a variety of sources (e.g., books, magazines, personal observation, the Internet) to identify potential opportunities for new ventures in the school or the community
- apply a decision-making model to select a feasible idea for a new good or service that can become the basis for a venture plan for a school-based or student-run business

Evaluating an Idea or Opportunity for a Venture

- conduct primary and secondary marketing research to evaluate the idea or opportunity for their proposed venture
- use methods of marketing research (e.g., primary and secondary) to determine whether demand exists for their proposed good or service (e.g., conduct a survey, record personal observation)
- use appropriate sources (e.g., local school board, local chamber of commerce, Statistics Canada, city hall) to identify the characteristics (e.g., demographic, geographic, socio-economic) of potential target markets for their proposed good or service
– identify and assess the potential competition for their proposed good or service (e.g., use SWOT analysis, PEST analysis, Porter’s five forces model)
– identify the services required for the proposed venture (e.g., accounting, legal, consulting) and assess their potential impact on the venture
– evaluate the opportunity or idea for their proposed venture to determine its viability (e.g., availability of start-up capital, size of target market, technological feasibility, suitability for their personal skills and interests)

**Developing and Completing a Venture Plan for the Proposed Business**

**The Financial Plan**

- complete the components of an effective financial plan for their chosen venture
  - analyse financial goals that an entrepreneur might establish for a new business venture (e.g., break-even point, projected profit levels, return on investment, market share)
  - analyse specific financial goals for their chosen venture
  - assess the importance of a cash-flow projection and create such a projection for their venture plan
  - calculate the start-up capital needed for their chosen venture
  - identify sources and methods of financing their chosen venture (e.g., government loans, private investors, bank loans, loans from family and friends, credit from suppliers)

**Entrepreneurship: The Enterprising Person, Grade 11, Open (BDP3O)**

**The Changing Nature of the Workplace**

*Note:* Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.

- describe the major factors affecting the labour market
- analyse the changing nature of work and the workplace
- analyse the characteristics of work environments that promote enterprising behaviour and identify the factors that influence the creation of such an environment
- demonstrate an understanding of the range of employability skills and how these are affected by the changing nature of work

**Enterprising Skills**

*Note:* Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.

- assess the skills of an enterprising employee
- assess the extent to which they have developed enterprising skills
- analyse activities and experiences to identify those that develop enterprising skills in managing risks, using creative-thinking and problem-solving techniques, and sharing ideas
Entrepreneurship: Venture Planning in an Electronic Age, Grade 12, College Preparation (BDV4C)

E-Commerce and Venture Planning

E-Commerce Challenges and Opportunities
- analyse the challenges and opportunities of doing business on the Internet
  - identify types of e-commerce used by entrepreneurs (e.g., business to business, business to consumer, consumer to consumer)
  - analyse the challenges of and trends in e-commerce of significance to entrepreneurs (e.g., keeping up with the increase in online commercial activity; trends in Internet sales to consumers and types of goods and services purchased online by businesses)

The Impact of E-Commerce
- evaluate the impact of e-commerce on small business
  - explain how e-commerce affects small business (e.g., increased competition, different methods of payment, increased worldwide market)
  - identify the technical, security, and business risks involved with implementing e-commerce in a small business (e.g., viruses, hackers, credit card fraud)
  - evaluate the ethical issues involved for small businesses that do business electronically (e.g., confidentiality, establishing credibility and integrity)
  - evaluate the financial implications for a small business of doing business electronically (e.g., currency fluctuations, tariffs, shipping)

The Venture Concept

Start-up Challenges and Opportunities
- summarize the factors that contribute to the success or failure of a new venture (e.g., technological skills and equipment; adequacy of capitalization; management and risk-management skills; ability to adapt to changes in economic conditions; environmental issues; effects of globalization; government policies)
  - analyse the conditions (e.g., competitive, regulatory, economic, social, technological) facing ventures starting up in various markets

Identifying and Evaluating Entrepreneurial Opportunities
- identify community problems, needs, or wants, and explain how selected problems, needs, or wants could be addressed
  - identify community problems, needs, or wants that could best be addressed by a not-for-profit venture, and explain why

Types of Ventures
- compare the various forms of business ownership (e.g., sole proprietorship, partnership, corporation, cooperative, franchise) and select the one most appropriate for their chosen opportunity and idea
Preparing for Start-up

Human and Physical Resources
- determine the human resources (e.g., level and skill of employees) and related supports (e.g., benefit plans, training programs) their venture would require

Legal Requirements
- determine the legal requirements and estimated costs of establishing the form of business ownership for their venture (e.g., sole proprietorship, partnership, corporation) and registering the business name
- describe how they would obtain patent, copyright, and/or trademark protection
- compare the types and costs of insurance available for their venture
- identify the international, federal, and provincial legislation relating to e-commerce and describe what these laws involve

Financing
• determine the financial requirements and sources of financing for their venture
  - estimate the amount of capital that would be required to launch their venture
  - differentiate between the resources required by their venture that are categorized as fixed costs and those that are variable costs
  - identify and describe the financial statements required by their venture (e.g., income statement, balance sheet, cash-flow forecast)
  - describe the moral and ethical issues that may arise when determining an acceptable level of profit for their venture
  - identify the advantages and disadvantages of various sources of capital for their venture (e.g., family, personal savings, bank loan, private equity, government grants)
  - develop an effective strategy for raising capital for their venture

Targeting Customers

Market Analysis
- analyse strategies (e.g., pricing, promotion, distribution) for marketing the good or service that is the basis for their venture

Promotional Strategies
• develop effective promotional strategies for their venture
  - develop an initial promotional strategy to launch their venture (e.g., a plan for the grand opening, coupons, giveaways)
  - develop an advertising strategy (e.g., using flyers, brochures, banner advertisements, websites, local radio and television advertisements, word of mouth, publicity) and a promotional strategy (e.g., using business cards, coupons) to help establish and maintain an identity for their venture
  - analyse growth strategies (e.g., offering new products or services, developing new pricing policies, finding new channels of distribution) and expansion strategies (e.g., franchising, acquiring a competitor’s business, establishing new branches) for their venture
Developing a Venture Plan

Preparing the Venture Plan
• produce, using appropriate computer software, the elements of a venture plan, including a production plan, marketing plan, human resources plan, management plan, and financial plan that are most appropriate for their proposed venture
  – develop, using appropriate software, the production, marketing, human resources, management, and financial components of their venture plan
  – compare models of venture-planning frameworks (e.g., models available from Canadian financial institutions, the Entrepreneurship Centre)
  – explain how different types of computer software can assist in venture planning (e.g., spreadsheet software to help prepare financial statements; chart wizard to help prepare graphs; …)

INFORMATION AND COMMUNICATION TECHNOLOGY, GRADES 11 AND 12

Information and Communication Technology: The Digital Environment, Grade 11, Open (BTA3O)

Productivity Software

Spreadsheet
• demonstrate the ability to use advanced features of spreadsheet software to perform a variety of tasks
  – use spreadsheet software features (e.g., format, link, sort, chart) and functions (e.g., financial, logical) to perform specific tasks
  – manipulate data, using spreadsheet software, to complete a variety of tasks (e.g., budgeting, balance sheet, inventory, payroll, amortization)
  – use support tools and features (e.g., wizards, manuals, online help features, tutorials) to enhance their spreadsheet skills

E-Business

The Impact of E-Business
  – identify advantages and disadvantages of e-business from a consumer and a business perspective
  – assess financial implications of purchasing online (e.g., exchange rates, shipping and handling, taxes and duties)

Information and Communication Technology Ethics and Issues

Legal, Social, and Ethical Issues
  – describe the social and ethical issues related to the use of information and communication technology in business (e.g., equity and access issues, use of spyware, employee monitoring, sale of customer information)
Privacy and Security Issues
• analyse privacy and security issues related to conducting business electronically
  – explain the reasons for protecting information and computer systems, and the methods of protection (e.g., passwords, firewalls, login, anti-virus software) used in stand-alone and networked environments
  – describe privacy and security issues (e.g., cybercrime, loss of privacy, identity theft, viruses) related to the use of information and communication technology tools
  – identify the security measures that e-businesses provide for consumers (e.g., encryption of credit card information, passwords, user identification)

Information and Communication Technology: Multimedia Solutions, Grade 12, College Preparation (BTX4C)

The Electronic Business Environment

Business Ethics
• assess the importance of adhering to ethical standards when conducting business electronically
  – analyse the impact of information and communication technology on a business code of ethics
  – explain the importance of observing ethical standards when conducting business electronically
  – assess the consequences of unethical behaviour related to information and communication technology for an employee and for a business

Electronic Communications

Digital Portfolio
  – identify employability skills and essential skills by accessing appropriate websites (e.g., Conference Board of Canada, Human Resources and Social Development Canada), and assess and summarize these skills
  – select relevant information and appropriate samples of their work to be included in a digital portfolio that can be used for a variety of purposes (e.g., job search, school admission, program admission, job promotion)

E-Commerce Solutions
• demonstrate an understanding of e-commerce solutions
  – identify features of payment gateways for e-commerce (e.g., merchant account, real-time credit authorization, off-line order processing)
  – identify methods used by consumers to pay for online purchases (e.g., smart card, digital wallet, person-to-person payment)
  – summarize, on the basis of research, different methods of advertising used on websites to generate revenue (e.g., banner ads, interstitial ads, sponsorship/partnership ads)
  – describe security measures used on websites (e.g., SSL, encryption, digital certificates, digital signatures)
  – analyse privacy policies on e-commerce websites
Information and Communication Technology in the Workplace, Grade 12, Workplace Preparation (BTX4E)

The Electronic Workplace Environment

Workplace Ethics
• explain the importance of adhering to ethical standards when conducting business electronically
  – explain why it is important to have a personal code of ethics
  – identify important elements of a business code of ethics
  – describe the consequences of unethical behaviour related to information and communication technology for an employee and for a business

Applications Software

Using Software for a Team Project
– use appropriate software to organize the tasks involved in completing a team project (e.g., setting goals, organizing tasks, scheduling, budgeting, controlling, evaluating)

Preparation for Employment

Note: Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
• demonstrate an understanding of the importance of keeping an updated digital portfolio that accurately reflects their information and communication technology competencies and skills for job interview purposes
• demonstrate an understanding of strategies for conducting an effective job search
• develop strategies to make an effective transition from school to career

INTERNATIONAL BUSINESS, GRADE 12

International Business Fundamentals, Grade 12, University/College Preparation (BBB4M)

Business, Trade, and the Economy

Note: Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
• demonstrate an understanding of terminology, concepts, and basic business communication practices related to international business
• analyse the impact of international business activity on Canada’s economy
• demonstrate an understanding of how international business and economic activities increase the interdependence of nations
The Global Environment for Business

*Note:* Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.

- analyse ways in which Canadian businesses have been affected by globalization
- demonstrate an understanding of the factors that influence a country’s ability to participate in international business
- assess the effects of current trends in global business activity and economic conditions

Factors Influencing Success in International Markets

**Cultural Factors**
- explain how the global market (e.g., global distribution and availability of products) has affected consumer demand

**Political, Economic, and Geographic Factors**
- assess the ways in which political, economic, and geographic factors influence international business methods and operations
- evaluate the advantages and disadvantages in both developed countries and developing countries with regard to business opportunities (e.g., size of consumer base, government regulations, infrastructure, cost of labour)
- explain the impact that geography and political and economic systems have on international business
- describe the roles corporations can play in the setting of international and domestic policy (e.g., lobbying, participating in trade missions)

Avoiding Common Mistakes
- identify and describe common mistakes made by businesses in international markets
- identify and describe the problems that some companies have experienced when exporting goods and services (e.g., changes in exchange rates, increases in duties, restrictions on products)

Canada’s International Competitiveness
- evaluate the factors currently affecting the international competitiveness of Canadian businesses
- explain how changes in the value of the Canadian dollar can affect business opportunities (e.g., how a lower-valued dollar can boost export sales in the short run)

Marketing Challenges and Approaches, and Distribution

**Marketing Challenges**
- assess the challenges facing a business that wants to market a product internationally
- identify the types of products that trade freely into and out of Canada and those that are restricted in their movement (e.g., textiles, softwood lumber, firearms)
- analyse the legal, political, and financial challenges a company faces in getting a product to different markets
- explain the importance of understanding consumer differences (e.g., with regard to cultural norms, disposable income, spending habits) when marketing globally
Marketing Approaches
• compare the approaches taken by various companies to market their products internationally
  – identify market-entry strategies used by companies for entering foreign markets
  – describe, on the basis of online investigation, the ways in which information and
    communication technology (e.g., as used in e-commerce, e-distribution, data mining)
    influences global marketing strategies
  – compare marketing approaches taken by companies in different foreign markets

Distribution and Logistics
  – identify, drawing on a variety of sources, including the Internet, information to facilitate
    the import/export process (e.g., International Trade Canada, brokerage firms)

Working in International Markets

Ethical Issues
• analyse the ways in which ethical considerations affect international business decisions
  – evaluate the ethical issues that arise for companies competing internationally, in relation
    to the following groups: consumers (e.g., safety, fair pricing, disclosure); stockholders
    (e.g., fair return, controlled risk); employees (e.g., fair wages, good working conditions,
    outsourcing, regulation of child labour); the host country (e.g., effects on local economy,
    respect for local laws and cultural preservation); and society (e.g., sustainability of
    development, practices to combat corruption)
  – analyse the ways in which international development agencies (e.g., United Nations
    organizations, Word Health Organization) and non-governmental organizations (e.g.,
    Greenpeace, World Safety Organization) promote economic progress in developing countries

Border Issues
• demonstrate an understanding of the process for crossing international borders as it relates to
  international business
  – explain the role of the Canada Border Services Agency (e.g., facilitating legitimate cross-
    border traffic, supporting economic development)
  – analyse, drawing on information from a variety of sources, including the Internet, the
    impact of recent international events (e.g., 9/11, SARS outbreak in Toronto, discovery of
    BSE in Canadian cattle) on Canadian international business

International Business Essentials, Grade 12, Workplace Preparation (BBB4E)

Canada in the Global Marketplace

Note: Since all expectations in this strand relate to financial literacy, only the overall
expectations have been included here.
• identify the advantages, disadvantages, and challenges associated with international business
  activity
• explain why Canadian companies have become involved in international business
• describe the evolution of Canada’s international business activities and relationships
• determine how Canadians have been affected by international business activity
International Markets

Business Opportunities
• describe the ways in which a company can explore business opportunities in international markets
  – describe the features of local, regional, national, and international markets
  – describe the factors influencing a company’s participation in business opportunities in other countries (e.g., trade agreements, language barriers, currency fluctuations, geography)
  – describe the ways in which a company can determine whether a potential market exists for its imports or exports

Operational Challenges
• evaluate the challenges confronting the operation of an international business
  – describe the factors that influence a company’s ability to compete internationally (e.g., cost of labour, availability of appropriate technology, quality of management, levels of efficiency, marketing skills)

Import and Export Considerations
  – demonstrate numeracy skills by converting a variety of international currencies to Canadian dollars

Conducting International Business

Ethical Issues
• demonstrate an understanding of the way in which ethical considerations affect international business decisions
  – compare the code of ethics for a variety of international companies
  – describe ways in which multinational enterprises have both positive and negative effects on the countries in which they operate
  – summarize the ethical issues that arise for companies that are competing internationally (e.g., fair wages, regulation of child labour, cultural preservation, environmental practices)

International Marketing
• summarize the effects and challenges of marketing internationally
  – compare the challenges of marketing and exporting a good with those of marketing a service internationally
  – describe how the exchange of products by buyers and sellers creates a market
  – explain the factors (e.g., cultural sensitivity, appropriate packaging, logistical considerations) that contribute to the marketing plan for the export of a product
  – create advertisements for the same product that target markets in two different countries

Effects of Technology
  – describe how technology has influenced the business practices (e.g., ... marketing, ...) of companies competing in international business
International Careers and Skills

Career Opportunities
• summarize a wide range of career opportunities available in international business
  – describe the factors that influence an individual’s decision to explore work opportunities in another country (e.g., quality of life, available opportunities, working conditions, political and economic stability, salaries and benefits)
  – describe the jobs in a multinational company that specifically involve international activity
  – describe work opportunities available in international businesses

Effects of International Business on Jobs in Canada
• explain the effect of international business activity on jobs in Canada
  – identify occupations that have experienced increased employment in Canada in recent years as a result of the expansion of global business and those that have experienced decreased employment
  – describe how international business may influence future job opportunities and employment in Canada

Border Issues
  – explain the role of the Canada Border Services Agency (e.g., facilitating legitimate cross-border traffic, supporting economic development)
  – illustrate the impact of recent international events (e.g., 9/11, the outbreak of SARS in Toronto, the discovery of BSE in Canadian cattle) on Canadian international business

Terminology and Communication Techniques
  – define the basic terminology of international business (e.g., import, export, rationalization, outsourcing)

MARKETING, GRADE 11

Marketing is more than just advertising and identifying what the customer wants; marketing encompasses a range of business activities, including purchasing, selling, distribution, customer service, marketing research, and promotion, as well as advertising. The two marketing courses in the business studies curriculum prepare students to be critical consumers by providing opportunities for them to examine how branding, product positioning, and target marketing are used by businesses to sell products. In these courses, students will also identify the potential for employment in the world of marketing. All expectations in these courses relate directly to financial literacy.

For each of the two marketing courses, only the strand titles and overall expectations are included. For all expectations in these courses, go to the Grade 11 and 12 business studies curriculum document on the ministry’s website, at www.ontario.ca/edu.
Marketing: Goods, Services, Events, Grade 11, College Preparation (BMI3C)

Marketing Fundamentals
• describe the process by which goods and services are exchanged
• explain how marketing influences consumers and competition
• demonstrate an understanding of the importance of marketing research to a business and how information technology can be used to obtain and analyse marketing-related information
• analyse marketing strategies used by organizations in the not-for-profit sector
• compare the factors that influence marketing methods and activities in the global economy

The Marketing Mix
• explain the stages of product development
• explain the factors involved in the pricing of goods, services, and events
• compare a variety of distribution strategies and the logistics associated with them
• demonstrate an understanding of the strategies involved in the promotion of goods, services, and events

Trends in Marketing
• explain the effects of new information technologies on marketing strategies and consumer trends
• identify and describe the various environmental, ethical, social, and legal issues that affect marketing activities
• demonstrate an understanding of the potential for participation in the global marketplace
• summarize, on the basis of computer research, career pathways in marketing

The Marketing Plan
• explain the process of developing a marketing plan
• develop a marketing plan for a good, service, or event
• analyse the uses of a marketing plan

Marketing: Retail and Service, Grade 11, Workplace Preparation (BMX3E)

Marketing Fundamentals
• assess how the marketing mix is applied in the retail and service industries
• assess how consumer characteristics and preferences affect retail and service activities
• identify and explain the factors that affect competition
• analyse the process of buying and selling in the retail and service industries

Trends in Retail and Service Marketing
• explain the effects of the new information technologies on marketing in the retail and service industries
• describe the major types of business emerging in the retail and service sectors
• identify and describe various environmental, ethical, social, and legal issues that affect the retail and service industries
• explain the importance of global trends to the retail and service industries
Retail and Service Operations
• identify and describe various methods of inventory control
• describe and demonstrate merchandise and service presentation techniques
• describe the role of the human resources function in retail and service businesses

Marketing for Success in the Retail and Service Sectors
• explain the importance of customer service in the retail and service industries
• demonstrate an understanding of the importance of personal selling skills in the retail and service industries
• identify and implement appropriate strategies for exploring current career opportunities in the retail and service industries

BUSINESS LEADERSHIP, GRADE 12

Business Leadership: Management Fundamentals, Grade 12, University/College Preparation (BOH4M)

Foundations of Management

Issues of Ethics and Social Responsibility
– evaluate the impact of major ethical issues (e.g., bribery, harassment, polluting the environment, theft in the workplace, Aboriginal land claims versus interests of resource companies) and dilemmas (e.g., for the individual, the workplace, and the local and global community) on management strategies and decision making

Leading

Human Behaviour
– explain the relationship between job satisfaction and an individual’s personality, attitudes, and perceptions
– explain the relationship between a person’s attitude (e.g., commitment to job, personal biases) and her or his behaviour in the workplace (e.g., quality of performance, absenteeism; engaging in practices that reflect racist, sexist, or homophobic attitudes)

Management Challenges

Motivation
– explain the relationship between motivation, rewards, and job performance

Planning and Controlling

Planning Tools and Techniques
– explain the use of effective short-term planning tools and strategies and long-term planning tools (e.g., budgets, strategic plans, simulations, forecasts)
The Management of Change
- analyse major challenges (e.g., new technologies, the influence of the Internet, globalization) and legal considerations (e.g., workplace safety standards, access for people with disabilities, pay equity) facing today’s organizations

Organizing

The Changing Nature of Work
- assess the ways in which organizational structures have changed to adapt to the changing nature of work
  - assess the relationship between the individual and an organization, considering issues such as the meaning of work, the psychological contract, the quality of work life, and job satisfaction
  - compare alternative job-design approaches (e.g., rotation, simplification, enrichment, enlargement)
  - compare the strengths and weaknesses of various work settings and arrangements for individuals and groups (e.g., job sharing, self-managed teams, work schedules, off-site work, contract work)

Human Resources
- identify and describe the impact and importance of legal considerations in the human-resource process (e.g., with regard to wages, employment equity, health and safety, employee rights, bargaining agreements)
- explain the strategies and concepts involved in developing and retaining a quality workforce (e.g., career development, diversity policies, labour–management relations, orientation, training)
- describe, drawing on information from a variety of sources, including the Internet, current management opportunities and the education and training they require

Business Leadership: Becoming a Manager, Grade 12, Workplace Preparation (BOG4E)

The Role of the Manager

The Business Environment
- describe Canada’s business environment
  - explain the need for ethical and socially responsible behaviour in business management
  - describe the types of business found in Canada (e.g., large, small, franchise, chain, service, manufacturing)
  - explore the impact of e-business on business in Canada (e.g., by considering the growth of Internet businesses, increase in online marketing, changes in customer/supplier relations)
  - identify current business issues that are specific to the local community
Intrapreneurship
– describe current intrapreneurial practices found in business (e.g., employee initiative, new ways to improve productivity, gain sharing)
– assess their own intrapreneurial inclinations through skill assessment, goal setting, and identifying interests and lifestyle preferences

Operations Management

Inventory Control
– identify the factors used in determining how much stock to carry of each item (e.g., cost, rate of usage, reliability of deliveries, storage considerations, economies of scale)
– explain the relationship between a business and its suppliers or subcontractors (e.g., in terms of legal considerations, negotiations, contracts, financial considerations, methods for locating suppliers)

Marketing Issues
• demonstrate an understanding of the role of the basic components of the marketing function in satisfying customer needs
  – identify the components of the marketing mix (the four Ps – product, price, place, promotion) and evaluate their associated costs
  – identify the relationship among customer service, a positive image, and success in the local community
  – explain the role of advertising and promotion in running a business
  – describe the various methods of selling (e.g., face-to-face sales, telemarketing, e-commerce) and identify when each is best utilized
  – assess the marketing strategies of local businesses

Financial Management
• demonstrate an understanding of financial management techniques used in a business
  – demonstrate the procedures used to handle and control cash transactions in a business (e.g., use a point-of-sale terminal, manage petty cash, issue receipts)
  – identify the procedures used in dealing with financial institutions involved in the daily activities and short-term financing of a business (e.g., procedures concerning current account activities, night deposits, automatic payroll deposits, bank reconciliation)
  – identify the elements of an operating budget (e.g., sales, inventory, supplies, wages, insurance, rent)
  – demonstrate, using both manual and computerized systems, the basic elements of bookkeeping as they relate to business (e.g., forms and procedures)

Leadership

Motivating Employees
– describe incentives and rewards used by specific businesses to motivate individuals and groups (e.g., monetary, non-monetary, psychological, benefits systems)
Human Resource Management

Legal Considerations
- identify the laws that govern employment practices in Ontario (e.g., Canada Labour Code) and the legal and ethical requirements regarding employment (e.g., under the Ontario Human Rights Code; with respect to equal pay for work of equal value, fair hiring practices, hours, deductions, minimum wage)
- compare the legal, financial, and ethical consequences of unionized and non-unionized business environments

Career Opportunities
- assess local opportunities for employment that are of personal interest and that have potential for launching a career
- identify personal skills and experiences that could be applied in a business environment (e.g., prepare an inventory of skills, personality traits, educational experiences, and additional training)
- summarize employment opportunities in the local business community
- identify training and educational experiences required for employment as a manager
Many of the courses in the Canadian and world studies curriculum relate directly to skills and knowledge that are important components of financial literacy. In some courses – for example, economics – expectations that concern financial literacy are too numerous to list in full, and in those cases, only the relevant overall expectations are listed in this document.

In all courses in geography, history, and politics, students often explore the causes and consequences of economic trends and economic structures. These expectations allow students to develop a deeper understanding of economics and financial literacy. All such expectations have been listed in this document.

**Geography of Canada, Grade 9, Academic (CGC1D)**

**Geographic Foundations: Space and Systems**

**Building Knowledge and Understanding**
- describe the characteristics (e.g., complex, interconnected, affecting natural systems) of human systems (e.g., transportation, communication, infrastructure, energy networks, economic systems)
- distinguish between the characteristics of urban and rural environments (e.g., differences in population density, land use, forms of settlement, development patterns, types of employment)
- explain the geographical requirements that determine the location of businesses, industries, and transportation systems

**Learning Through Application**
- predict future locations of businesses, industries, and transportation systems in Canada

**Human-Environment Interactions**
- explain the relationship of Canada’s renewable and non-renewable resources to the Canadian economy

**Building Knowledge and Understanding**
- describe how natural systems (e.g., climate, soils, landforms, natural vegetation, wildlife) influence cultural and economic activities (e.g., recreation, transportation, employment opportunities)
Learning Through Application
- analyse and evaluate the success, in environmental and economic terms, of local waste management methods

Global Connections
- describe how Canada’s diverse geography affects its economic, cultural, and environmental links to other countries
- analyse connections between Canada and other countries

Building Knowledge and Understanding
- explain the role of selected international organizations and agreements and why Canada participates in them (e.g., … World Trade Organization, Asia-Pacific Economic Cooperation, … North American Free Trade Agreement, …)

Developing and Practising Skills
- compare Canada’s approaches to specific concerns (e.g., … movement of people, trade) with the approaches of other nations
- summarize ways in which the economies of Canada and the rest of the world are interdependent
- evaluate the importance of tourism to Canada’s economic development

Understanding and Managing Change
- predict how current or anticipated changes in the geography of Canada will affect the country’s future economic, social, and environmental well-being
- explain how global economic and environmental factors affect individual choices

Learning Through Application
- predict various global environmental changes (e.g., global warming) and the impact they may have in the future on the occupations of Canadians (e.g., wheat farming in the Arctic) in various sectors of the economy (e.g., primary, secondary, tertiary, quaternary)

Methods of Geographic Inquiry and Communication

Research
- identify various career opportunities in the field of geography, and the educational requirements associated with them

Geography of Canada, Grade 9, Applied (CGC1P)

Human-Environment Interactions
- relate current lifestyle choices of Canadians to the prospects for sustaining Canada’s economic and environmental well-being
Developing and Practising Skills

– use selected criteria (e.g., costs, capacity, availability, sustainability, application, …) to evaluate alternative energy sources (e.g., solar, wind, tidal, hydrogen fuel cell) and conservation strategies

– compare the benefits and costs (e.g., social, economic, environmental) of selected resource megaprojects (e.g., James Bay hydro complex, Athabasca oil sands, Hibernia offshore oilfields, diamond mines in the Northwest Territories, Mackenzie Valley pipeline)

Global Connections

• identify the economic, cultural, and environmental connections between Canada and other countries

• report on how Canada influences and is influenced by its economic, cultural, and environmental connections with other countries

Building Knowledge and Understanding

– describe Canada’s participation in major international organizations (e.g., … Asia-Pacific Economic Co-operation) and agreements (e.g., North American Free Trade Agreement, …)

Learning Through Application

– produce an oral, visual, or written report on a current international trade, cultural, or sporting event involving Canada (e.g., a trade mission, …)

Understanding and Managing Change

• identify current or anticipated physical, social, or economic changes and explain how they could affect the lives of Canadians

Building Knowledge and Understanding

– describe how regional disparities (e.g., in resource accessibility) affect the economic sustainability of communities

Developing and Practising Skills

– identify the costs and benefits (e.g., income, resource protection, …) to selected groups in Canada of recent Aboriginal land claims

Methods of Geographic Inquiry and Communication

Research

– identify some job, career, or volunteer opportunities requiring geographic knowledge and skills
Canadian History Since World War I, Grade 10, Academic (CHC2D)

Communities: Local, National, and Global

The Impact of External Forces on Canada
- analyse economic developments and international agreements and organizations that have contributed to the globalization of the Canadian economy since World War II (e.g., Auto Pact, General Agreement on Tariffs and Trade [GATT], North American Free Trade Agreement [NAFTA], World Trade Organization [WTO])
- evaluate how selected international political trends or events have contributed to political challenges facing Canada (e.g., … economic globalization; …)

Change and Continuity

Impact of Scientific and Technological Developments
- demonstrate an understanding of the relationship between invention and the economy (e.g., the invention of the car and its effect on the transportation industry and expenditures on infrastructure)

Canada’s International Status and Foreign Policy
- analyse Canada’s changing relationship with the United States (e.g., Lend-Lease Act; St. Lawrence Seaway Agreement; … Foreign Investment Review Agency; Canada–U.S. Free Trade Agreement; softwood lumber disputes; …)

Citizenship and Heritage

Social and Political Movements
- analyse the impact of the women’s movement in Canada since 1914 (e.g., … broadening access to employment, … equal pay for work of equal value)
- explain how the labour movement has affected social, economic, and political life in Canada (e.g., Winnipeg General Strike, On-to-Ottawa Trek, Regina Manifesto, Canadian Labour Congress, Canadian Auto Workers)

Social, Economic, and Political Structures

Economic and Social Conditions
- analyse how changing economic and social conditions have affected Canadians since 1914
  - compare economic conditions of the 1920s and 1930s, and describe the impact of those conditions on Canadians, individually and collectively
  - explain how and why the Canadian economy developed and became more diversified as a result of World War II
  - compare the advantages and disadvantages of American participation in the Canadian economy (e.g., branch plants, media and entertainment, fishing and lumber disputes, tourism)
  - compare regional social and economic disparities in Canada in selected decades (e.g., Saskatchewan in the 1930s, Quebec in the 1950s, Newfoundland in the 1990s) with current conditions
– assess the contributions made by Canadian entrepreneurs and Canadian-owned corporations to the development of the Canadian economy (e.g., Samuel Bronfman, K.C. Irving, George Weston, Frank Stronach, Edward “Ted” Rogers Jr., Heather Reisman; Canadian Pacific Railway, Quebecor, Power Corporation of Canada)

Changing Role of Government
• analyse the changing responses of the federal and provincial governments to social and economic pressures since 1914
  – analyse how different levels of government in Canada reacted to the economic conditions of the Depression of the 1930s
  – explain how and why social welfare programs (e.g., old age pensions, unemployment/employment insurance, family allowance, medicare) were designed, and assess their effectiveness in meeting the needs of various segments of society
  – evaluate the role of government in promoting economic opportunity in post–World War II Canada (e.g., developing infrastructure such as the Trans-Canada Highway and the St. Lawrence Seaway; implementing agreements for … free trade; promoting resource development at Elliot Lake; promoting tourism by supporting the Olympic and Commonwealth games)

Methods of Historical Inquiry and Communication

Research
– identify various job, career, and volunteer opportunities related to the study of history (e.g., researcher, museum or archive curator or assistant, teacher, journalist), and the educational requirements for them

Canadian History Since World War I, Grade 10, Applied (CHC2P)

Communities: Local, National, and Global

Forces Shaping Canada’s Policies and Canadian Identity
– identify some of the ways in which foreign powers (e.g., British, European, American) have influenced Canadian foreign policy (e.g., … international aid, trade)

Change and Continuity

Demographic Patterns
– identify some major groups of immigrants that have come to Canada since 1914 and describe the circumstances that led to their immigration (e.g., push factors: impact of war, political unrest, famine; pull factors: economic opportunities in Canada, government incentives)
– explain some of the ways in which the lives of adolescents, women, and seniors have changed since World War I as a result of major demographic shifts and social changes (e.g., years in school, targeting as consumer group; labour force participation, birth rates, divorce rates; age of retirement, life expectancy)
Canada’s International Position
- summarize Canada’s changing relationship with the United States (e.g., Lend-Lease Act; Alaska Highway; … St. Lawrence Seaway Agreement; Auto Pact; … Canada–U.S. Free Trade Agreement; …)

Citizenship and Heritage

Social and Political Movements
- summarize the key contributions of women’s movements in Canada since 1914 (e.g., … access to employment, including non-traditional occupations; maternity leave; equal pay for work of equal value; child care)
- identify key struggles and contributions of the labour movement in Canada (e.g., Winnipeg General Strike, On-to-Ottawa Trek, Quebec Asbestos Strike, Canadian Labour Congress, Canadian Auto Workers, forty-hour work week, health and safety legislation, minimum wages, employment standards), as well as key contributions of selected labour leaders (e.g., Madeleine Parent, Beverly Mascoll, LuAn Mitchell-Halter, Bob White, Judy D’Arcy)
- compare the different beliefs and values of selected political parties that emerged out of political movements (e.g., Co-operative Commonwealth Federation [CCF], Social Credit, Union Nationale, Bloc Québécois, Reform/Canadian Alliance, Green Party)

Social, Economic, and Political Structures

Influence of Economic Structures on Daily Life
- explain changing economic conditions and patterns and how they have affected Canadians
- compare economic conditions at selected times in Canada’s history and describe their impact on the daily lives of Canadians (e.g., boom periods of the 1920s, the 1950s–1960s, the 1980s; the Great Depression; World War II; 1970s inflation; the oil crisis of 1973; the recession of the 1990s; the dot-com bubble of 2000)
- assess the advantages and disadvantages of American participation in the Canadian economy (e.g., branch plants; market for resources; Auto Pact; free trade agreements; fisheries, lumber, and cattle disputes; big box stores)
- identify some of the major effects of, and concerns arising with, freer trade and globalization (e.g., creation of the North American Free Trade Agreement [NAFTA], World Trade Organization [WTO]; changing role of marketing boards; problems relating to trade of genetically modified organisms; reactions to fear of spreading disease, such as mad cow disease; effects on working conditions; creation of organizations such as Free the Children), focusing on at least two groups (e.g., farmers, businesses, workers, consumers, the poor)
- identify the contributions of selected Canadian entrepreneurs and Canadian-owned firms to the development of the Canadian economy (e.g., Samuel Bronfman, K. C. Irving, Tom Bata, George Weston, Frank Stronach, Heather Reisman; Canadian Pacific Railway, Quebecor, Power Corporation of Canada)
Changing Role and Power of Governments
- explain why selected social welfare programs (e.g., old age pensions, unemployment/employment insurance, family allowance, medicare, Ontario Disability Support Program) were established in Canada

Methods of Historical Inquiry and Communication

Research
- identify various job, career, or volunteer opportunities related to the study of history and their own history-related interests (e.g., teacher, journalist, tour guide)

Civics, Grade 10, Open (CHV2O)

Informed Citizenship

Citizenship Within the Global Context
- analyse contemporary crises or issues of international significance (e.g., health and welfare, disasters, … economic development, …)

Purposeful Citizenship

Diversity of Beliefs and Values
- compare the varied beliefs, values, and points of view of Canadian citizens on issues of public interest (e.g., … health care funding, … taxation, casinos);
- describe how their own and others’ beliefs and values can be connected to a sense of civic purpose and preferred types of participation (e.g., … financial or volunteer support for educational or community service programs; support for religious or ethnic charitable organizations)

Active Citizenship

The Resolution of Public Issues and Citizenship Participation
- analyse important contemporary cases and issues that have been decided or resolved through the public process of policy formation and decision making (e.g., mandatory retirement, …), taking into account the democratic principles that underlie that process

ECONOMICS, GRADES 11 AND 12

There are three economics courses in the Canadian and world studies curriculum. In all three courses, knowledge, concepts, and skills that are fundamental to financial literacy are explored. All expectations in the three economics courses are integral to financial literacy. For that reason, only strand titles and overall expectations are included here. To view all expectations in the economics courses, go to www.ontario.ca/edu.
The Individual and the Economy, Grade 11, University/College Preparation (CIE3M)

**Economic Decision Making**
- explain how the scarcity of economic resources requires individuals and societies to make economic choices
- explain the principles of sound personal financial planning
- analyse trends in labour markets

**Economic Stakeholders**
- analyse the factors that influence consumer demand and satisfaction in the marketplace
- explain a variety of ways in which individuals (“producers”) contribute to the economy
- analyse the factors that affect the socio-economic position of people in Canada
- describe the economic rights and responsibilities of citizens

**Self-Interest and Interdependence**
- explain how self-interest in a market makes consumers and producers interdependent
- describe ways in which governments in Canada intervene in the economy to balance the competing self-interests of stakeholders
- assess the extent, nature, and impact of Canada’s economic interdependence with other nations

**Economic Institutions**
- identify the distinguishing characteristics of Canada’s economic system
- explain the functions of markets, profits, and the process of economic decision making in the private sector
- analyse the role and impact of government in the Canadian economy
- analyse the role and impact of organized labour in the Canadian economy

**Methods of Economic Inquiry and Communication**
- use methods of economic inquiry to locate, gather, evaluate, and organize information from a variety of sources
- analyse specific economic situations, using appropriate economic concepts, models, and methods of economic inquiry
- communicate the results of economic inquiries, using appropriate economic terms and concepts and a variety of forms

Making Economic Choices, Grade 11, Workplace Preparation (CIC3E)

**Economic Decision Making**
- identify the economic choices that individuals, organizations, and societies must make because resources are scarce
- explain how changes in prices, incomes, and the cost of living affect the decisions that are made by consumers
- compare the different forms of saving and personal investment and the criteria to be considered when selecting them
- identify trends in labour markets
**Economic Stakeholders**

- describe the economic roles that an individual plays
- identify the factors that influence consumer demand and the skills used by consumers to maximize their satisfaction in the marketplace
- explain how markets determine the economic value of the individual as a contributor to the production process

**Self-Interest and Interdependence**

- explain how self-interest motivates both consumers and producers in a market and creates interdependence
- explain why markets sometimes fail to resolve conflicting self-interests
- describe the extent and nature of Canada’s economic interdependence with other nations and the significance of this interdependence to Canadian stakeholders

**Economic Institutions**

- describe the characteristics of Canada’s economic system
- describe the roles played by private sector businesses in the Canadian economy
- describe the role of government in the Canadian economy
- assess the role and impact of organized labour in the Canadian economy

**Methods of Economic Inquiry and Communication**

- use methods of economic inquiry to locate, gather, evaluate, and organize information from a variety of sources
- analyse specific economic situations, using appropriate economic concepts, models, and methods of economic inquiry
- communicate the results of economic inquiries, using appropriate economic terms and concepts and a variety of forms

**Analysing Current Economic Issues, Grade 12, University Preparation (CIA4U)**

**Economic Decision Making**

- explain the cause and nature of the three types of choices that all economic systems must make
- explain the nature of Canada’s economic growth and determine whether and/or how this growth furthers the economic goal of efficiency
- analyse the changing importance of the public and private sectors of the economy and what this means for the achievement of the macroeconomic goals of freedom and equity
- analyse the causes and consequences of economic instability and the effectiveness of stabilization policies designed to help Canadians achieve an appropriate level of economic security

**Economic Stakeholders**

- describe economic stakeholder groups and the criteria each uses to make economic decisions
- explain the economic rights and responsibilities of “the economic citizen”
- compare the ways and the degree to which different types of economic systems satisfy the needs of stakeholders
Self-Interest and Interdependence
• explain how stakeholders use self-interest to make choices that maximize economic well-being
• describe how groups of stakeholders and markets within an economy are interdependent and may be affected simultaneously by a change
• assess the ways in which, and the degree to which, people in Canada and other countries have become interdependent in the global economy
• analyse examples of conflicts of self-interest that prevent the achievement of economic goals

Economic Institutions
• describe the nature and functions of Canada’s private economic institutions
• describe the nature and functions of Canada’s public economic institutions
• analyse the nature and functions of international economic institutions and their impact on the Canadian economy

Methods of Economic Inquiry and Communication
• use methods of economic inquiry to locate, gather, evaluate, and organize different types of current economic information from a variety of sources
• analyse various economic choices, using the concepts, models, and processes of economic inquiry
• communicate the results of economic inquiries, using appropriate economic terms, concepts, and models, and a variety of forms

GEOGRAPHY, GRADES 11 AND 12

The Americas: Geographic Patterns and Issues, Grade 11, University/College Preparation (CGD3M)

Geographic Foundations: Space and Systems
• analyse the political, economic, and social factors that contribute to disparities in economic development within the Americas

Building Knowledge and Understanding
– describe the cultural realms … and other major human patterns (e.g., economic activities, standards of living, demographics) of the Americas
– describe trade patterns within and between selected economic regions of the Americas and analyse the factors that have shaped them

Developing and Practising Skills
– analyse the factors affecting the economic development of different regions in the Americas
– compare the standards of living of various groups (e.g., social classes, cultural groups) within selected countries or regions of the Americas
Learning Through Application
- analyse economic and quality-of-life data (e.g., infant mortality rates, gender inequality at work, life expectancy, per capita income) to identify patterns of socio-economic inequality within the Americas

Human-Environment Interactions
- evaluate the environmental and economic consequences for the Americas of natural hazards and climatic variations

Developing and Practising Skills
- analyse the short-term and long-term social, environmental, and economic effects of natural hazards on selected regions in the Americas (e.g., earthquakes in Central America, hurricanes in the Caribbean and southern United States)
- predict the direction of future economic development in the Americas and its impact on the environment

Learning Through Application
- analyse how the production and transportation to market of selected resources (e.g., bananas, coffee, minerals, forest products) affect natural ecosystems and human societies in the Americas

Global Connections
- evaluate the impact of the global economy on the environment and peoples of the Americas
- analyse how the nations of the Americas interact to promote or defend their political, economic, environmental, and social interests

Building Knowledge and Understanding
- describe how disparities between rich and poor nations in the Americas affect interactions between them (e.g., transborder resource needs, trade, migrations)
- describe various organizations and groupings in the Americas (e.g., NAFTA, OAS, Mercosur, Caricom) and the economic, political, or military purposes for which they have been formed
- explain the significance of the Americas in the global economy with respect to the trade in selected products (e.g., wheat, coffee, citrus fruits, bauxite)
- describe various ways in which individuals, multinational corporations, and governments participate in the international relations of the countries of the Americas (e.g., through trade missions, … sanctions, foreign aid)
- describe Canada’s responsibilities to the rest of the countries of the Americas (e.g., to provide humanitarian assistance, … promote economic cooperation)
- explain how their geographic advantages and disadvantages (e.g., location, size, resources, population) affect the economic development of the nations of the Americas

Developing and Practising Skills
- evaluate the effects on Central and South America of world demand for the regions’ products and resources (e.g., the local impacts of operations of multinational companies);
people and environments of selected countries in the Americas, including Canada;
- identify criteria that can be used to characterize emerging powers in the Americas (e.g., literacy rates, gross national product [GNP] and other social and economic indicators, …)
- analyse economic data to determine the global ranking, as producers and users of resources, of the Americas as a group and of individual nations of the Americas
- evaluate the effectiveness of a cooperative approach for resolving economic differences between members of a selected trading bloc within the Americas
- analyse key aspects of the geopolitical role played by the United States (e.g., in terms of economic power, … corporate policies) throughout the history of the Americas

Learning Through Application
- evaluate the role played by a selected transnational corporation in the economic development or underdevelopment of a region in the Americas
- evaluate the feasibility of expanding current trade alliances (e.g., Free Trade Area of the Americas [FTAA], Mercosur, NAFTA) in the Americas
- analyse the evolution and evaluate the current international status of a selected emerging power in the Americas (e.g., Brazil, Mexico), using political, military, social, and economic criteria

Understanding and Managing Change
• evaluate the effects of various political, economic, social, and technological changes on physical and human environments in the Americas

Building Knowledge and Understanding
- describe how population distribution in the Americas has changed over the past one hundred years as a result of changes in population growth, the economy, and technology
- analyse how development projects in a country in the Americas (e.g., James Bay hydroelectric project, water diversion schemes, oil exploration and extraction projects) affect local environments and economies, indigenous peoples, and other countries

Developing and Practising Skills
- analyse the impact of travel and tourism on a selected Caribbean nation (e.g., Barbados, the Bahamas, Cuba, Jamaica)
- analyse the positive and negative effects of international aid on the poorest countries of the Americas (e.g., Dominican Republic, Haiti)

Learning Through Application
- analyse a development project in the Americas to determine its effect on local environments and economies, including those of indigenous peoples (e.g., mining in the Amazon, rural improvement projects in Central America, mining of the Athabasca oil sands in Alberta)

Methods of Geographic Inquiry and Communication

Research
- identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers that require geographic knowledge and skills
Physical Geography: Patterns, Processes, and Interactions, Grade 11, University/College Preparation (CGF3M)

Human-Environment Interactions

Building Knowledge and Understanding
- explain the economic importance of certain geological formations (e.g., Sudbury Basin, Pretoria Group)

Developing and Practising Skills
- analyse the roles of natural features and processes (e.g., volcanoes, river erosion) in providing economic resources for society (e.g., fertile soils for agriculture)

Learning Through Application
- use a variety of formats (e.g., maps, photos, diagrams) to describe the post-glacial features in Ontario (e.g., drumlins near Peterborough) and some of the benefits people have derived from these features (e.g., aggregates for construction, recreation areas, groundwater)

Methods of Geographic Inquiry and Communication

Research and Investigation
- identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers that require geographic knowledge and skills

Interpretation and Analysis
- explain the different points of view on a geographic issue that are, or might be, held by various stakeholders (e.g., individuals, business organizations, governments, special interest groups)

Geographics: The Geographer's Toolkit, Grade 11, Workplace Preparation (CGT3E)

Geographic Foundations: Space and Systems
- explain how various geotechnologies can be used to support business and government activities

Building Knowledge and Understanding
- define the term business geographics and outline the range of techniques it encompasses (e.g., marketing and advertising, …)

Learning Through Application
- conduct a structured study relating to the actual or potential use of geotechnologies by a local business, government agency, or community group (e.g., GIS use in local businesses, groups, and government departments; resource mapping by conservation authorities)
Global Connections
• use techniques of geographic inquiry to complete an investigation concerning global physical, demographic, or economic patterns

Methods of Geographic Inquiry and Communication

Research and Data Collection
– identify educational requirements, job descriptions, current opportunities, and future prospects for selected careers involving the use of geotechnologies

Travel and Tourism: A Regional Geographic Perspective, Grade 11, Open (CGG3O)

Geographic Foundations: Space and Systems

Building Knowledge and Understanding
– explain how the various components that make up the travel and tourism industry are interconnected (e.g., accommodations, attractions, types of transportation)
– identify selected factors that influence travellers’ destination choices (e.g., location, accessibility, cost, safety, amenities, personal preferences)

Developing and Practising Skills
– determine the reasons (e.g., business, recreation, education, religion) for patterns of tourist travel within selected regions
– classify different types of travel and tourism (e.g., business travel, adventure tourism, ecotourism)
– explain how tourism-related development can have a significant effect on human systems (e.g., through expansion of transportation networks, multiplier effects on the economy)

Learning Through Application
– analyse the major natural, cultural, economic, and political characteristics of selected tourist regions
– analyse the economy of a local region to determine the multiplier effect of tourism on it

Human-Environment Interactions

Learning Through Application
– predict and explain the likely impact of a natural or human-caused disaster on travel and tourism in a selected region (e.g., a hurricane in a Caribbean country, an oil spill in a coastal region, a tsunami in South Asia)

Global Connections
• describe global patterns of travel and tourism and the factors that influence them
• explain the social, environmental, cultural, economic, and political effects of travel and tourism on various destination regions
Building Knowledge and Understanding
- explain why specific countries have favourable (e.g., Spain, Italy) and unfavourable (e.g., Germany, Korea) tourism trade balances

Developing and Practising Skills
- analyse global tourism patterns in a variety of countries and explain the reasons for the observed patterns (e.g., cruising in the Caribbean, ecotourism in Costa Rica, back-country skiing in the Canadian Rockies)
- compare rates of tourism and tourist spending for selected countries
- describe the social, environmental, cultural, economic, and political effects of travel and tourism associated with international events (e.g., Olympics, World Cup soccer, world’s fairs, World Youth Day)
- compare travel and tourism characteristics for two world-class city-centred regions (e.g., Tokyo, Singapore, Cairo, Amsterdam, New York, Rio de Janeiro)
- analyse the causes and effects of economic disparities between selected world tourism regions (e.g., Cuba and Monaco, Hong Kong and Kenya)

Learning Through Application
- explain the relationship between the development of travel and tourism in a developing country and the country’s level of economic growth

Understanding and Managing Change
• explain how changes and trends in society have an impact on travel and tourism patterns
• analyse the social, environmental, cultural, economic, and political effects of tourism-related development on a community or region
• evaluate the impact on travel and tourism of the plans, policies, and initiatives of governments, businesses, and other organizations

Building Knowledge and Understanding
- identify recent trends in travel and tourism (e.g., mass tourism, retirement travel, international business travel, government trade missions, adventure travel, ecotourism) and their effects on natural systems and the environment
- identify the economic, cultural, political, and environmental components of selected issues related to travel and tourism
- explain how various factors contribute to the growth or decline of tourism around the world (e.g., transportation costs; government initiatives; HIV/AIDS, SARS, or other diseases)
- explain issues that arise when planning for tourism development within a region (e.g., the need to balance visitors’ interests and those of the local community, the need to protect natural environments and historical landmarks while encouraging economic diversification)

Developing and Practising Skills
- analyse some actual or potential effects of planning, policies, marketing, and advertising on travel and tourism patterns
- analyse the impact of adventure travel and ecotourism on the indigenous people of a region
- analyse the effects of political, economic, cultural, and environmental motivators and barriers on travel and tourism patterns (e.g., visas, tax incentives, currency fluctuations, conflict among cultures, activities of transnational corporations, volcanic activity)
Learning Through Application
- analyse how changes in lifestyles (e.g., in disposable income, amount of leisure time, attitudes) have affected travel and tourism patterns
- explain how tourist activities may contribute to the exploitation of people

Methods of Geographic Inquiry and Communication

Research
- identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers related to the travel and tourism industry

Canadian and World Issues: A Geographic Analysis, Grade 12, University Preparation (CGW4U)

Geographic Foundations: Space and Systems
- analyse the causes and effects of economic disparities around the world
- compare the cultural, economic, and political aspirations of selected groups and the effects of their actions on local, national, and global geographic issues

Building Knowledge and Understanding
- describe the interdependence of ecology and economics
- explain how point of view influences an individual’s perception of a place (e.g., a developer and an environmentalist differ on the best use for a wetland; indigenous peoples differ with other groups on what constitutes a wilderness)
- identify different methods of grouping countries (e.g., by level of development, political or economic affiliation, …) and evaluate the implications of categorizing countries in these ways
- identify ways in which countries and regions of the world are becoming increasingly interdependent
- identify the social, economic, cultural, political, or ecological components of selected geographic issues
- compare the economic and political aspirations of selected regional or cultural groups within different countries

Learning Through Application
- analyse the causes of economic disparity in the local or regional community
- predict geographic consequences (e.g., … trade flows, economic development, involvement in international organizations, …) of separation or independence for a region or cultural group that is now part of a larger country

Human-Environment Interactions

Building Knowledge and Understanding
- outline the factors that influence selected world demographic trends
- explain why people perceive resource use and sustainable development differently at different times and in different places
Developing and Practising Skills
- analyse the impact on natural and human systems of selected human migrations
- analyse the impact on natural and human systems of past and current trends in agriculture (e.g., Green Revolution, corporate farming, biotechnology, monoculture, organic farming)
- evaluate the economic, social, and ecological impact of current practices used in harvesting or extracting a selected resource (e.g., the clear-cutting of forests, the exporting of fresh water, open-pit mining)
- analyse the effects on the environment of various trade policies or agreements (e.g., fair-trade cooperatives, North American Free Trade Agreement)

Learning Through Application
- evaluate the short-term and long-term economic, social, and environmental effects of efforts to increase the productivity of a selected natural environment (e.g., hydroponic farming, wetland reclamation, hillside terracing, aquaculture)

Global Connections
• evaluate the social, economic, and environmental impact of the strategies for sustainable development implemented by a variety of individuals, organizations, and institutions

Building Knowledge and Understanding
- describe the structure, membership, and activities of various international economic alliances and agreements (e.g., European Union [EU], African Union [AU], Association of Southeast Asian Nations [ASEAN], North American Free Trade Agreement [NAFTA])
- explain how economies and environments in some places can be affected by decisions made in other places (e.g., the southern Ontario automobile industry is affected by decisions made by parent companies in the United States; the delta region of Bangladesh experiences flooding that is partly due to the clearing of forested slopes in the Himalayas)

Developing and Practising Skills
- analyse the economic and environmental effects of colonialism and neocolonialism on selected countries (e.g., United Kingdom in South Africa)
- analyse geopolitical relationships between selected countries and regions (e.g., between countries sharing the waters of the Nile or countries sharing the Grand Banks fishing grounds)
- analyse the evolving global geopolitical role of a selected region or country (e.g., European Union, Iraq, Asia-Pacific nations) and evaluate how its actions contribute to international cooperation or conflict

Learning Through Application
- assess the relative importance of the various factors that influence the quality of life
- evaluate the performance of a selected transnational corporation with respect to the promotion of environmental sustainability and human rights
- analyse problems of hunger and poverty in selected countries and explain how certain practices may aggravate the problems (e.g., military spending, natural hazards, the growing of cash crops, foreign monetary intervention)
Understanding and Managing Change
• evaluate the cultural, economic, and environmental impact of changing technology

Building Knowledge and Understanding
– explain how economic and cultural considerations (e.g., availability of resources or workers, …) influence a country’s population policies (e.g., Canada’s immigration policy, China’s “one child” policy)
– explain how new technology affects employment (e.g., skill requirements, proportion of workers in different sectors of the economy) and resource management (e.g., rate of resource use, labour requirements)

Developing and Practising Skills
– predict future global demographic changes and their economic, environmental, and social implications
– evaluate the role played by non-governmental organizations and local community initiatives in different parts of the world (e.g., Oxfam Canada, the Grameen Bank in Bangladesh) in promoting sustainable development and responsible resource management

Learning Through Application
– assess the environmental and economic impact of a selected case of environmental deregulation in Canada (e.g., forestry policy changes in British Columbia)

Methods of Geographic Inquiry and Communication

Research
– identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers that require geographic knowledge and skills

Interpretation and Analysis
– explain the different points of view on a geographic issue that are, or might be, held by various stakeholders (e.g., individuals, business organizations, governments, special interest groups)
– produce a variety of maps (e.g., thematic, choropleth), diagrams, and charts, following accepted conventions, to illustrate local or global patterns and relationships

World Geography: Human Patterns and Interactions, Grade 12, University Preparation (CGU4U)

Geographic Foundations: Space and Systems
• explain the influence of social, political, cultural, economic, and environmental factors on human environments and activities

Developing and Practising Skills
– use concepts of spatial interaction (e.g., intervening opportunities, complementarity, distance decay) to explain patterns of movement between places (e.g., trade patterns, transportation patterns)
Learning Through Application
- assess how culture (e.g., religion, gender roles, social values, food preferences) and function (e.g., finance, trade, government, education, manufacturing) affect settlement patterns and human activities

Human-Environment Interactions

Learning Through Application
- assess the short-term and long-term costs and benefits (e.g., economic, ecological, social) of a national or regional development plan that involves major environmental changes (e.g., China’s Three Gorges project)
- explain how natural hazards (e.g., drought, flooding, typhoons, landslides, earthquakes) and environmental problems caused by human activities (e.g., oil spills, acid precipitation) affect development in selected regions

Global Connections
• analyse examples of cultural/economic/ecological convergence and divergence to identify their causes
• evaluate the effects of the information revolution, technological progress, and global trade on selected world regions

Building Knowledge and Understanding
- explain how various international organizations (e.g., United Nations, World Bank, …) work to foster connections among world peoples and countries
- explain how technology contributes to cultural/economic/ecological convergence (e.g., by facilitating cross-cultural contact) and divergence (e.g., by reinforcing … economic protectionism)

Developing and Practising Skills
- evaluate the impact of technological change (e.g., industrialization, the Internet) in a region of the world
- analyse examples of cultural and economic convergence to explain how social phenomena contribute to convergence (e.g., widespread use of English in business, ethnic quarters in large cities, …)

Learning Through Application
- evaluate the effectiveness of international organizations in maintaining peace between countries (e.g., … Asia-Pacific Economic Cooperation)
- explain the role played by culture and economics in selected instances of conflict or cooperation
- outline the positive and negative effects on a country’s economic, cultural, political, and social life when its economy is based on a single resource (e.g., oil in Nigeria or a Middle Eastern country)
Understanding and Managing Change
• analyse various types of regional economies to determine the causes of regional economic disparities
• assess the effectiveness of measures to alleviate regional economic disparities and resolve conflicts related to them

Building Knowledge and Understanding
– identify different types of migration (e.g., immigration, forced migration, economic migration, seasonal migration) and associated push and pull factors (e.g., … economic incentives, …)
– explain what is meant by regional economic disparities, using examples from different parts of the world

Developing and Practising Skills
– analyse the causes of selected examples of regional economic disparity (e.g., in Aboriginal communities)
– analyse selected examples to explain the relationship between population movements and regional economic disparities

Learning Through Application
– compare the push and pull factors influencing potential migrants from developing and developed countries
– evaluate the political, economic, and social impacts of a selected development project on the ability of people to control their land and lifestyles (e.g., Habitat for Humanity International)
– evaluate (e.g., in a case study) a development plan in a region or country (e.g., Community Garden Society of Inuvik, NT; Guatemala Stove Project) to determine whether it will help reduce regional disparities and improve economic and social well-being

Methods of Geographic Inquiry and Communication

Research
– identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers related to human geography

The Environment and Resource Management, Grade 12, University/College Preparation (CGR4M)

Human-Environment Interactions
• analyse and evaluate interrelationships among the environment, the economy, and society

Building Knowledge and Understanding
– identify differences in the perceptions of nature and the views on environmental preservation of selected individuals and groups (e.g., indigenous people, corporations, government, recreationists)
– explain the difference between needs (e.g., water, air, food, shelter) and wants (e.g., material goods, luxury items)
Developing and Practising Skills
− evaluate the environmental, economic, and social implications of resource dependency for various individuals or groups (e.g., indigenous peoples, lumber companies, pharmaceutical companies, farmers, tourists)
− explain how various factors and processes determine the spatial distribution and short-term and long-term availability of a selected resource

Learning Through Application
− predict the social, economic, and environmental effects of the extraction and depletion of selected resources (e.g., overfishing / fish stocks; logging / rainforests; mining / various minerals; pollution of water sources / water supply; urban sprawl / supply of arable land)

Global Connections

Building Knowledge and Understanding
− explain how growth in population and economic activity around the world increases pressure on natural resources and natural systems (e.g., the effects of urbanization and loss of agricultural land on food production)

Understanding and Managing Change
• evaluate the impact of economic, social, political, and technological change on natural and human systems

Building Knowledge and Understanding
− explain how environmental policies can affect the economy (e.g., through job creation or reduction, health costs, costs and benefits of research and development)

Developing and Practising Skills
− explain how selected environmental protection principles and initiatives (e.g., voluntary compliance, polluter-pays principle, zero discharge policy, wildlife migration corridors, pollution taxes and credits) could contribute to economic and environmental sustainability
− compare the economic and environmental implications of various waste management methods (e.g., reduce, reuse, recycle; landfills; incinerators)

Learning Through Application
− analyse the environmental impact of a particular industry or human system (e.g., tourism, diamond mining, a transportation system, a city) and recommend practices to promote economic and environmental sustainability

Methods of Geographic Inquiry and Communication

Research
− identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers related to the environment and resource management
Geomatics: Geotechnologies in Action, Grade 12, University/College Preparation (CGO4M)

**Geographic Foundations: Space and Systems**

**Learning Through Application**
- utilize geotechnologies in analyses of human systems (e.g., market analysis, route planning, precision farming, land use planning)

**Human-Environment Interactions**

**Developing and Practising Skills**
- assess the role of geotechnologies in addressing environmental issues affecting indigenous peoples (e.g., construction of hydroelectric dams, resource management, construction of oil/gas pipelines, decline of traditional food sources, rainforest development, land claims)

**Understanding and Managing Change**

**Building Knowledge and Understanding**
- analyse how advances in geomatics affect its users (e.g., effects on costs, training requirements, stress levels)

**Developing and Practising Skills**
- analyse the role of geotechnologies in anticipating long-term change (e.g., desertification, urban sprawl, rise in sea level)

**Learning Through Application**
- illustrate the extension of geomatics applications into non-traditional domains (e.g., criminology, marketing, disease control, recreation)

**Methods of Geographic Inquiry and Communication**

**Research and Data Collection**
- demonstrate an understanding of the ways in which various geotechnologies (e.g., remote sensing, geographic information systems [GIS], global positioning system [GPS]) are used by business, industry, and government
- identify educational requirements, job descriptions, current opportunities, and future prospects for selected careers involving the use of geotechnologies
World Geography: Urban Patterns and Interactions, Grade 12, College Preparation (CGU4C)

**Geographic Foundations: Space and Systems**
- explain how social, political, cultural, environmental, and economic processes shape urban places

**Building Knowledge and Understanding**
- define the spatial categories used in the analysis of urban areas (e.g., ... trade regions)
- describe how social, political, cultural, environmental, and economic factors, patterns, and processes have influenced and continue to influence the development of selected cities and urban environments

**Developing and Practising Skills**
- explain why the urban-rural interface changes (e.g., as a result of: shifts in population, production, and/or economic patterns; ...)

**Learning Through Application**
- compare urban areas in different continents, using a variety of criteria (e.g., ... economic profiles, resources)
- explain how a city influences its surrounding areas (e.g., through transportation systems, trade, communications)

**Human-Environment Interactions**

**Building Knowledge and Understanding**
- explain how changes in political, economic, environmental, and social policies affect selected urban environments (e.g., policies related to the preservation of green space, garbage disposal, highway construction)

**Developing and Practising Skills**
- evaluate the capacity of selected urban and rural ecosystems to support population growth and economic development

**Global Connections**
- describe the influence of social, cultural, political, environmental, and economic factors on the development of urban settlements in different parts of the world
- explain the causes of cultural and economic convergence and/or divergence in urban settlements in different parts of the world

**Building Knowledge and Understanding**
- explain how social, cultural, political, environmental, and economic factors contribute to cooperation or conflict in urban regions (e.g., Belfast, Jerusalem, Jakarta, Kigali)
Developing and Practising Skills
- explain how social, cultural, political, environmental, and economic factors associated with urban settlements contribute to convergence and/or divergence within selected urban areas (e.g., *convergence*: ethnic restaurants, retailing franchises; *divergence*: a decaying city centre, contaminated land)
- assess how a city influences the spread of major social, cultural, political, environmental, and economic ideas and activities (e.g., through media, sports teams, festivals, religious organizations and activities)

Learning Through Application
- assess the impact of selected economic, linguistic, religious, or ethnic concerns on Canadian cities (e.g., Toronto, Montreal, Vancouver) and other world cities (e.g., Rome, Mecca, Hong Kong)
- compare economic opportunities for men, women, and children in selected urban regions (e.g., Cairo, Kolkata/Calcutta, Beijing)

Understanding and Managing Change

Building Knowledge and Understanding
- explain how people’s changing perceptions of urban places and regions reflect cultural and economic change

Developing and Practising Knowledge
- assess the social, cultural, political, environmental, and economic influence of ethnic enclaves in urban areas (e.g., Greek town in Toronto, Chinatown in Vancouver, Little Havana in Miami)
- analyse the causes and consequences of major social, environmental, and economic problems in selected megalopoli (e.g., Tokyo-Kobe, Ruhr-Rhine)

Learning Through Application
- analyse examples of the use of regional and rural planning to reduce regional disparities and improve urban economic and social well-being in selected countries (e.g., India, China, Brazil)

Methods of Geographic Inquiry and Communication

Research
- identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers related to geography and urban studies
The Environment and Resource Management, Grade 12, Workplace Preparation (CGR4E)

**Global Connections**
- explain how the sustainable use of resources may be achieved through the cooperation of governments, businesses, industries, non-governmental organizations, and citizens around the world, even though their environmental perspectives may differ

**Developing and Practising Skills**
- explain the relationship between population growth and rate of consumption for a variety of global resources

**Understanding and Managing Change**

**Developing and Practising Skills**
- explain how an individual, business, industry, or government has responded to environmental concerns and promoted responsible and sustainable resource management

**Methods of Geographic Inquiry and Communication**

**Research**
- identify the educational requirements, job descriptions, current opportunities, and future prospects for selected careers related to the environment and resource management

**HISTORY, GRADES 11 AND 12**

**American History, Grade 11, University Preparation (CHA3U)**

**Communities: Local, National, and Global**

**Community Relations in the United States**
- compare similarities and differences among the Thirteen Colonies (e.g., … interaction with Aboriginal peoples, economy)
- compare the experiences of various immigrant groups and their influence in American history (e.g., push-pull factors, … ethnic ghettos, benevolent societies, discrimination, experience of illegal immigrants, …)

**Territorial Expansion**
- assess the causes and effects of American expansion from colonial times to the end of the nineteenth century (e.g., displacement of Aboriginal peoples, … gold rushes, development of infrastructure, homesteads)

**The Development of a World Power**
- analyse the ideological factors that have influenced American foreign policy over time (e.g., isolationism, imperialism, … Dollar Diplomacy, …)
- assess the factors (e.g., geographic, ideological, political, economic) that have contributed to the United States’ status as a world power
Change and Continuity

The Role of Continuity
− describe the ongoing influence of American beliefs and myth on the history and society of the United States (e.g., … private property, rugged individualism, the American Dream, … free market capitalism)

Understanding Chronology and Cause and Effect
− explain how the study of cause and effect contributes to our understanding of change and continuity through the course of American history (e.g., … stock market speculation and economic cycles; electrification and the development of modern factories)

Citizenship and Heritage

Forming the American Identity
− evaluate the ideas and influences of American social, economic, and political thinkers (e.g., Thomas Paine, Henry David Thoreau, Angelina Grimké, John Dewey, W.E.B. DuBois, John Kenneth Galbraith, … Gloria Steinem, Noam Chomsky)

American Arts and Culture
− analyse the transformation of American culture since World War II (e.g., postwar affluence and the culture of consumerism, …)

American Cultural Hegemony
− analyse the ways in which American culture has been spread worldwide (e.g., movies, television, … advertising, multinational corporations, professional sports)

Social, Economic, and Political Structures

American Society
− describe the changing roles played by women in the development of American society (e.g., during … the Industrial Revolution, … World War II, suburbanization, the post-industrial era; as pioneers; in the … second-wave feminist movements)
− describe the challenges faced by protest movements in the United States (e.g., abolitionism, the Grange, … migrant worker and anti-globalization movements)

Economic Development
• analyse the forces that have influenced American economic development
− describe changing characteristics of the American agricultural, industrial, and post-industrial economies (e.g., homesteading versus agribusiness; artisan workshops versus factories; manufacturing versus service industries; regional versus national economy; rural communities versus urbanization, suburbanization)
− evaluate the importance of business innovators and entrepreneurs as well as labour leaders and organizations in the American economy (e.g., Eli Whitney, Andrew Carnegie, Thomas Edison, Frederick Taylor, Henry Ford, Bill Gates; Mary Harris “Mother” Jones, John L. Lewis; Knights of Labor, Industrial Workers of the World, American Federation of Labor, Committee for Industrial Organization)
– compare American capitalism in the nineteenth and twentieth centuries (e.g.,
  Reconstruction, robber barons, muckrakers, anti-trust legislation, anti- combines legislation,
  black market during Prohibition, stock market crash of 1929, Great Depression, postwar
  affluence, labour legislation, Reaganomics, environmental regulation)

**Methods of Historical Inquiry and Communication**

**Research**
– identify various career opportunities related to the study of history, and the educational
requirements for them (e.g., researcher, museum or archive curator, teacher, journalist,
writer, lawyer, archaeologist)

**World History to the Sixteenth Century, Grade 11, University/College
Preparation (CHW3M)**

**Communities: Characteristics, Development, and Interactions**

**Development of Societies**
– analyse factors that allowed certain societies to thrive (e.g., abundance of natural
resources, … position on trade routes, …)

**Relationships Between Societies**
– analyse the factors that influenced the nature of relationships between societies (e.g., …
  trade and economic interchange)
– describe the diverse reactions of societies to exposure to external influences (e.g., …
  developing commercial relationships with other societies on trading routes, absorbing or
  adapting new ideas and technologies)

**Social, Economic, and Political Structures**

**Economic Structures**
• analyse diverse economic structures and the factors that affected their development
  – describe the diverse forms of economic organization that existed prior to the sixteenth
    century (e.g., horticultural, agricultural, commercial, nomadic, feudal, slave-based)
  – analyse the effects of innovations and inventions (e.g., discovery of fire; domestication of
    plants and animals; use of metals; development of written communication; invention of
    the wheel, the plough, and the shaduf; innovations in irrigation; development of currency)
    on the functioning of various economic structures
  – describe the roles of women, men, and children in the economies of selected societies
    (e.g., gatherer, peasant, craftsperson, indentured labourer)
Methods of Historical Inquiry and Communication

Research
- identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator, teacher, journalist, writer, lawyer, archaeologist)

Canadian History and Politics Since 1945, Grade 11, College Preparation (CHH3C)

Communities: Local, National, and Global

Global Forces
- explain how global economic and environmental forces have affected Canadians since 1945
  - explain how the revival of the European and Asian economies since 1945 has affected Canada (e.g., competition for exports, immigration, floating exchange rates)
  - describe the growth of international economic relationships and organizations (e.g., General Agreement on Tariffs and Trade [GATT], North American Free Trade Agreement [NAFTA], European Economic Community, Asia-Pacific Economic Cooperation [APEC]) as well as Canada’s participation in these organizations and their impact on the lives of Canadians

Change and Continuity

Change in Canadian Society
- assess the effects of the changing workplace on Canadians (e.g., from traditional primary and secondary industries to tertiary and service industries; from lifelong employment to entrepreneurial and contractual employment)
- analyse key developments in Canada’s relations with the United States since 1945 (e.g., … trade agreements such as the Auto Pact and NAFTA; changing mandate of the Foreign Investment Review Agency [FIRA]; trade disputes over softwood lumber and following the mad cow crisis; …)

Continuity in Canadian Society
- assess government programs and policies implemented since 1945 and designed to assist and protect Canadian citizens (e.g., unemployment/employment insurance, family allowances, medicare, …)
- assess how the continuing forces of capitalism and free enterprise have affected Canada since 1945 (e.g., exploitation of natural resources, private banking systems, deregulation and privatization of Crown corporations, environmental degradation, increase in part-time employment, economic disparities, loss of national sovereignty, growth of companies such as Bombardier, Magna International, and WestJet)
Chronology and Cause and Effect
- explain the process of cause and effect in the context of the unfolding of key Canadian events and issues since 1945 (e.g., fluctuations in the Canadian dollar)
- analyse interrelationships among political, social, economic, and cultural developments, issues, and ideas, using examples from post-1945 Canada (e.g., the baby boom and its effect on schools; the growth of suburbs and its effects on transportation; the Charter of Rights and Freedoms and equity policies; concern about health issues and the adoption of smoking bans)

Citizenship and Heritage

Working Canadians
- describe the spread of unions and professional associations in the Canadian workplace since 1945 (e.g., labour unions such as the Brotherhood of Sleeping Car Porters and the United Auto Workers / Canadian Auto Workers; public sector unions such as the Canadian Union of Public Employees; professional associations such as the Royal College of Physicians and Surgeons of Canada) and assess their influence on government policies and political parties (e.g., Industrial Relations and Disputes Investigation Act, 1948; New Democratic Party)
- assess the advantages and disadvantages of globalization and offshore industries for Canadian workers and other Canadian citizens

Social, Economic, and Political Structures

Economic Structures
• analyse changes in the Canadian economy since 1945
  - analyse key developments in Canada’s social legislation since 1945 (e.g., medicare, pension programs, pay equity) as they relate to the concept of an open, equitable, democratic society
  - analyse government policies that protect or expand the social safety net and those that promote a positive environment for capitalism and free enterprise (e.g., progressive versus flat tax proposals, spending on social programs versus tax reductions, nationalized versus privatized services and industries)
  - assess the effects of public and private investment and economic policy on local, provincial, and national economies (e.g., sponsorship of megaprojects such as the TransCanada Pipeline; National Energy Program; privatization of Crown corporations such as Petro-Canada, Air Canada; wage and rice controls; Bank of Canada monetary policies; branch plants; downsizing);
  - describe developments in the Canadian consumer economy since 1945 (e.g., suburbanization, subsidized housing, targeting teenage consumers since the 1950s, shopping malls, personal credit cards, automated services, e-shopping) and their effects on Canadians’ lives

Methods of Historical Inquiry and Communication

Research
- identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator, teacher, journalist)
Canadian History and Politics Since 1945, Grade 11, Workplace Preparation (CHH3E)

Communities: Local, National, and Global

Global Forces
• describe how key global economic and environmental forces have affected Canadians since 1945
  – identify major international economic organizations and agreements and describe their impact on Canadians (e.g., Organization of the Petroleum Exporting Countries [OPEC], European Economic Community, General Agreement on Tariffs and Trade [GATT])

Change and Continuity

Change in Canadian Society
– identify pivotal changes in transportation and communications (e.g., superhighways, St. Lawrence Seaway, jet aircraft, satellites, printed circuits, microwave broadband, cable, Internet) and assess their effects on Canadian society
– describe the effects of the changing workplace on Canadians (e.g., from traditional primary and secondary industries to tertiary and service industries; from lifelong employment to entrepreneurial and contractual employment)
– describe key developments in Canada’s relations with the United States since 1945 (e.g., … trade agreements such as the North American Free Trade Agreement [NAFTA]; changing mandate of the Foreign Investment Review Agency [FIRA]; trade disputes over softwood lumber and following the mad cow crisis; …)

Continuity in Canadian Society
– identify ongoing government programs designed to assist Canada’s industrial and commercial economies (e.g., Crown corporations, government incentives, regional development grants)
– identify ongoing programs to assist and protect Canadian citizens (e.g., unemployment/employment insurance, family allowances, medicare, maternity/parental leave, …)

Chronology and Cause and Effect
– identify the process of cause and effect in history, using examples from Canadian politics and society since 1945 (e.g., … fluctuations in the Canadian dollar)
– describe how political, social, economic, and cultural developments, issues, and ideas interrelate, using examples from post-1945 Canada (e.g., the baby boom and its effect on education; the Charter of Rights and Freedoms and equity policies; concern about health issues and the adoption of smoking bans)
Citizenship and Heritage

Working Canadians
- describe key developments in the spread of unions and professional associations in Canada since 1945 (e.g., labour unions such as the United Auto Workers / Canadian Auto Workers; public sector unions such as the Canadian Union of Public Employees; professional associations such as the Royal College of Physicians and Surgeons of Canada)
- identify and describe important challenges to Canadian unions and workers posed by globalization and offshore industries

Social, Economic, and Political Structures

Economic Structures
- describe changes in the Canadian economy since 1945
  - identify important effects of government policies and programs on national, provincial, and local economies (e.g., sponsorship of megaprojects such as the TransCanada Pipeline or James Bay hydroelectric project, the National Energy Program, wage and price controls, Bank of Canada monetary policies)
  - describe the impact of major developments in the Canadian consumer economy since 1945 (e.g., suburbanization, subsidized housing, targeting of teenage consumers, shopping malls, personal credit cards, automated service)

Methods of Historical Inquiry and Communication

Research
- identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator or assistant, teacher, journalist)

Interpretation and Analysis
- analyse historical events and issues from the perspective of different participants in those events and issues (e.g., ... the shift from lifelong to contract employment from the perspectives of workers and employers)

World History Since 1900: Global and Regional Perspectives, Grade 11, Open (CHT3O)

Communities: Local, National, and Global

Imperialism and Decolonization
- demonstrate an understanding of the concept of imperialism (e.g., political, economic, cultural)
- analyse the impact that selected imperial powers of the past and present have had on their colonies and/or spheres of influence (e.g., resource exploitation; creation of infrastructures; political, legal, and economic domination; ...)

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Financial Literacy, Grades 9–12: Scope and Sequence of Expectations, 2011
Conflict and Cooperation
- explain the causes, course, and results of World War I and World War II (e.g., economic dislocation)

The International Community
- describe shifts in the international balance of power from 1900 to the present (e.g., the increasing power of the United States, the rise and collapse of the Soviet Union, the rise of Asian nations)
- evaluate the influence of international organizations in defining new concepts of “global communities” (e.g., International Monetary Fund [IMF], World Trade Organization [WTO], G8)

Change and Continuity

The Process of Change
- describe major technological and economic changes since 1900 and their impact on society (e.g., the automobile, electricity, electronic and computer technology; progressive taxation, consumerism, global capitalism)

The Process of Continuity
- explain the role of selected social, economic, and political systems and structures in maintaining continuity (e.g., class system, capitalism, communism, democracy)

Chronology and Cause and Effect
- describe the cause-and-effect relationship between decisions taken in history and their consequences in helping to shape significant historical events (e.g., the conditions imposed by the Treaty of Versailles in 1919 and the outbreak of World War II, the formation of trading blocs and their effect on national autonomy)
- analyse the relationships between selected political, social, economic, and cultural issues and events since the beginning of the twentieth century (e.g., the Great Depression and social welfare legislation, fishing practices and territorial waters, civil disobedience and economic disruption)

Citizenship and Heritage

The Rights of Individuals and Groups
- outline a variety of interpretations concerning the position of the individual in society (e.g., labour and class solidarity, …)

Social, Economic, and Political Structures

Everyday Life
- describe changes that have occurred since the beginning of the twentieth century in the structure of the family and the role of the individual within the family (e.g., increased participation of women in the labour force, absentee family members in migrant labour markets, …)
describe changes in the workplace during the twentieth century (e.g., shift from agriculture to industry, rise of the service industry, need for technical knowledge, development of labour-saving devices, use of assembly lines and robotics in industry, shortened work week and the concept of leisure time)

Economic Structures
• describe major features of economic life since 1900
  – identify the primary characteristics of economic structures in developed nations (e.g., belief in free enterprise, competition, private property; Keynesian and post-Keynesian economic theory; liberalized world trade)
  – analyse the successes and failures of command economies (e.g., the former Soviet Union, People’s Republic of China, Castro’s Cuba, Tito’s Yugoslavia)
  – describe and assess local, national, and global implications of major economic crises since 1900 (e.g., the Great Depression, China’s Great Leap Forward, the 1973 OPEC oil crisis, eastern Europe and the collapse of the Soviet Union, the Asian financial crisis of the 1990s, the technology stock crash of 2000, the Enron scandal);
  – analyse the problems that have faced the underdeveloped world in achieving economic stability and prosperity (e.g., lack of capital investment, exploitation of citizens as cheap labour, fragile taxation base, political corruption, foreign ownership, debt load)
  – identify the reasons for, and implications of the growth of, selected international economic relationships (e.g., West Indies Federation, African Union [AU], Asia-Pacific Economic Cooperation [APEC], European Union [EU], North American Free Trade Agreement [NAFTA], World Trade Organization [WTO])

Methods of Historical Inquiry and Communication

Research
– identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator or assistant, teacher, journalist)

Canada: History, Identity, and Culture, Grade 12, University Preparation (CHI4U)

Communities: Local, National, and Global

Aboriginal Peoples
– describe various aspects of Aboriginal life prior to contact with Europeans (e.g., traditional economies, …)

Immigration and Identity
– describe significant changes in Canadian immigration policy since Confederation (e.g., … Chinese head tax, British Home Children, … point system)
Change and Continuity

Transformation of Canadian Identity
- analyse how conflicts and compromises between Canada and the United States have helped to shape Canadian identity (e.g., … North American Free Trade Agreement [NAFTA]; …)
- assess the effectiveness of attempts to protect Canadian culture from American domination (e.g., … attempts to protect cultural industries in trade agreements)

East–West and North–South Forces
- analyse the causes and implications of Canadian regional differences (e.g., economic disparity between Central and Atlantic Canada, …)
- analyse the reasons for Canada’s close political and economic relationship with the United States (e.g., … concentration of American ownership in the Canadian economy)

Rural and Urban Communities
- assess the effects of industrialization on various regions and peoples of Canada (e.g., urbanization, growth of slums, pollution, poverty, workers’ organizations, rural depopulation, economic disparity, increase in GDP)
- evaluate the changing economic and cultural contributions of Canadian agricultural and resource-based communities (e.g., fishing villages, mining and mill towns, Prairie breadbasket, oil sands; …)
- evaluate the changing economic and cultural contributions of Canadian cities (e.g., role as service and financial centres; …)

Technology and Society
- analyse how changes in technology (e.g., introduction of steam power, combustion engine, automation, mechanization, electricity, telephone, labour-saving appliances, radio, television, computers) have affected Canadian homes and workplaces

Social, Economic, and Political Structures

Social Programs and Policies
- describe the history, development, and extent of Canada’s social programs (e.g., unemployment/employment insurance, family allowance, medicare, pension plans, welfare/social assistance, subsidized daycare)
- assess the causes and effects of changes in labour legislation (e.g., Royal Commission on the Relations of Labor and Capital, anti–child labour advocates, labour unions, strikes, women’s movement, business lobby; minimum wage, child labour, pay equity, and anti-union legislation)

Women in Canada
- analyse the extent to which women’s traditional roles as wives and mothers and their status in Canadian society have changed since Victorian times
- analyse women’s changing participation, both paid and unpaid, in the Canadian economy
Economic Relations and Policies
• evaluate the impact of Canada’s national and international economic policies on Canadian identity and sovereignty
  – compare John A. Macdonald’s National Policy with other economic visions of Canada (e.g., Wilfrid Laurier’s reciprocity; Gordon Commission; Third Option; visions of the cooperative movement, Business Council on National Issues, Council of Canadians, anti-globalization movement)
  – analyse the extent to which trade policies and agreements have challenged Canadian sovereignty (e.g., mercantilism, reciprocity, the Auto Pact, General Agreement on Tariffs and Trade [GATT], Canada–U.S. Free Trade Agreement, North American Free Trade Agreement [NAFTA], Asia-Pacific Economic Cooperation [APEC], World Trade Organization [WTO]);
  – assess the relationship between Canadian economic practices and humanitarian principles (e.g., trade with Cuba and China, trade embargos, boycotts, sale of CANDU reactors, wheat aid);
  – assess the effectiveness of various economic policies and initiatives in promoting Canadian sovereignty (e.g., National Policy; Halibut Treaty, 1923; Foreign Investment Review Agency; National Energy Program; Arctic Environmental Protection Strategy, 1991; Turbot War, 1995)

Popular Reform Movements
  – analyse the impact of the women’s movement in Canada (e.g., married women’s property reform, … paid maternity leave, Royal Commission on the Status of Women, Irene Murdoch and changes to divorce law, Jeannette Corbière Lavell and changes to Aboriginal women’s status)
  – analyse the development of the labour movement in Canada (e.g., Knights of Labor, Winnipeg General Strike, One Big Union, Hal Banks and the Canadian Seamen’s Union, Asbestos Strike, Canadian Labour Congress, United/Canadian Auto Workers, public sector unions)

Methods of Historical Inquiry and Communication

Research
  – identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator, teacher, journalist, writer, lawyer, archaeologist)
World History: The West and the World, Grade 12, University Preparation (CHY4U)

Communities: Local, National, and Global

Types of Communities and Their Development
- compare diverse rural communities that have developed in the West and the rest of the world (e.g., traditional communal villages, seigneurial and manorial systems, family farms and large farms or plantations, farms involved in international agribusiness; differing roles of families and of elders, men, women, and children)
- describe the development of urbanization and its impact on various communities and the environment (e.g., development of administrative, market, commercial, and industrial towns and cities; the rise of the metropolis and metropolitan sprawl; issues of inner cities and suburbia; issues of law, order, and infrastructure; cycles of construction and destruction of the urban landscape; loss of agricultural land; pollution)

The Nature of Interactions Among Communities
- describe factors that have prompted and facilitated increasing interaction between peoples since the sixteenth century (e.g., trade; exploration; economic gain; modern technologies and inventions; demographic pressures; …)

Conflict and Cooperation
- evaluate the course and consequences of selected conflicts and wars since the sixteenth century (e.g., … destruction of property, economic and political readjustment, … changes in social structures and gender relations, technological and medical advances)

Change and Continuity

Change in History
- identify forces that have facilitated the process of change (e.g., increase in literacy; …) and those that have tended to impede it (e.g., rigid class or caste systems, …)
- assess the variety, intensity, and breadth of change that has taken place from the sixteenth century to the present (e.g., … technological advances, demographic changes, … social reform)

Citizenship and Heritage

Western Beliefs, Philosophies, and Ideologies
- explain the impact of Western thought on economic, political, and social developments in the West since the sixteenth century (e.g., the development of mercantile and laissez-faire economies, … socialism and labour movements, …)
- describe key examples of the impact of Western thought on the non-Western world since the sixteenth century (e.g., transformation or loss of indigenous … economies; …)
Ideas and Cultures of the Non-Western World

- explain how European imperialism affected values, practices, and traditions in the non-Western world (e.g., changes in technology and in the approach to the natural world, changing social and political elites in India, development of the encomienda system of land holding in Latin America, … severing of traditional communities in Africa, transformation of agriculture in Africa and Southeast Asia)

Social, Economic, and Political Structures

Social Structures

- describe how family structures and the gender roles within them have changed or why they have remained stable in various societies throughout the world (e.g., … economic and parental roles of men and women)

Economic Structures

- analyse significant economic developments in the West and the rest of the world since the sixteenth century
- describe the attributes of pre-industrial economies (e.g., subsistence and market agriculture, barter, cottage industries, guild institutions, commercial entrepôts)
- analyse the effects of industrialization and free enterprise capitalism on the economies and environment of the West and the rest of the world (e.g., unprecedented increase in material wealth, creation of large factories and industrial cities, increase in resource and market imperialism, rise of consumerism; resource depletion, air and water pollution)
- assess the consequences of international economic interrelationships that have developed since the sixteenth century (e.g., labour and resource exploitation of poor countries, widening disparities of economic opportunity and wealth, environmental degradation, cultural homogenization, globalized production and marketing, revival of economic and cultural nationalism, increased demand for rights for women and children)
- identify the central tenets of the major schools of modern economic thought and describe how they were applied in the post–World War II era (e.g., collectivism, Keynesianism, monetarism, free trade)

Political Organization

- describe various government responses to the consequences of significant economic changes in the West and the rest of the world (e.g., liberalized or protectionist trade legislation, labour and social welfare legislation, nationalization of essential industries)

Women’s Experience

- analyse changing aspects of women’s economic, social, and political lives in Western and non-Western societies since the sixteenth century
- describe the roles of women in preindustrial societies (e.g., family roles, economic and political participation) and factors that influenced their status in those societies (e.g., … property rights, limited access to education)
- analyse key factors that have influenced the status of women in the West and the rest of the world since the Industrial Revolution (e.g., changing work and family roles with industrialization and urbanization; impact of … government legislation regarding public health, labour legislation, maternity leave, public education, trade unions)
describe various obstacles to equality that women have faced in Western and non-Western societies since the sixteenth century (e.g., … restrictions on access to education and the labour force, traditional gender roles, … “separate spheres”, “glass ceiling”)

**Methods of Historical Inquiry and Communication**

**Research**

- identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator, teacher, journalist, writer, lawyer, archaeologist)

**World History: The West and the World, Grade 12, College Preparation (CHY4C)**

**Communities: Local, National, and Global**

**Types of Communities and Their Development**

- describe aspects of the character of rural communities that have developed in the West and the rest of the world (e.g., traditional communal villages, seigneurial and manorial systems, family farms and large farms or plantations, farms involved in modern international agribusiness; differing roles of elders, men, women, and children)

**The Nature of Interactions Among Communities**

- describe key factors that have prompted and facilitated increasing interaction between peoples since the sixteenth century (e.g., trade; … economic gain; modern technologies and inventions; demographic pressures; …)

**Conflict and Cooperation**

- describe the course and consequences of selected conflicts and wars since the sixteenth century (e.g., … destruction of property, economic and political readjustment, … changes in social structures and gender relations, … technological and medical advances)

**Change and Continuity**

**Change in History**

- describe the nature of selected technological changes and their impact on individuals, social structures, communities, and the environment (e.g., the printing press, modern ship building and navigation, steam and electric power, petro-chemicals, radio and telecommunications, modern medical and reproductive technology, nuclear power)

**Continuity in History**

- describe the role of institutions in reinforcing continuity in history (e.g., … class and caste, … guilds, financial policies and institutions, multilateral economic relationships)
Citizenship and Heritage

Western Beliefs, Philosophies, and Ideologies
- describe the main tenets of some key modern beliefs and philosophies and how they have shaped Western thought (e.g., ... socialism, ... Marxism-Leninism, fascism, ... competing concepts of globalization)
- describe examples of the pivotal influence of modern Western thought on economic, political, and social developments in the West since the sixteenth century (e.g., the development of mercantile and laissez-faire economies, ... socialism and labour movements, ...)
- describe some key examples of the impact of Western thought on the non-Western world (e.g., transformation or loss of indigenous ... economies; ...)

Social, Economic, and Political Structures

Economic Structures
- explain significant economic developments in the West and the rest of the world since the sixteenth century
  - identify key elements of pre-industrial economies (e.g., subsistence and market agriculture, barter, cottage industries, guild institutions, commercial entrepôts)
  - describe the effects of industrialization and free enterprise capitalism on the economies and environment of the West and the rest of the world (e.g., unprecedented increase in material wealth, creation of large factories and industrial cities, increase in resource and market imperialism, rise of consumerism; resource depletion, air and water pollution)
  - describe the consequences of global economic interrelationships that developed in the twentieth century (e.g., labour and resource exploitation, widening disparities of economic opportunity and wealth, environmental degradation, cultural homogenization, globalized production and marketing, revival of economic and cultural nationalism, increased demand for rights for women and children)

Political Organization
- describe the various ideological positions that are represented in the political spectrum (e.g., communism, socialism, liberalism, conservatism, fascism)
- identify government responses to the consequences of significant economic changes in the West and the rest of the world (e.g., expansionist or protectionist trade legislation, labour and social welfare legislation, nationalization of essential industries)

Women’s Experience
- describe the changing roles that women have played in various communities throughout the world since the sixteenth century
  - describe various roles of women in preindustrial societies (e.g., family roles, economic and political participation) and key factors that influenced their status in those societies (e.g., ... property rights, limited access to education)
  - identify key factors that have influenced the status of women in the West and the rest of the world since the Industrial Revolution (e.g., changing work and family roles with industrialization and urbanization; impact of ... government legislation regarding public health, labour legislation, maternity leave, public education, trade unions)
identify various obstacles to equality that women have faced in Western and non-Western societies since the sixteenth century (e.g., role restrictions based on scripture and religious teachings, restrictions on access to education and the labour force, traditional gender roles, reproductive issues, lack of the franchise, ... “separate spheres”, “glass ceiling”)

**Methods of Historical Inquiry and Communication**

**Research**
- identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator or assistant, teacher, journalist, writer, lawyer)

**Adventures in World History, Grade 12, Workplace Preparation (CHM4E)**

**Communities: Local, National, and Global**

**Work and the Community**
- explain the roles and processes of education and skills training in different communities at different times (e.g., learning by example in Inuit or traditional Chinese families, medieval guilds and apprenticeships, modern trade schools and independent learning facilities)
- evaluate changes in selected trades and professions throughout the ages (e.g., specialization, hierarchies, wages and working conditions)

**Change and Continuity**

**Change and Continuity in History**
- identify factors that have led to the migration of peoples (e.g., economic and political pressures) and describe the effects of such movements (e.g., demographic changes, ...)

**Rural and Urban Societies**
- identify factors that set the stage for industrial revolutions (e.g., relatively stable society, technological innovation, availability of capital for investment) and describe the outcomes of these revolutions

**Social, Economic, and Political Structures**

**Society and the Individual**
- identify a variety of determinants of class and social standing throughout history (e.g., heredity, as in India’s caste system; economics, as in Marx’s proletariat and bourgeoisie; personal achievement, as reflected by notables in industry, sports, and entertainment)
- identify the different roles played by women, men, children, and the aged in selected societies and at different times (e.g., matriarch, gatherer, hunter, breadwinner, child labourer, student, tribal elder)
Commercial Exchange
• describe changes in commercial exchange from antiquity to the present day
  – describe the development of currencies and credit systems, from early barter to the modern Western consumer economy (e.g., wampum, weights and measures, minted coins, paper money, Renaissance banking and double-entry bookkeeping, stock markets, personal credit, electronic banking)
  – identify the location and purposes of different trade routes (e.g., the Silk Road; the Atlantic Triangle; the Yangtze, Mekong, Nile, Indus, Mississippi, and St. Lawrence Rivers; routes along canal and railway systems)
  – identify important examples and the economic consequences of the human drive to explore new frontiers (e.g., Marco Polo and the reawakening of overland Asian trade routes; conquistadors, Incan gold, and the sixteenth-century “price revolution”; aerospace programs and their influence on the telecommunications industry)

Power and Authority
  – explain the nature of the relationship between social or economic position and political influence in different periods of history (e.g., slave and master; serf and feudal lord; women and men in patriarchal societies)

Methods of Historical Inquiry and Communication

Research
  – identify various career opportunities related to the study of history, and the educational requirements for them (e.g., researcher, museum or archive curator or assistant, teacher, journalist)

LAW, GRADES 11 AND 12

Understanding Canadian Law, Grade 11, University or College Preparation (CLU3M)

Heritage

Law and Society
  – differentiate among various types of public and private laws (e.g., … tort, labour, environmental) with respect to the areas of human activity they regulate and the legal institutions and processes associated with each type

Regulation and Dispute Resolution

Private and Public Law
  – describe the differences between public law (e.g., constitutional law, criminal law, labour law) and private law (e.g., family law, contract law, tort law)
  – describe the various areas of civil (i.e., private) law (e.g, family, contract, tort)
Methods of Legal Inquiry and Communication

Research
   – describe career opportunities in the legal field

Understanding Canadian Law, Grade 11, Workplace Preparation (CLU3E)

Heritage

Types and Categories of Law
   – differentiate among traditional categories of law (e.g., family, tort, contract, labour, criminal)

Regulation and Dispute Resolution

Contractual Obligations
   – describe situations where it may be necessary to apply the law in a civil dispute (e.g., landlord-tenant disputes, mortgage or credit issues, consumer complaints)

Tort Law
   – outline defences to torts (e.g., … voluntary assumption of risk, inevitable accident) and possible remedies available to victims (e.g., legal aid, consumer protection associations)

Law and the Workplace
   – describe protections that are afforded to workers by federal and provincial legislation (e.g., laws relating to workers’ compensation, employment insurance, harassment and discrimination)
   – investigate major differences in employer-employee relations in unionized and non-unionized environments (e.g., with respect to the negotiation of contracts, severance, job security, pensions and benefits)
   – describe steps that can be taken in response to the violation of employee rights (e.g., mediation, grievance, formal complaint to labour boards) and the remedies provided (e.g., sanctions against employers, employee compensation)

Methods of Legal Inquiry and Communication

Research
   – describe career opportunities in the legal field (e.g., bailiff, correctional officer, court clerk)
Canadian and International Law, Grade 12, University (CLN4U)

Regulation and Dispute Resolution

Labour Law
- analyse the legal process, legal systems, and sanctions used to protect the rights of the employer and the employee in the workplace
  - explain the role of the federal and provincial governments in developing laws relating to labour and the workplace
  - explain the intent of key components of federal and provincial labour legislation (e.g., Canada Labour Code, Ontario Labour Relations Act, Ontario Employment Standards Act)
  - analyse the major differences in employer/employee situations in non-unionized and unionized environments (e.g., with respect to the negotiation of contracts, severance, security)
  - explain why unions were formed
  - assess the utility of the collective bargaining process
  - analyse the impact of developments such as free trade, globalization, and changing technology on the future of collective bargaining and workplace regulation

Principles of International Law
- identify global issues that may be governed by international law (e.g., ... trade agreements)

International Treaties and Agreements
- explain the impact of international trade agreements on sovereignty by examining selected trade agreements (e.g., General Agreement on Tariffs and Trade [GATT], World Trade Organization [WTO], North American Free Trade Agreement [NAFTA], Asia-Pacific Economic Cooperation [APEC])

Methods of Legal Inquiry and Communication

Research
- identify various career opportunities in the legal field (e.g., paralegal, community legal worker, criminologist)

POLITICS, GRADES 11 AND 12

Canadian Politics and Citizenship, Grade 11, Open (CPC3O)

Power, Influence, and the Resolution of Differences

Power Relationships
- explain examples of tensions between individuals and groups with respect to their needs and wants, using concepts such as gender, lifestyle, ethnicity, and socio-economic status;
- compare selected theories on the purpose of government and on ways in which government powers are acquired, used, and justified (e.g., the theories of Thomas Hobbes, John Locke, Jean-Jacques Rousseau)
Influences on Canadian Politics
- identify the types of pressure and interest groups that can legally participate in the Canadian political system (e.g., unions, professional associations, …)
- explain ways in which Canadian governments affect and are affected by global political and economic actions and agreements (e.g., … North American Free Trade Agreement)

Decision-Making Systems and Processes

Making Decisions for the Common Good
- describe the extent to which political and economic systems and institutions in Canada meet people’s needs and promote the common good
  - explain how selected choices made in Canada (e.g., … NAFTA, the ban on cod fishing) are likely to affect the current and future well-being of people and environments in Canada and around the world
  - explain how the Canadian Charter of Rights and Freedoms has influenced decisions in a variety of areas (e.g., employment and pay equity, antidiscrimination legislation and measures in the workplace)

Values, Beliefs, and Ideologies

Influences on Political Ideologies
- evaluate the major historical, geographic, economic, and cultural influences that shape Canadian political ideologies
  - explain the relationship between political ideologies and features of economic systems (e.g., marketing boards, equalization payments, government ownership or regulation)

Methods of Political Inquiry and Communication

Research
- describe various careers related to the study of politics (e.g., law clerk, researcher, civil servant, journalist)

Canadian and World Politics, Grade 12, University Preparation (CPW4U)

Participation in the International Community

International Conflict and Cooperation
- explain the effects on national sovereignty of the trend towards global decision making (e.g., with reference to the European Union [EU], Free Trade Area of the Americas [FTAA])

Canada’s International Role
- explain the role of government agencies (e.g., Foreign Affairs Canada and International Trade Canada, the Canadian International Development Agency) in formulating and implementing Canada’s foreign policy
International Intergovernmental and Non-governmental Organizations
- explain the origins, functions, and objectives of international cooperation organizations (e.g., Asia-Pacific Economic Cooperation [APEC], African Union [AU], …)
- evaluate the effectiveness of selected international organizations (e.g., Organization of the Petroleum Exporting Countries [OPEC], … World Bank) in meeting their stated objectives

Power, Influence, and the Resolution of Differences

State Power
- analyse the factors that determine the power and influence of a country
  - analyse how natural resources and human resources help to determine the power and influence of a country (e.g., geography, demography, economic resources and markets, …)
  - analyse the rise and development of non-governmental organizations (NGOs) and corporations as world powers (e.g., … multinational corporations such as Nike, Shell, General Motors, Microsoft, Mitsubishi)

Influences on International Relations
- describe how decolonization after World War II transformed international politics, economics, technology, communications, and law
  - explain the relationship between changes in information, telecommunications, and military technologies and their uses (e.g., development of the Internet; propaganda, military, and commercial uses of satellite telecommunications) and changes in international, political, and economic relations

Canada’s International Role and Influence
- describe some important factors shaping Canadian foreign policy (e.g., commitments under the … North American Free Trade Agreement)

Values, Beliefs, and Ideologies

The International Influence of Ideologies
- explain the key arguments for and against the processes of “globalization” in economics, politics, and culture (e.g., opportunities for exchanges and international cooperation; likelihood of hegemony or domination of weaker by stronger nations)

Nationalist and Internationalist Orientations
- explain how similar values, beliefs, and ideologies (e.g., … social and economic values) can result in cooperation between governments

Developed and Developing Nations
- describe the main economic, political, and social characteristics of developed and developing countries
  - compare key elements of selected theories concerning the nature of effective development (e.g., in relation to … global industrialization, sustainable national development, …)
Methods of Political Inquiry and Communication

Research
- describe various career opportunities related to the study of politics (e.g., research, civil service, law, journalism, political life)

Interpretation and Analysis
- provide interpretations of political events from different perspectives (e.g., … economic)
- make inferences and draw conclusions, based on analysis of data and application of political theories, about political events, issues, and trends and their relationship to social, economic, and cultural systems

See the Preface for important information on the organization of the following material.

Although none of the expectations in the classical studies and international languages curriculum relate explicitly to financial literacy, in each of the strands in the various courses the development of financial literacy can be fostered through both the learning context (e.g., a topic, a thematic unit, or an issue related to finances or economics) and learning materials (e.g., books, websites, media). When studying classical civilizations, students could address aspects of trade, economics, and use of money in ancient times. When studying international languages, students could learn about the currency used at present in the various countries.
See the Preface for important information on the organization of the following material.

Although computer studies courses do not teach financial literacy skills and knowledge directly, all of these courses have expectations requiring research about careers in and postsecondary education requirements for computer-related fields.

Introduction to Computer Studies, Grade 10, Open (ICS2O)

A. Understanding Computers

A1. Hardware Components
A1.4 assess user computing needs and select appropriate hardware components for different situations (e.g., a student on a fixed budget, a home business user, a gaming enthusiast, a photographer, a home video enthusiast, a distance education user, a human resources manager, an accountant)

A2. Software Products
A2.2 assess user computing needs and select appropriate software for different situations (e.g., a student on a fixed budget, a home business user, a gaming enthusiast, a photographer, a home video enthusiast, a distance education user, a human resources manager, an accountant)

C. Computers and Society

C1. Social Impact
C1.2 explain the impact on privacy of techniques for collecting and processing data (e.g., reward programs, targeted advertising, digital rights management)

C4. Postsecondary Opportunities
C4. describe postsecondary education and career prospects related to computer studies
C4.1 research and describe trends in careers that require computer skills, using local and national sources (e.g., local newspaper, national newspaper, career websites)
C4.2 research and report on postsecondary educational programs leading to careers in the field of information systems and computer science (e.g., institutions offering relevant programs, industry certifications, courses of study, entrance requirements, length of programs, costs)
C4.3 identify groups and programs that are available to support students who are interested in pursuing non-traditional career choices in computer-related fields (e.g., mentoring programs, virtual networking/support groups, specialized postsecondary programs, relevant trade/industry associations)
Introduction to Computer Science, Grade 11, University Preparation (ICS3U)

D. Topics in Computer Science

D3. Postsecondary Opportunities
D3. describe postsecondary education and career prospects related to computer studies
D3.1 research and describe career choices and trends in computer science, at the local, national, and international levels
D3.2 identify and report on opportunities for experiential learning (e.g., co-op programs, job shadowing, career fairs) in the field of computer science
D3.3 research and report on postsecondary educational programs leading to careers in information systems and computer science (e.g., institutions offering relevant programs, industry certifications, courses of study, entrance requirements, length of programs, costs)
D3.4 identify groups and programs that are available to support students who are interested in pursuing non-traditional career choices related to information systems and computer science (e.g., mentoring programs, virtual networking/support groups, specialized postsecondary programs, relevant trade/industry associations)

Introduction to Computer Programming, Grade 11, College Preparation (ICS3C)

D. Computers and Society

D4. Postsecondary Opportunities
D4. describe postsecondary education and career prospects related to computer studies
D4.1 research and describe trends in careers that require computer skills, using local and national sources (e.g., local newspaper, national newspaper, career websites)
D4.2 identify opportunities for experiential learning (e.g., co-op programs, job shadowing, career fairs) related to computer science
D4.3 research and report on postsecondary educational programs leading to careers in the field of information systems and computer science (e.g., institutions offering relevant programs, industry certifications, courses of study, entrance requirements, length of programs, costs)
D4.4 identify groups and programs that are available to support students who are interested in pursuing non-traditional career choices in computer-related fields (e.g., mentoring programs, virtual networking/support groups, specialized postsecondary programs, relevant trade/industry associations)
Computer Science, Grade 12, University Preparation (ICS4U)

D. Topics in Computer Science

D3. Emerging Technologies and Society
D3. analyse the impact of emerging computer technologies on society and the economy
D3.1 explain the impact of a variety of emerging technologies on various members of society
and on societies and cultures around the world and on the economy

D4. Exploring Computer Science
D4. research and report on different areas of research in computer science, and careers related
to computer science
D4.3 research and describe careers associated with computer studies (e.g., computer scientist,
   software engineer, systems analyst), and the postsecondary education required to prepare
   for them

Computer Programming, Grade 12, College Preparation (ICS4C)

B. Software Development

B1. Designing Standard Algorithms
B1.1 design algorithms to solve practical mathematical problems (e.g., ... energy costs, ...)
B1.2 design algorithms that require precision and accuracy when rounding numbers (e.g.,
currency calculations, amortization, ...)

D. Computers and Society

D3. Emerging Technologies
D3. investigate and report on emerging computer technologies and their potential impact on
   society and the economy
D3.2 investigate and report on innovations in information technology (e.g., webcasting, VoIP,
multiplayer online gaming) and their potential impact on society and the economy

D4. Computer-related Careers
D4. research and report on the range of career paths and lifelong learning opportunities in
   software development or a computer-related field
D4.1 research and report on the range of career opportunities in software development, including
duties, responsibilities, qualifications, and compensation
See the Preface for important information on the organization of the following material.

Expectations in the English curriculum that relate to financial literacy are found mostly in the Media Studies strand. Through the expectations in this strand, students analyze the ways in which marketers and advertisers manipulate audiences’ reactions to their products. When provided with opportunities to deconstruct these texts, students can become more knowledgeable about their behavior as consumers.

English, Grade 9, Academic (ENG1D)

Media Studies

1. Understanding Media Texts
1.1 explain how both simple and complex media texts are created to suit particular purposes and audiences (e.g., both the feature articles and the advertisements in a women’s fashion magazine are designed to appeal to – and influence – women’s sense of fashion and beauty, and to promote sales; a web page about skateboarding has both video clips that feature new and challenging jumps and links to advertisers promoting the latest equipment)

Teacher prompt: “What elements in this teen magazine advertisement for a skin care product appeal to the target audience? How does the ad affect the way members of the target audience see themselves?”

1.2 interpret simple and complex media texts, identifying and explaining the overt and implied messages they convey (e.g., explain what the words, symbols, and images on a cereal box communicate about the cereal; explain what the title and cover art of a graphic novel communicate about the story and its intended audience)

1.6 explain how several different production, marketing, and distribution factors influence the media industry (e.g., explain why DVDs include trailers for first-run movies playing in local theatres; explain how a shopping mall is designed and organized to influence consumers)

Teacher prompt: “Why would companies pay to have their products used in films and television shows?”

2. Understanding Media Forms, Conventions, and Techniques
2.1 identify general characteristics of several different media forms and explain how they shape content and create meaning (e.g., a billboard soft-drink ad presents a static image suggesting the product’s thirst-quenching qualities, while a television commercial links the product to a lively, interactive social situation)

Teacher prompt: “How does the representation of a doctor in a product advertisement differ from the representation of a doctor in a medical drama?”
English, Grade 9, Applied (ENG1P)

Reading and Literature Studies

1. Reading for Meaning
1.8 identify the perspectives and/or biases evident in simple texts and some teacher-selected complex texts and comment on any questions they may raise about beliefs, values, and identity …

Media Studies

1. Understanding Media Texts
1.1 explain how simple media texts and some teacher-selected complex media texts are created to suit particular purposes and audiences (e.g., advertisements for games and toys use bright colours and happy images to appeal to children; … a teen magazine uses teen insider jargon and an offbeat layout to appeal to its readers’ desire to establish their own identity)
Teacher prompt: “Why do fashion magazines contain many photographs and relatively little text?”
1.2 interpret simple media texts and some teacher-selected complex media texts, identifying some of the overt and implied messages they convey (e.g., … images of happy families in television advertising for fast-food restaurants link the product to ideas of family harmony and togetherness)
Teacher prompts: “What do the words in this movie poster tell us about the movie? What else is communicated about the movie through the design, colours, and images in the poster?” …
1.3 evaluate how effectively information and ideas are communicated in simple media texts and some teacher-selected complex media texts, and decide whether the texts achieve their intended purpose (e.g., explain why one advertisement is more likely than another to persuade them to buy a product; determine whether the images chosen to advertise a product clearly communicate something important or appealing about the product)
1.4 identify how different audiences might respond to selected media texts (e.g., predict how young, single males might respond to a car ad for a family van; predict how different peer groups might respond to a new rap CD)
Teacher prompt: “How might readers of different ages respond to images in magazines of perfect bodies and luxurious lifestyles?”
1.5 identify the perspectives and/or biases evident in a few simple media texts and teacher-selected complex media texts and comment on any questions they may raise about beliefs, values, and identity …
Teacher prompts: … “What similarities or differences do you see between yourself and the characters portrayed on the CD covers or in the video games that interest you most?”
1.6 explain how a few different production, marketing, and distribution factors influence the media industry (e.g., explain why a major recording studio might ask a rock group to “sanitize” some of their lyrics; explain how store names and locations, lighting, décor, and signage in a shopping mall are designed to influence consumer behaviour)
Teacher prompts: “How do marketing and advertising campaigns for a CD launch affect product distribution and sales?” “How can the Internet help new artists to promote themselves?”
2. Understanding Media Forms, Conventions, and Techniques
2.1 identify general characteristics of a few different media forms and explain how they shape content and create meaning (e.g., in a television ad, a charitable organization soliciting donations can use film and voice-over narration to dramatize the story of an aid recipient, whereas in a print advertisement it can convey an impression of the recipient’s situation through a still photograph or collage and descriptive text)
   Teacher prompt: “What does a car ad in a newspaper automotive supplement tell you about the product that a television ad doesn’t, and vice versa?”
2.2 identify a few different conventions and/or techniques used in familiar media forms and explain how they convey meaning (e.g., striking colours and large print and images on a billboard enable passers-by to process the message quickly; …)
   Teacher prompts: … “How does the font support the message of this advertisement?”

English, Grade 10, Academic (ENG2D)

Reading and Literature Studies
2. Understanding Form and Style
2.2 identify a variety of text features and explain how they help communicate meaning (e.g., … logo size, illustrations, font sizes, and colour in an advertisement)
   Teacher prompts: … “Why is the logo featured so prominently in this advertisement?”

Media Studies
1. Understanding Media Texts
1.1 explain how media texts, including increasingly complex texts, are created to suit particular purposes and audiences (e.g., magazines include content and advertisements to appeal to specific demographic groups; trailers or posters for action-adventure movies feature scenes and artefacts that appeal to a predominantly male audience)
1.2 interpret media texts, including increasingly complex texts, identifying and explaining the overt and implied messages they convey …
1.4 explain why the same media text might prompt different responses from different audiences …
   Teacher prompt: “Why might people living in northern Ontario respond differently from people in southern Ontario to ads for ‘wilderness’ vacations?”
1.5 identify the perspectives and/or biases evident in media texts, including increasingly complex texts, and comment on any questions they may raise about beliefs, values, identity, and power (e.g., explain the perspectives evident in the covers of a selection of novels featured in the school’s English program; … analyse the text and images in a major department store’s website to identify groups and occupations that are represented and those that are nowhere evident)
   Teacher prompts: “Based on the book’s cover, who do you think is its target audience? What elements make you think that?” …
1.6 explain how a variety of production, marketing, and distribution factors influence the media industry (e.g., suggest reasons why a film company is using the marketing strategies revealed on its website to market a specific new release; suggest reasons why particular products are advertised in a specific magazine)

Teacher prompts: “How do animated films help promote toy sales?” “Which magazines do you read? Where do you get your magazines? Which products are promoted in the magazine? Who owns the magazines?”

**English, Grade 10, Applied (ENG2P)**

**Reading and Literature Studies**

1. Reading for Meaning
1.4 make and explain inferences about both simple and complex texts, supporting their explanations with stated and implied ideas from the texts (e.g., use evidence from the front cover or advertisements of two magazines to identify the magazines’ target audience; ... make inferences about the nature of a job and/or the type of employee preferred from information in a “help wanted” advertisement)

Teacher prompt: “What can we infer about the salary for this job from the phrase ‘Entry level position’?”

1.6 analyse texts in terms of the information, ideas, issues, or themes they explore, examining how various aspects of the texts contribute to the presentation or development of these elements ...

**Media Studies**

1. Understanding Media Texts
1.1 explain how both simple and complex media texts are created to suit particular purposes and audiences (e.g., ... martial arts films use quick cuts and special effects to emphasize the speed and athleticism of the action and to satisfy their target audience’s expectations)

Teacher prompt: “Why do soft-drink ads on television often feature young people engaged in energetic activities?”

1.2 interpret simple and complex media texts, identifying and explaining the overt and implied messages they convey (e.g., a cell phone commercial implies a connection between owning the phone and social success; ...)

1.3 evaluate how effectively information, ideas, issues, and opinions are communicated in both simple and complex media texts and decide whether the texts achieve their intended purpose (e.g., determine which of two competing firms’ advertisements for a similar product is more persuasive, and explain why: assess the importance of a catchy jingle or a memorable mascot to the success of a television commercial)

Teacher prompt: “Have you ever seen a TV commercial where the sound was more important than the picture for communicating key ideas about a product? Was it effective? Why or why not?”

1.4 identify and explain different audience responses to selected media texts (e.g., parents’ versus teens’ reactions to a running-shoe ad featuring a sports star, ...)
1.5 identify the perspectives and/or biases evident in both simple and complex media texts and comment on any questions they may raise about beliefs, values, identity, and power (e.g., ... explain how the cover of a magazine might be changed to attract a wider audience of readers; ...)

Teacher prompts: ... “Which characters have power in this video game? What kind of power do they have? To whom would this type of power appeal?”

1.6 explain how several different production, marketing, and distribution factors influence the media industry (e.g., explain why books are reissued to tie in with film releases; explain why some artists allow their music to be downloaded from the Internet for free)

Teacher prompt: “What are the pros and cons of downloading music from the Internet? How does the prevalence of downloading influence the production, distribution, and pricing of music CDs?”

2. Understanding Media Forms, Conventions, and Techniques

2.1 identify some general characteristics of several different media forms and explain how they shape content and create meaning (e.g., tabloids use negative images of celebrities to sell copies, whereas advertisements use positive images of celebrities to sell a product; ...)

Teacher prompt: “Why does a hamburger look different in an amateur photograph than in an advertisement?”

2.2 identify several different conventions and/or techniques used in familiar media forms and explain how they convey meaning and influence their audience (e.g., feature articles in a community newspaper reinforce readers’ awareness of the local businesses represented in the ads; ...)

Teacher prompt: “Why is a subscription card usually inserted somewhere in a magazine?”

Literacy Skills: Reading and Writing, Grade 10, Open (ELS2O)

Reading Skills

1. Reading for Meaning

1.1 read a variety of self-selected and teacher-assigned literary, graphic, and informational texts representing a variety of cultures and perspectives (e.g., ... cellphone bills; ... brochures, flyers, ...)

1.2 identify a variety of purposes for reading texts commonly used in everyday life ...

Teacher prompts: “Why would you read a review of a new CD or video game?” “What different reasons might a custodian, a supervisor, and a lawyer have for reading a memo from their company’s management?”

1.7 analyse texts in terms of the information, ideas, issues, or themes they explore, examining how various aspects of the texts contribute to the presentation or development of these elements (e.g., ... explain the use of buzz words, slogans, and incomplete comparisons in various print and online advertisements; ...)

Teacher prompt: “Do the text and visual elements in an advertisement communicate similar or different aspects of the advertiser’s message? Could the visual elements stand alone? Could the text stand alone?”
COMPULSORY COURSES, GRADES 11 AND 12

English, Grade 11, University Preparation (ENG3U)

Media Studies

1. Understanding Media Texts
1.1 explain how media texts, including increasingly complex or difficult texts, are created to suit particular purposes and audiences (e.g., a website uses fonts, graphics, “wallpaper”, and content to establish its brand identity for an audience and the advertisers who wish to reach that audience; ...)
1.2 interpret media texts, including increasingly complex or difficult texts, identifying and explaining the overt and implied messages they convey (e.g., explain how the perspective and audience of a newspaper or magazine are revealed in the type of advertising it attracts; ...)
   Teacher prompts: “What societal values or beliefs are revealed in ads for cosmetic surgery?” “Are the implied messages in a perfume advertisement based on facts?”
1.5 identify the perspectives and/or biases evident in media texts, including increasingly complex or difficult texts, and comment on any questions they may raise about beliefs, values, identity, and power (e.g., ... explain how the representation of body types in the advertising and editorial content of most popular sports and fashion magazines can affect audiences; ...)
1.6 explain how production, marketing, financing, distribution, and legal/regulatory factors influence the media industry (e.g., ... identify some effects of new media technologies on copyright protection for artists)
   Teacher prompts: “What are the major media conglomerates?” “How might the concentration of media ownership affect the career prospects of young and/or experimental artists? What are some of its other effects?”

2. Understanding Media Forms, Conventions, and Techniques
2.2 identify conventions and/or techniques used in a variety of media forms and explain how they convey meaning and influence their audience …
   Teacher prompt: “Why might the cover of a mass-market paperback feature the author’s name more prominently than the book’s title?”

3. Creating Media Texts
3.2 select a media form to suit the topic, purpose, and audience for a media text they plan to create, and explain why it is a highly appropriate choice (e.g., explain why an online fundraiser would be an appropriate way to raise money to buy computers; explain why a mini-drama might be a good way to advertise a new product)
English, Grade 11, College Preparation (ENG3C)

Media Studies

1. Understanding Media Texts

1.1 explain how media texts, including increasingly complex texts, are created to suit particular purposes and audiences (e.g., ... an infomercial uses techniques associated with public service announcements to persuade people to buy a product “for their own good”)

Teacher prompt: “Why do advertisements feature endorsements from ‘professionals’ and testimonials from ‘satisfied customers’?”

1.2 interpret media texts, including increasingly complex texts, identifying and explaining the overt and implied messages they convey (e.g., determine which book covers or movie posters are aimed at females and which at males)

Teacher prompts: “What messages do various details on the cover of your favourite CD convey about the music or the artist?” ...

1.4 explain why the same media text might prompt different responses from different audiences (e.g., explain why a public service announcement about gambling addiction might prompt different reactions from consumers and people in the casino business; ...)

1.5 identify the perspectives and/or biases evident in media texts, including increasingly complex texts, and comment on any questions they may raise about beliefs, values, identity, and power (e.g., describe messages inherent in depictions of women on the covers of mass-market romance novels; ...)

1.6 explain how a variety of production, marketing, and distribution factors influence the media industry (e.g., explain how “product placement” works and how it benefits both the product manufacturer and the media producer; ...)

Teacher prompt: “Why do private companies use public websites to promote their products – for example, by posting ads to a public video-sharing site?”

English, Grade 11, Workplace Preparation (ENG3E)

Reading and Literature Studies

1. Reading for Meaning

1.4 make and explain inferences about both simple and complex texts, supporting their explanations with stated and implied ideas from the texts (e.g., ... identify the target market for a product based on evidence in a print advertisement)

Teacher prompts: ... “What particular features of this advertisement suggest its target market?”

Media Studies

1. Understanding Media Texts

1.1 explain how both simple and complex media texts are created to suit particular purposes and audiences ...
1.2 interpret simple and complex media texts, identifying and explaining the overt and implied messages they convey (e.g., images of models and uncrowded beaches in travel brochures create specific impressions of the destinations; the use of a “movie trailer” format in advertisements for video games encourages players to expect excitement and drama from the games)

**Teacher prompt:** “How do car, truck, and motorcycle brochures use photographs, written text, fonts, and colour to create favourable impressions of their products?”

1.3 evaluate how effectively information, ideas, issues, and opinions are communicated in both simple and complex media texts and decide whether the texts achieve their intended purpose (e.g., ... determine how appropriate an endorsement by a specific celebrity is for a particular product)

1.5 identify the perspectives and/or biases evident in both simple and complex media texts, and comment on any questions they may raise about beliefs, values, and identity (e.g., identify the values suggested by depictions of destinations in travel brochures and on websites; ...)

**Teacher prompts:** “Why do you think these travel brochures depict the local residents in ‘exotic’ clothing or situations? What is the intended effect on potential customers?” “What pictures might have been deliberately left out of these brochures, and why?” …

2. Understanding Media Forms, Conventions, and Techniques

2.1 identify general characteristics of several different media forms and explain how they shape content and create meaning (e.g., ... photographs of food in advertising use visual signals – of steam rising, cheese melting, and so on – to suggest taste sensations to viewers; ...)

2.2 identify several different conventions and/or techniques used in familiar media forms and explain how they convey meaning and influence their audience (e.g., movie ads in newspapers and DVD covers cite reviewers’ quotes, star ratings, and Oscar nominations to convince potential customers a movie is worth seeing; ...)

**Teacher prompts:** … “How do the advertisements in a newspaper relate to the content of a particular section?” …

3. Creating Media Texts

3.1 describe the topic, purpose, and audience for media texts they plan to create …

**Teacher prompt:** “What kind of ad campaign might help persuade jobless young people to seek training to acquire marketable skills?”

**English, Grade 12, University Preparation (ENG4U)**

**Media Studies**

1. Understanding Media Texts

1.1 explain how media texts, including complex and challenging texts, are created to suit particular purposes and audiences (e.g., aspects of advertising campaigns are often modified to reflect the priorities of different regional, cultural, or socio-economic groups; ...)


1.3 evaluate how effectively information, ideas, themes, issues, and opinions are communicated in media texts, including complex and challenging texts, and decide whether the texts achieve their intended purpose …

1.4 explain, with increasing insight, why the same media text might prompt different responses from different audiences (e.g., explain why the use of celebrities in fundraising campaigns might prompt both negative and positive responses; …)

1.5 identify and analyse the perspectives and/or biases evident in texts, including complex and challenging texts, commenting with understanding and increasing insight on any questions they may raise about beliefs, values, identity, and power …

1.6 explain, with increasing understanding and insight, how production, marketing, financing, distribution, and legal/regulatory factors influence the media industry (e.g., in a small group, chart the costs of a thirty-second ad on prime-time television, a full-page ad in a daily newspaper, a thirty-second ad on a local radio station, and a full-page ad in a community newspaper, and explain why the costs of the advertisements vary so dramatically)

Teacher prompts: “How might owning a radio station, a television station, and a magazine help a film company promote its newest feature film?” …

English, Grade 12, College Preparation (ENG4C)

Media Studies

1. Understanding Media Texts
1.1 explain how media texts, including increasingly complex or difficult texts, are created to suit particular purposes and audiences …

1.2 interpret media texts, including increasingly complex or difficult texts, identifying and explaining the overt and implied messages they convey (e.g., explain the messages conveyed by the images, text, and symbols used in a movie poster; explain what the use of rich colours and an image of people in evening wear entering a theatre might suggest about the audience for a product in an advertisement)

Teacher prompts: “What does the image of a smiling family group on a movie poster tell you about the movie?” …

1.3 evaluate how effectively information, ideas, themes, issues, and opinions are communicated in media texts, including increasingly complex or difficult texts, and decide whether the texts achieve their intended purpose …

Teacher prompts: … “Why does the juxtaposition of images of affluence and poverty heighten the effectiveness of this charitable organization’s advertisement?”

1.5 identify the perspectives and/or biases evident in media texts, including increasingly complex or difficult texts, and comment on any questions they may raise about beliefs, values, identity, and power (e.g., … based on the advertising accompanying a television sports event, suggest what some of the values and priorities of its audience might be; …)

Teacher prompt: “Based on the advertising for this sports event, what demographic groups do you think make up its audience? What specific examples make you think that?”

1.6 explain how production, marketing, financing, distribution, and legal/regulatory factors influence the media industry (e.g., Canadian Radio-television and Telecommunications Commission [CRTC] regulations that forbid direct marketing appeals during children’s programming; …)
English, Grade 12, Workplace Preparation (ENG4E)

Reading and Literature Studies

1. Reading for Meaning
   1.4 make and explain inferences about texts, including increasingly complex texts, supporting their explanations with well-chosen stated and implied ideas from the texts (e.g., ... make inferences about salary on the basis of the wording of a job description)

2. Understanding Form and Style
   2.2 identify a variety of text features and explain how they help communicate meaning (e.g., ... explain how graphs, flow charts, and timelines add or reinforce important details in business reports; compare how different magazines use colour, fonts, and page layout to attract their target audience)

Media Studies

1. Understanding Media Texts
   1.1 explain how media texts, including increasingly complex texts, are created to suit particular purposes and audiences (e.g., horror movies use a unique villain, special effects, night-time settings, and teenage characters as victims to appeal to a teenage audience; apprenticeship training brochures include images of smiling young people in the uniform of their trade, and quotes from skilled workers who completed apprenticeship training and found lucrative jobs, to encourage students to enrol in apprenticeship training)
   1.2 interpret media texts, including increasingly complex texts, identifying and explaining the overt and implied messages they convey (e.g., ... identify clues in radio advertisements that indicate who the broadcaster's target audience is)
   1.3 evaluate how effectively information, ideas, issues, and opinions are communicated in media texts, including increasingly complex texts, and decide whether the texts achieve their intended purpose (e.g., determine how effectively a CD cover communicates the appeal of the artist and of his or her new collection of songs to its target audience; determine how well a company website conveys the impression of good management and responsible corporate citizenship to its employees or customers)
   1.6 explain how a variety of production, marketing, and distribution factors influence the media industry (e.g., explain why authors attend book-signing events to coincide with the release of their books)

Teacher prompt: “What kinds of implied messages do safe-sex ads use to try to convince people of the urgent need to take appropriate precautions?”

2. Understanding Media Forms, Conventions, and Techniques
   2.2 identify conventions and/or techniques that are used in a variety of media forms and explain how they convey meaning and influence their audience (e.g., trade shows showcase the products of various manufacturers and/or service providers in a particular trade for the benefit of practitioners, distributing samples and informative literature and holding contests to engage the interest of their audience)
OPTIONAL COURSES, GRADES 11 AND 12

Media Studies, Grade 11, Open (EMS3O)

A. Understanding and Interpreting Media Texts

1. Understanding and Responding to Media Texts
   1.1 identify and explain the purpose and audience of a variety of media texts (e.g., explain the purpose of a print advertisement and identify how the advertisement makes an emotional appeal to its audience; ... explain why a music video is an example of both entertainment and promotion; explain the purpose of paid product placements in film; ...)
   
   **Teacher prompts:** ... “What do the cover and title of this CD suggest about the music or the artist? How does the packaging attract the intended audience?”

   1.2 identify and explain the messages in and meanings of media texts (e.g., identify the messages conveyed about female body image in an advertisement for jeans; explain both the stated and implied meanings of an advertisement for mouthwash or deodorant; ... explain the overt message of an infomercial; ...)

   **Teacher prompts:** ... “Why would a travel brochure include photographs of tourists?” ...

   1.3 compare their own and others’ responses to a variety of media texts and explain how audiences’ backgrounds affect the ways in which they negotiate meaning (e.g., ... describe how an individual’s interpretation of a text can be connected to social class or position; suggest how an employer and a Grade 9 student might react differently to advertisements that promote apprenticeship programs)

   **Teacher prompts:** “How might your response to a celebrity endorsement of a product differ from that of a friend? How do you think your values and beliefs, and those of your friend, would affect your responses?” ... “How might print advertisements for luxury items and experiences [e.g., tropical vacations] be interpreted differently by people from different socio-economic backgrounds?”

2. Deconstructing Media Texts

   2.1 identify the codes and conventions used in media texts and explain how they help to create meaning (e.g., explain why the symbol of a rose appears in the logo of a company that sells skin products; ... chart the types of camera shots used in a television commercial)

   2.2 analyse how the language, tone, and point of view used in media texts work to influence the interpretation of messages ...

   2.3 describe the characteristics of particular media genres and forms, and explain how they help to convey meaning and influence the audience (e.g., explain how the elements of a movie trailer for an action/adventure film create audience expectations; ...)

   **Teacher prompts:** ... “Why do fashion magazines use a combination of photographs, graphics, and text? Why do these magazines include articles about trends, clothing advertisements, and perfume samples?”
**B. Media and Society**

1. **Understanding Media Perspectives**

1.1 analyse the representation of groups and individuals in media texts and comment on the perspectives, beliefs, or biases that are evident in the texts (e.g., create a collage of familiar stereotypes in fashion magazines and explain the overall impact of these images; compare media representations of workplaces, vacation experiences, or family life to their own experiences in those areas and suggest reasons for differences; ... explain the effects of the inclusion, exclusion, or positioning of people or groups in magazine advertisements; compare the ways in which television shows, news stories, and advertisements depict the elderly and suggest reasons for differences among them)

  **Teacher prompts:** ... “When advertisements show men in caregiving situations, to what extent are the depictions stereotypes? Why might that be the case?” “Why are fashion models usually young and slender? What does this suggest about societal norms?”

2. **Understanding the Impact of Media on Society**

2.3 assess the impact of the media on countries, cultures, and economies around the world and/or the relationships among them, focusing on globalization (e.g., ... compare Canadian television commercials to those broadcast in other countries; research the impact of North American pop culture on the global marketplace; identify five globally recognized logos and report on each corporation’s global reach and impact on society; compare the ratio of box office receipts from international and domestic sources for Hollywood films and discuss some of the possible reasons for this; ...)

**C. The Media Industry**

1. **Industry and Audience**

1. demonstrate an understanding of the ways in which the creators of media texts target and attract audiences

1.1 analyse how and why media companies, sponsors, and advertisers identify and target audiences based on socio-economic factors and how they assess and react to audience response (e.g., ... explain why certain commercials are aired during prime-time dramas featuring teenagers; investigate and explain the rationale behind the product placement of luxury items in certain feature films and television programs; explain why certain corporations are interested in sponsorship arrangements with certain schools; ... analyse box office reports and music sales charts and suggest how companies may react to the results; research how the responses of test audiences and focus groups have affected decisions about content in movies or advertising campaigns)

  **Teacher prompts:** “How and why do media companies gather information about different groups of consumers? How do companies use demographics [information about age, gender, income, education, and so on] to determine how to advertise to a particular target group or market?” “Why do major movie studios conduct audience screenings prior to the release of their films?”
1.3 explore how a media product or personality is marketed to an audience across a range of media platforms (e.g., identify and explain several ways in which animated films are promoted through fast food chains; research the media strategies used to give a pop star “brand” identity; explore the ways in which video games and television cartoons are used to promote products and celebrities)

Teacher prompt: “How many ways is this new film being marketed? Which ones do you think are the most effective for its target audience? Why?”

2. Ownership and Control
2.1 explain how government regulations and industry codes affect the way in which media companies operate (e.g., ... compare and contrast the effects on media businesses of the regulations governing media ownership in Canada and in the United States; analyse several print advertisements to see how well they conform to the Canadian Code of Advertising Standards; explain how copyright law and guidelines for protecting intellectual property rights affect the media industry)

Teacher prompts: ... “What is the largest media company in Canada, what does it control, and how might this affect the choices available to consumers and producers?” “If you were the owner of several media outlets, how could you use your various companies to promote your latest feature film? What advantages would that give you over an independent film producer?”

2.4 analyse the factors that determine what media texts will or will not be made available to the public (e.g., ... explain how commercial concerns may limit the range of choices available in a bookstore)

Teacher prompts: “Do you think this rap song is likely to be used in television shows or commercials? Why or why not? Do you agree with that reasoning?” ...

2.5 analyse the effects of new technologies on the media industry (e.g., report on the ethical and economic implications of digital sampling in the music industry; examine the effects on the film and television industry of the online proliferation of amateur videos)

Teacher prompt: “How has the newspaper industry been affected by the emergence of online news providers and of ‘citizen journalism’? How has the industry reacted?”

D. Producing and Reflecting on Media Texts
2. Careers in Media Production
2.1 demonstrate an understanding of roles and career options in a variety of media industries ...

Teacher prompts: “How does the role of a film director differ from that of a film producer?” “How does the job of a copy editor compare to that of a news reporter?”
2.2 research careers in the media and in related industries (e.g., write a report on the career opportunities in the media for an editor, producer, cinematographer, carpenter, film lab technician, entertainment lawyer, actor, accountant, caterer, web designer, reporter, or photographer; interview an employee of a local media business, such as a television studio or advertising agency, and create a presentation or write an article about the interview)

Teacher prompt: “What employment opportunities in the media emphasize oral communication?”

3. Metacognition
3.1 reflect on how their behaviours as consumers of media have changed in response to their study of media ...

The Writer’s Craft, Grade 12, University Preparation (EWC4U)

A. Investigating Writing

1. Writing, Writers, and the Writing Life
1.6 research a variety of opportunities and/or careers in writing-related fields, and identify the skills needed to pursue them (e.g., evaluate the information provided on several websites devoted to becoming a successful writer; research and determine the qualifications needed for admittance to both postsecondary and community writing programs; research the submission requirements of local publications and literary magazines; interview a professional writer for local media about the education and/or experience required to reach his or her current position)

Teacher prompts: “What steps should an aspiring young writer take to get his or her poetry published in Canada?” “How does one get started as a freelance journalist?” “What kinds of writing assignments are offered to freelance writers?” “What are the typical assignments given to a beginning journalist?” “What educational and/or other qualifications are required for this type of work?”

The Writer’s Craft, Grade 12, College Preparation (EWC4C)

A. Investigating Writing

1. Writing, Writers, and the Writing Life
1.6 research a variety of opportunities and/or careers in writing-related fields, and identify the skills needed to pursue them (e.g., investigate the websites of a variety of Canadian writers’, journalists’, and publishers’ associations to explore the range of writing opportunities in Canada and the skills needed for them; research and determine the qualifications needed for admittance to both postsecondary and community writing programs; interview a professional writer for local media about the education and/or experience required to reach his or her current position)
Teacher prompts: “What steps should a young writer take to get his or her work published?” “What are the skills required for work in broadcast journalism? In print journalism? As an advertising copy writer?” “Which websites did you find that would be useful to a young writer who is interested in learning more about a career in journalism?” “What appeals to you about the writing life? What aspects of that life do not appeal to you?” “In which areas do you think there is likely to be a fairly steady demand for writers? Which types of writing are the least secure, in terms of a career?”

Business and Technological Communication, Grade 12, Open (EBT4O)

A. Investigating Business and Technological Communications and Culture

1. Understanding Business and Technological Communications and Culture
   1. demonstrate an understanding of a variety of types of communication, careers, and innovations associated with business and technological communications and related elements of business culture
   1.3 research and demonstrate an understanding of a variety of opportunities and careers related to communications in business and technology and the skills needed to pursue them (e.g., postsecondary programs related to business and technological communications; the role of a communications officer or information technology [IT] representative within a particular organization, such as the local school board)
      Teacher prompt: “What are some employment opportunities for writers in the field of business and technological communications? What type of skills and training would be required for each?”
   1.5 read and demonstrate an understanding of a variety of articles and interviews related to business and technology issues, innovations, individuals, organizations, perspectives, and practices (e.g., interviews with and articles by and about corporate leaders, small business owners, information technology professionals, entrepreneurs, and investment counsellors; articles on legal and ethical issues, such as communications patent infringement, or legislation related to Internet use)
      Teacher prompts: “Why is it important to know about legal or ethical issues related to this business?” “What company or businessperson’s ‘profile’ did you find most interesting, or informative, or inspirational, and why?”
ENGLISH AS A SECOND LANGUAGE AND ENGLISH LITERACY DEVELOPMENT, GRADES 9 TO 12 (2007)

See the Preface for important information on the organization of the following material.

Although none of the expectations in the English as a second language (ESL) and English literacy development (ELD) curriculum explicitly addresses financial literacy, in each of the strands in the various courses the development of financial literacy can be fostered through both the learning context (e.g., a topic, a thematic unit, or an issue related to financial literacy) and learning materials (e.g., books, websites, media). The expectations in the Reading strand provide opportunities for students to develop the skills and knowledge needed to interpret increasingly complex texts, some of which could relate to personal finances. Similarly, the expectations in the Sociocultural Competence and Media Literacy strand provide opportunities for students to analyse media texts and develop the critical-thinking skills to recognize strategies used by advertisers to appeal to potential markets.

See the Preface for important information on the organization of the following material.

Although none of the expectations in the French as a second language (FSL) curriculum explicitly addresses financial literacy, in each of the strands in the various courses the development of financial literacy can be fostered through both the learning context (e.g., a topic, a thematic unit, or an issue related to financial literacy) and materials (e.g., books, websites, media). Students could address issues related to personal finances or economics from different points of view in a debate, panel discussion, role play, speech, or written assignment.

See the Preface for important information on the organization of the following material.

All courses in the guidance and career education curriculum have expectations that explicitly address financial literacy education. Students develop skills related to budgeting and making financial transactions and are given opportunities to explore career options and economic trends. In all such exploration, students are encouraged to be mindful of personal, familial, and societal financial considerations.

Learning Strategies 1: Skills for Success in Secondary School, Grade 9, Open (GLS1O/GLE1O/GLE2O)

Learning Skills

Developing Numeracy Skills and Strategies
– describe how mathematics is applied in everyday situations (e.g., making financial transactions, budgeting, …)

Exploration of Opportunities

Exploring Careers
• develop a portfolio of documents pertaining to self-assessment, research, and career exploration that are necessary for planning a pathway for secondary school success
– describe opportunities for learning in all stages of life and in various contexts (e.g., evening courses, on-the-job training, workshops, presentations by guest speakers)
– identify, on the basis of research, selected occupations or fields of work most suited to them based on their personal profile
– organize relevant documents (e.g., learning plan, personal profile, career research, action plan) into a portfolio and use them to select an appropriate pathway for secondary school studies

Career Studies, Grade 10, Open (GLC2O)

Personal Management

Developing Personal Knowledge
• use a self-assessment process to develop a personal profile for use in career development planning
– identify the essential skills (e.g., … numeracy) they have developed through school, extracurricular, and/or community experiences, and explain how these skills relate to career development
– identify internal and external influences (e.g., previous successes, peer pressure, parental expectations, family responsibilities) that may limit or expand the range of educational and career opportunities they would consider

**Exploration of Opportunities**

**Accessing and Managing Information**
- use a research process to locate and select relevant career information from a variety of sources for inclusion in a portfolio
  - identify and describe, using an occupational classification system (e.g., National Occupational Classification), various fields of work that are of interest to them
  - demonstrate effective use of research skills to locate and select career-related information from a variety of sources (e.g., information interviews print, video, and computer-based resources)
  - describe, on the basis of research, selected occupations or fields of work, using identified criteria (e.g., education, training, and skill requirements; duties; safety issues; employment prospects; security and benefits; knowledge and skills valued by the employer), and describe the ways in which secondary school students can prepare for those occupations
  - organize and integrate selected career information into a portfolio

**Identifying Trends and Opportunities**
- identify current trends in society and the economy and describe their effect on work opportunities and work environments
  - identify economic and societal trends (e.g., globalization, developments in information technology, the changing role of unions and professional organizations, outsourcing or “contracting out”, emerging work-style alternatives, self-employment, entrepreneurship, changing demographics) and explain how they influence available job opportunities and work environments
  - identify a broad range of local and regional work opportunities, including self-employment and entrepreneurship, using a variety of resources (e.g., Internet websites, field trips, guest speakers, employment centres)

**Identifying Personal Options**
- identify a broad range of options for present and future learning, work, and community involvement
  - demonstrate an understanding of the secondary school program and graduation requirements and related terms (e.g., compulsory credit, transcript, full disclosure, types of courses, literacy test, community involvement, diploma, certificate of achievement, Specialist High Skills Major)
  - compare a variety of postsecondary learning options (e.g., apprenticeship, college, distance education, on-the-job training, private training, university) and identify those most suited to them based on their personal interests, competencies, and aspirations
**Preparation for Transitions and Change**

**Developing a Career Plan**
- use appropriate decision-making and planning processes to set goals and develop a career plan
  - demonstrate an understanding of the decision-making process as it relates to career planning
  - articulate personal, learning, community, and occupational goals, taking into consideration the results from their personal profile and their exploration of selected occupations
  - produce a preliminary career plan that identifies secondary school courses, activities in the school and community, and postsecondary education options that will help them achieve their goals

**Managing Change**
- analyse changes taking place in their personal lives, their community, and the economy, and identify strategies to facilitate smooth transitions during change
  - demonstrate an understanding of career development as a lifelong process that will include transitions, changes, and lifelong learning
  - describe the characteristics of transitions and changes, and identify some of the personal and work-related transitions and changes that they or others have experienced (e.g., moving to a new country, losing a job, going to a new school)

**Searching for Work**
- demonstrate an understanding of, and the ability to prepare for, the job-search process
  - compare the “open” (publicly advertised) job market and the “hidden” (unadvertised) job market, and identify appropriate strategies to access each market
  - use a variety of resources (e.g., personal networks, employment centres, Internet job postings) to identify summer or part-time job opportunities in their community
  - demonstrate the ability to complete job applications effectively
  - demonstrate the ability to prepare effectively for the job interview process (e.g., setting up appointments; delivering résumés and applications; identifying and preparing answers to common interview questions; preparing follow-up activities, including thank-you letters)

**Discovering the Workplace, Grade 10, Open (GLD2O)**

**Essential Skills for Working and Learning**

**Understanding Workplace Essential Skills**
- identify and describe the workplace essential skills necessary for success in life, school, and work
  - identify and describe the workplace essential skills, using a variety of electronic, print, and human resources (e.g., the Human Resources and Skills Development Canada [HRSDC] website, the Ontario Skills Passport, brochures on essential skills, employers)
  - identify the most important workplace essential skill requirements for a range of occupations, using various resources and personal workplace experiences (e.g., Essential Skills Profiles from the HRSDC website, the Ontario Skills Passport, employers)
  - describe how the essential skills are transferable from home to school, school to work, occupation to occupation, and sector to sector
Using Literacy and Numeracy Strategies
- identify the numeracy strategies required for calculation and estimation, and use them effectively to manage money (e.g., make change), to work with schedules and budgets …, to analyse data (e.g., compare monthly reports), and to measure and make numerical calculations … using real workplace materials in school, in the community, or in real or simulated workplace settings

Personal Management

Self-Knowledge
- identify and describe internal and external factors that motivate them (e.g., … money, …), and explain how such factors may contribute to the achievement of their short-term goals for learning and work

Task Planning and Organization
- develop and complete a project (e.g., set up a job-shadowing experience), using task-planning and organizing skills and strategies (e.g., clustering and sequencing of tasks, scheduling), and evaluate the success of the project

Exploration of Opportunities

Researching Information
- demonstrate the ability to research information about education and work opportunities, using print, electronic, and human resources
  - use an inquiry process (i.e., formulate and ask questions; gather, organize, interpret, assess, and present information) to locate information about education and work opportunities related to their career interests (e.g., school subjects, cooperative education, certification courses, work experience opportunities)
  - locate information for a range of occupations, using print, electronic, and human resources (e.g., Ontario Prospects, National Occupational Classification, mentors, guidance counsellors)
  - describe, through investigation, learning opportunities (e.g., cooperative education, Ontario Youth Apprenticeship Program, school courses, industry certification, first-aid training) that are related to their education and career goals, using resources in the school (e.g., guidance counsellors, teachers, the Internet) and in the community (e.g., career centres, local businesses, employment and community support agencies)
  - report on occupations in selected fields of work, using information gathered from interviews (e.g., by e-mail, in person, by telephone) and experiential learning (e.g., job shadowing, job twinning, simulations, site visits)

Exploring Learning and Work Opportunities
- describe opportunities for learning and work, and identify ways in which they can prepare for these opportunities
  - demonstrate knowledge of a range of occupations (e.g., duties, employment prospects, required knowledge and skills) and of the related education and/or training requirements
describe the educational opportunities available in school (e.g., specific courses), in the community/workplace (e.g., job shadowing, volunteer work, first-aid training), or on the Internet (e.g., e-learning, e-cooperative education) that can contribute to the achievement of their goals for learning and work

describe the characteristics and skills required for self-employment, including entrepreneurship

describe work-style alternatives (e.g., contract work, job sharing, “flex-time” arrangements, telecommuting) and identify which ones best suit their interests, skills, and values

**Understanding the Workplace**

identify the attitudes, behaviours, work habits, and skills, including the workplace essential skills, required to obtain and keep a job

identify various workplace issues (e.g., ethics, confidentiality, harassment, equity, responsible use of technology) and explain how policies and procedures dealing with these issues contribute to a positive and productive work environment

**Preparation for Transitions and Change**

**Planning for Learning and Work**

identify their career goals and explain how these relate to their interests, skills, and values

describe the career-planning process (i.e., determine personal interests and attributes; investigate education and career opportunities in the school, community, and workplace; decide which opportunities to select; plan the transition) and use it to develop goals and plans for learning and work

**Searching for Work**

apply job-search strategies and tools to find or create opportunities for work and for learning about work

identify various job-search strategies (e.g., conducting online job searches, developing a personal network, making “cold calls”) and tools (e.g., résumé, covering letter), and find or create opportunities for experiential learning, part-time work, or summer employment using these strategies

communicate their interest in a volunteer or work opportunity by telephone or e-mail and by completing a real job application form

use job-interview skills effectively in simulated and/or real workplace interviews

create effective job-search tools (e.g., résumé, covering letter, portfolio) that reflect their knowledge, strengths, experience, skills (including workplace essential skills), and work habits, using a word-processing program and appropriate vocabulary and conventions, for an experiential learning, volunteer, or work opportunity
Designing Your Future, Grade 11, Open (GWL3O)

**Personal Knowledge and Management Skills**

**Self-Knowledge**
- analyse their personal characteristics, strengths, interests, skills, and competencies to determine career-related goals
  - identify the transferable skills and personal-management skills most valued by employers, and explain how their own skills can contribute to employability
  - identify occupations and career goals that align with their interests and skills, and identify the areas of growth needed to meet these goals

**Personal Management**
- explain the internal and external influences (e.g., parental expectations, peer pressure, financial situation) that can affect their career-related decision making

**Interpersonal Knowledge and Skills**

**Connecting With the Community**
- explain ways in which they can make a contribution to their communities and ways in which the community can assist them with career planning
  - demonstrate the ability to develop networks and other supportive relationships with individuals and groups in the school and community (e.g., mentors, tutors, employers, entrepreneurial clubs, community agencies) in a variety of ways (e.g., through information interviews, job twinning, work experience) for assistance with career exploration and planning
  - describe, on the basis of research, the types of school and community support services available to help students meet postsecondary goals (e.g., student services departments, employment centres, small business centres)

**Exploration of Opportunities**

**Accessing and Managing Information**
- use research skills and strategies to gather and interpret relevant information about work and learning opportunities
  - identify the specific types of information they need in order to make effective decisions about work and learning opportunities
  - identify, through research, various sources (e.g., print, electronic, human) of career-related information and assess these sources on the basis of identified criteria (e.g., bias, authority, accuracy, usefulness, personal relevance)
  - acquire information about fields of work and the nature of the workplace through experiential learning opportunities (e.g., information interviews, job twinning, job shadowing, work experience)
  - demonstrate the ability to communicate effectively (e.g., using appropriate vocabulary, telephone protocol, and letter format) to gather career-related information
  - demonstrate the ability to obtain and interpret career-related information from labour-market statistics, charts, graphs, and tables
Trends
• analyse emerging social and economic trends and their impact on individuals, workplaces, and career opportunities
  – identify and explain the impact of economic and societal trends (e.g., globalization, outsourcing, new technologies, environmental concerns) on the work life of women and men in Canada (e.g., reduced job security, increased prevalence of part-time and contract work, more frequent career changes)
  – identify fields of work, jobs, and self-employment and entrepreneurship opportunities – in local, regional, national, and international contexts – that are growing as a result of identified trends
  – describe employment-related trends (e.g., the relationship between education levels and earnings or employment rates), using statistical information, such as labour market analyses, occupational outlook projections, and census data

Opportunities
• describe, on the basis of research, opportunities in various occupational sectors and explain the requirements and challenges of selected occupations
  – compare selected occupations based on the requirements for entry (e.g., certification, knowledge, technical skills, essential skills) and the challenges of each occupation
  – summarize the results of their career-related research, using a variety of presentation formats (e.g., oral, video, print), and document them in their portfolio

The Workplace
  – describe various types of businesses (e.g., profit, non-profit; small, medium, large; retail, service; public, private) and employment opportunities (e.g., self-employment, part-time work, contract work) and identify the advantages and disadvantages of each
  – describe key features of legislation governing human rights, antidiscrimination, employment, and workplace health and safety (e.g., Ontario Human Rights Code, Employment Standards Act, Occupational Health and Safety Act) and relate these to their observations of how the rights and responsibilities of employees and employers are addressed in their workplace experiences
  – explain the historical development of labour unions and describe their current role in the workplace from the point of view of employers and employees

Preparation for Transitions and Change

Managing Change
  – predict and explain the planned and unplanned changes that they will experience throughout their careers

Work Search
  – locate and select appropriate work opportunities (e.g., summer, part-time, full-time, contract) from electronic and print sources in the “open” (publicly advertised) job market
  – identify and expand the network of contacts that may assist them in accessing the “hidden” (unadvertised) job market in a field of interest
– identify opportunities for self-employment (e.g., government programs, enterprise centres, community organizations) and resources available to assist the enterprising person
– produce effective, up-to-date résumés and cover letters for a targeted field of work or occupation, using word-processing software and appropriate vocabulary and conventions (e.g., style, punctuation)
– demonstrate the ability to complete job applications (in print, online)

Goal Setting and Action Planning
• apply goal-setting and action-planning processes to prepare for the transition from secondary school to their first postsecondary destination and for future transitions in their career
– explain how they plan to continue and finance (e.g., through loans, bursaries, scholarships, part-time work) their learning after secondary school (e.g., apprenticeship, on-the-job training, college, university) and summarize the advantages and disadvantages of their choices
– identify the financial implications of their postsecondary choices and describe in their action plan how they will manage their finances after secondary school

Leadership and Peer Support, Grade 11, Open (GPP3O)

Personal Knowledge and Management Skills

Personal Management
– explain how acquiring experience in leadership and peer support roles at school and in the community can help them achieve their present and future goals (e.g., … developing skills for specific jobs, attaining scholarships and awards)

Exploration of Opportunities

Exploring Careers
• identify a range of careers and postsecondary options requiring skills in leadership and peer support
– identify occupations or fields of work that require skills in leadership and peer support
– investigate postsecondary programs and learning options for careers requiring skills in leadership and peer support, using a variety of resources (e.g., course calendars, informational interviews, guest speakers, Internet websites), and identify those to which they are most suited
– explain the relationships among personal experiences, lifelong learning, and career development
Advanced Learning Strategies: Skills for Success After Secondary School, Grade 12, Open (GLS4O/GLE4O/GLE3O)

Learning Skills

Literacy and Numeracy Skills and Strategies
- identify and apply appropriate numeracy skills and strategies (e.g., calculating, interpreting data, budgeting) to meet academic and career-planning requirements

Personal Management

Applying Personal-Management Skills
- demonstrate effective use of strategies for improving their personal-management skills (e.g., use of agenda, goal setting, time management, priority management, budgeting)

Impact of Personal Factors
- describe the personal and social factors that contribute to positive and negative stress (e.g., ... financial situation, ...), and explain how stress affects them in a variety of settings (e.g., school, family, workplace, peer group)

Interpersonal Skills
- demonstrate the use of interpersonal skills that contribute to achievement of goals in a variety of areas (e.g., communicating with employers in the workplace, requesting information about community resources, applying for a job, obtaining work experience)

Exploration of Opportunities

Trends
- demonstrate knowledge of selected workplace trends in order to make decisions about postsecondary choices and pathways
  - compare emerging work-style alternatives (e.g., contract work, telecommuting, talent pooling) and other employment-related trends (e.g., changing composition of the labour market, impact of education level on earnings and employment), and explain how these trends may influence their education and career plans
  - identify traditional and emerging approaches to learning in modern workplaces (e.g., formal instruction, independent computer-based learning, mentorship, apprenticeship) and explain why businesses and other organizations value ongoing, self-directed learning

Opportunities
- apply research and career-exploration strategies to identify postsecondary options
  - locate, select, and summarize relevant educational and career information from a variety of sources (e.g., print material, Internet websites, information interviews, job shadowing, work experience) based on their personal interests and abilities
  - identify and describe selected education/training options (e.g., independent study; college, university, workplace training) that could help them achieve their learning and career goals, and assess the suitability of these options on the basis of criteria that they have identified (e.g., cost, duration, learning environment)
describe the knowledge, talents, and skills required for success in selected occupations, and the education/training routes that prepare people for these occupations
compare the eligibility criteria for programs relevant to their learning goals through the use of course calendars and other literature from educational institutions or training centres

Learning Environments and Resources
describe the benefits of such experiences as volunteering and part-time work and other out-of-school activities for acquiring new knowledge and skills
demonstrate an understanding of career development as a process involving lifelong learning

Preparation for Transitions and Change
Transition Skills
identify the successes and challenges of transitions and changes they have experienced (e.g., graduating from elementary to secondary school, dealing with changes in family situations, starting a new job)

Work Search
identify a variety of resources (e.g., personal networks, employment centres, Internet job postings) to identify fields of work and specific job opportunities suited to them

Planning for Transition
demonstrate an understanding of the personal financial skills that will be required for the future (e.g., budgeting, banking, saving, borrowing money)
investigate sources and types of financial assistance (e.g., Ontario Student Assistance Program, small business loans, government grants, bursaries) for postsecondary education/training and identify those appropriate to their situations
use a decision-making process to produce a plan that addresses their learning and career goals, including the steps they can take to help make a successful transition to their selected postsecondary destination
identify viable options to the plan that address anticipated or unexpected challenges (e.g., unsuccessful school or job applications, changes in financial or family circumstances)

Navigating the Workplace, Grade 12, Open (GLN4O)

Essential Skills for Working and Learning
Understanding Workplace Essential Skills
demonstrate an understanding of the workplace essential skills necessary for success in life, school, and work
identify and describe the workplace essential skills, using a variety of electronic, print, and human resources (e.g., Human Resources and Skills Development Canada website, Ontario Skills Passport, employers, brochures on essential skills), and explain how these skills are used in the workplace
locate information on the most important workplace essential skill requirements for a range of occupations, and identify the varying complexity levels of tasks associated with these skills
- describe the transferability of the workplace essential skills (e.g., from home to school, school to work, occupation to occupation) on the basis of their experiences in the community or the workplace

Using Literacy and Numeracy Strategies
- demonstrate effective use of literacy and numeracy strategies that support the application of the workplace essential skills to complete specific tasks in real or simulated workplace settings
  - demonstrate effective use of numeracy strategies required for calculation and estimation in order to manage money (e.g., make change), to work with schedules and budgets …, to analyse data (e.g., compare monthly reports), and to measure and make numerical calculations …, using real workplace materials in real or simulated workplace settings

Developing Workplace Essential Skills
- produce a gap analysis of their workplace essential skills by identifying the workplace essential skill requirements for a specific occupation, comparing the requirements with the skills they have, and identifying the skills they need to develop

Personal Management

Self-Knowledge
- demonstrate an understanding of their interests, strengths, and needs, and describe how these influence their postsecondary education, training, and career plans
  - describe how learning from experience (e.g., work done in school subjects, volunteer work, part-time jobs) contributes to the achievement of their goals for learning and work

Working With Others
- identify a specific need in the community and respond to this need, working as part of a team (e.g., organize a career fair for parents and teachers)
  - identify and use appropriate strategies (e.g., clarifying needs) to obtain the resources and support required to meet their needs when communicating with employers and postsecondary education and training providers

Resource Management
- identify and effectively apply strategies for managing time, planning tasks, and managing personal finances
  - describe how such factors as personal goals, priorities, and needs affect their use of money as a resource
  - demonstrate an understanding of the money-management strategies (e.g., budgeting, using credit, investing) required to handle their short- and long-term expenses
**Exploration of Opportunities**

**Researching Information**
- demonstrate the ability to research information about learning and work opportunities, using print, electronic, and human resources
  - use an inquiry process (i.e., formulate questions; gather, organize, interpret, assess, and communicate information) to locate information about postsecondary learning and work options (e.g., on-the-job training, apprenticeship, college, university, fields of work, specific occupations)
  - locate information about learning opportunities and work, using a variety of career information resources (e.g., National Occupational Classification, *Job Futures, Ontario Prospects*) and human resources (e.g., mentors, placement supervisors)
  - design experiential learning opportunities (e.g., cooperative education, work experience, site visits, job shadowing) and conduct information interviews (e.g., in person, by telephone, by e-mail) to investigate types of employment, employment trends, and work-style alternatives (e.g., job-sharing, shift work, flex-time arrangements, contract work, consulting)

**Exploring Learning and Work Opportunities**
- describe occupations of interest and the postsecondary education or training required for these occupations
  - summarize and communicate information about occupations of interest (e.g., work environment, employment prospects, duties, required workplace essential skills) and the education and/or training recommended for these occupations
  - describe resources and opportunities available in the community (e.g., small business loans, venture capital, adult and continuing education, career counselling and job placement agencies) that will support the achievement of their postsecondary learning and work goals
  - describe types of employment and work-style alternatives (e.g., job sharing, shift work, flex-time arrangements, contract work, consulting), and explain the advantages and disadvantages in relation to their own lifestyle and work preferences
  - explain how a variety of factors (e.g., supply and demand for workers, demographic changes, trends in various work sectors) affect work opportunities in their occupational areas of interest

**Understanding the Workplace**
- describe the role of unions and explain their impact in the workplace

**Preparation for Transitions and Change**

**Managing Change**
- describe the challenges (e.g., financial obligations, moving) and opportunities (e.g., job offers, certification courses, re-entry to school) that may occur during their transition from secondary school to new roles and environments (e.g., work, postsecondary education/training, community living)
Planning for Learning and Work
- describe the career-planning process (i.e., identify personal interests and attributes; investigate education and career opportunities in the school, community, and workplace; decide which opportunities to select; plan the transition) and develop their postsecondary goals and plans using this process

Searching for Work
- apply job-search strategies, tools, and resources to find or create opportunities for work and for learning about work
  - use various job-search strategies (e.g., conducting online job searches, developing a personal network) to find work opportunities
  - create effective job-search tools (e.g., job-specific résumé, covering letter, portfolio) that reflect their knowledge, strengths, experience, skills (including work-place essential skills), and work habits for an experiential learning, volunteer, or work opportunity
  - communicate their interest in a volunteer or work opportunity by telephone or e-mail and by completing a real job application form
  - present effectively their knowledge, skills (including workplace essential skills), and work habits in interviews with prospective employers or placement supervisors
Throughout the health and physical education curriculum, connections can be made to financial literacy as students explore career opportunities related to sport, recreation, and health and physical education. There are also many opportunities to link the skills needed for healthy living to the development of financial literacy with regard to needs and wants, budgeting, saving, spending, and consumer awareness. In addition, self-awareness and skills in self-monitoring, decision making, and coping, as well as communication and social skills, that are developed in health and physical education are transferable and can be linked to financial literacy.

**Healthy Active Living Education, Grade 9, Open (PPL1O)**

*Physical Activity*
- describe career opportunities related to sport and recreation

**Healthy Active Living Education, Grade 10, Open (PPL2O)**

*Physical Activity*
- describe career opportunities related to sport and recreation

**Healthy Active Living Education, Grade 11, Open (PPL3O)**

*Physical Activity*
- describe career opportunities in the fields of sports, recreation, health, and physical education after doing research using such resources as the Internet and software programs

**Health for Life, Grade 11, Open (PPZ3O)**

*Determinants of Health*
- analyse the social factors that influence personal health (e.g., employment, education, socio-economic status, isolation, rural and urban settings, access to health and recreational services)
Community Health
- analyse the cost and accessibility of health care services
- identify career opportunities in health promotion and disease prevention

Healthy Active Living Education, Grade 12, Open (PPL4O)
Physical Activity
- describe career opportunities in the fields of sports, recreation, and health and physical education

Exercise Science, Grade 12, University Preparation (PSE4U)
Physical Activity and Sports in Society
- explain the importance of being an informed consumer with regard to sports and physical activity
- identify career opportunities in fields related to physical activity and sports

Recreation and Fitness Leadership, Grade 12, College Preparation (PLF4C)
Facilitation of Recreation and Leisure
- explain the personal, social, economic, and environmental benefits of recreation and leisure
- identify various promotional strategies used to market recreation as an essential service
- identify various career opportunities within the field of recreation and leisure

Physical Fitness and Well-Being
- describe career opportunities in the field of physical fitness
- describe career opportunities in the field of nutrition and well-being

See the Preface for important information on the organization of the following material.

The depth of knowledge relating to financial literacy that students may acquire in single-credit interdisciplinary studies courses or multiple-credit packages will depend on the courses selected for interdisciplinary study. The Implementation, Evaluation, Impacts, and Consequences strand in each interdisciplinary studies course includes expectations on employment opportunities. The Theory and Foundation strand emphasizes examining each discipline from the perspective of the other component discipline(s), and focuses on the use of higher-level thinking skills to integrate knowledge and skills associated with different disciplines. This approach supports inquiry and critical thinking skills which in turn support the development of financial literacy skills, especially with respect to consideration of economic factors.

Interdisciplinary Studies, Grade 11, Open (IDC3O/IDP3O)

Theory and Foundation

Ideas and Issues
- describe and critically analyse key issues and themes that have interdisciplinary elements and connections in the subjects of disciplines studied (e.g., … the influence of political, economic, and social factors in organized sport)
- identify and describe the features and roles of information literacy in each of the subjects or disciplines studied (e.g., by investigating the effect of the “digital economy” on human relationships and the world of work, …)
- identify and describe, with particular reference to each of the subjects or disciplines studied, the principles and practices regarding the safe, ethical, and legal use of information technologies (e.g., … personal privacy and security, copyright, software user agreements)

Implementation, Evaluation, Impacts, and Consequences

Impacts and Innovations
- plan, conduct, and present independent interdisciplinary research, with particular reference to each of the subjects or disciplines studied, on the potential social, political, and economic impacts of emerging information technologies

Personal and Career Development
- identify and describe employment opportunities within the local community in interdisciplinary fields related to the subjects or disciplines under study (e.g., by conducting interviews with practitioners to record changes in their fields, analysing online job descriptions for interdisciplinary connections, comparing archival and contemporary classified advertisements to determine employment opportunities that are increasing and those that are decreasing)
Interdisciplinary Studies, Grade 12, University Preparation (IDC4U/IDP4U)

Theory and Foundation

Ideas and Issues
- identify and describe practices in Canada and around the world that effectively safeguard privacy and intellectual ownership of information in areas related to interdisciplinary studies (e.g., … copyright legislation), and describe possible future changes to these practices

Skills and Strategies
- identify and describe strategies that national and international groups and organizations use to address interdisciplinary issues and decisions (e.g., a multinational company and a union using mediation to resolve a labour dispute; …)

Implementation, Evaluation, Impacts, and Consequences

Impacts
- plan, conduct, and present independent, interdisciplinary research, with particular reference to each of the subjects or disciplines studied, on the potential social, political, and economic impact of emerging information technologies

Personal and Career Development
- identify postsecondary training requirements for and potential employment opportunities in interdisciplinary fields related to the subjects or disciplines under study (e.g., by searching trade and professional publications, consulting university calendars, or inviting guest speakers to class) and describe possible future trends and opportunities (e.g., by researching economic forecasts and futurist speculations)

Interdisciplinary Studies, Grade 12, Open (IDC4O/IDP4O)

Theory and Foundation

Ideas and Issues
- describe and critically analyse the ways in which each of the related subjects or disciplines studied contributes to the finding of practical solutions to key contemporary issues and themes in the interdisciplinary course (e.g., a course on arts administration might include a cost analysis of a dramatic production, the implementation of inventory control of drama company assets, and the presentation of suggested marketing strategies for a new production; …)
- identify the principles, practices, and systems regarding the safe, ethical, and legal use of information technologies (e.g., in terms of … personal privacy, and computer security) and describe the consequences of their appropriate use for each of the subjects or disciplines studied
Implementation, Evaluation, Impacts, and Consequences

Impacts
- describe and critically analyse the potential cultural, economic, political, environmental, and technological impacts on present and future societies of interdisciplinary endeavours related to the subjects or disciplines studied (e.g., the impact of the Bauhaus movement on modern architecture, design, and the arts; of cybernetics on effective organizations; of alternative medicine on health-care systems)
- plan, conduct, and present independent interdisciplinary research, with particular reference to each of the subjects or disciplines studied, on the potential social, political, and economic impacts of emerging information technologies (e.g., the effect of technology on student learning and schooling, the impact of automation in the workplace, the limits of innovation in information technologies)

Personal and Career Development
- identify postsecondary training requirements for and potential employment opportunities in interdisciplinary fields related to the subjects or disciplines under study, using various methods (e.g., using job-search strategies on the Internet, analysing descriptions of projects in periodical sources, …) and create a personal inventory of required interdisciplinary skills for each
All of the courses in the mathematics curriculum have connections to financial literacy. In this scope and sequence document, only the most explicit connections to financial literacy have been included.

**Principles of Mathematics, Grade 9, Academic (MPM1D)**

**Linear Relations**

**Understanding Characteristics of Linear Relations**
- demonstrate an understanding of the characteristics of a linear relation
  - construct tables of values, graphs, and equations, using a variety of tools (e.g., graphing calculators, spreadsheets, graphing software, paper and pencil), to represent linear relations derived from descriptions of realistic situations (*Sample problem:* Construct a table of values, a graph, and an equation to represent a monthly cellphone plan that costs $25, plus $0.10 per minute of airtime.)
  - compare the properties of direct variation and partial variation in applications, and identify the initial value (e.g., for a relation described in words, or represented as a graph or an equation) (*Sample problem:* Yoga costs $20 for registration, plus $8 per class. Tai chi costs $12 per class. Which situation represents a direct variation, and which represents a partial variation? For each relation, what is the initial value? Explain your answers.)

**Connecting Various Representations of Linear Relations**
- describe the effects on a linear graph and make the corresponding changes to the linear equation when the conditions of the situation they represent are varied (e.g., given a partial variation graph and an equation representing the cost of producing a yearbook, describe how the graph changes if the cost per book is altered, describe how the graph changes if the fixed costs are altered, and make the corresponding changes to the equation)

**Analytic Geometry**

**Investigating the Properties of Slope**
- determine, through investigation, connections among the representations of a constant rate of change of a linear relation (e.g., the cost of producing a book of photographs is $50, plus $5 per book, so an equation is \( C = 50 + 5p \); a table of values provides the first difference of 5; the rate of change has a value of 5, which is also the slope of the corresponding line; and 5 is the coefficient of the independent variable, \( p \), in this equation)
Using the Properties of Linear Relations to Solve Problems
- describe the meaning of the slope and $y$-intercept for a linear relation arising from a realistic situation (e.g., the cost to rent the community gym is $40 per evening, plus $2 per person for equipment rental; the vertical intercept, 40, represents the $40 cost of renting the gym; the value of the rate of change, 2, represents the $2 cost per person), and describe a situation that could be modelled by a given linear equation (e.g., the linear equation $M = 50 + 6d$ could model the mass of a shipping package, including 50 g for the packaging material, plus 6 g per flyer added to the package)
- identify and explain any restrictions on the variables in a linear relation arising from a realistic situation (e.g., in the relation $C = 50 + 25n$, $C$ is the cost of holding a party in a hall and $n$ is the number of guests; $n$ is restricted to whole numbers of 100 or less, because of the size of the hall, and $C$ is consequently restricted to $50 to $2550)
- determine graphically the point of intersection of two linear relations, and interpret the intersection point in the context of an application (Sample problem: A video rental company has two monthly plans. Plan A charges a flat fee of $30 for unlimited rentals; Plan B charges $9, plus $3 per video. Use a graphical model to determine the conditions under which you should choose Plan A or Plan B.)

Foundations of Mathematics, Grade 9 Applied (MFM1P)

Number Sense and Algebra

Solving Problems Involving Proportional Reasoning
- make comparisons using unit rates (e.g., if 500 mL of juice costs $2.29, the unit rate is 0.458¢/mL; this unit rate is less than for 750 mL of juice at $3.59, which has a unit rate of 0.479¢/mL)
- solve problems involving ratios, rates, and directly proportional relationships in various contexts (e.g., currency conversions, scale drawings, measurement), using a variety of methods (e.g., using algebraic reasoning, equivalent ratios, a constant of proportionality; …) (Sample problem: Simple interest is directly proportional to the amount invested. If Luis invests $84 for one year and earns $1.26 in interest, how much would he earn in interest if he invested $235 for one year?)
- solve problems requiring the expression of percents, fractions, and decimals in their equivalent forms (e.g., calculating simple interest and sales tax; analysing data)

Linear Relations

Determining Characteristics of Linear Relations
- construct tables of values and graphs, using a variety of tools (e.g., graphing calculators, spreadsheets, graphing software, paper and pencil), to represent linear relations derived from descriptions of realistic situations (Sample problem: Construct a table of values and a graph to represent a monthly cell phone plan that costs $25, plus $0.10 per minute of airtime.)
Investigating Constant Rate of Change

- determine, through investigation, connections among the representations of a constant rate of change of a linear relation (e.g., the cost of producing a book of photographs is $50, plus $5 per book, so an equation is $C = 50 + 5p$; a table of values provides the first difference of 5; the rate of change has a value of 5; and 5 is the coefficient of the independent variable, $p$, in this equation)
- compare the properties of direct variation and partial variation in applications, and identify the initial value (e.g., for a relation described in words, or represented as a graph or an equation) (Sample problem: Yoga costs $20 for registration, plus $8 per class. Tai chi costs $12 per class. Which situation represents a direct variation, and which represents a partial variation? For each relation, what is the initial value? Explain your answers.)
- describe the meaning of the rate of change and the initial value for a linear relation arising from a realistic situation (e.g., the cost to rent the community gym is $40 per evening, plus $2 per person for equipment rental; the vertical intercept, 40, represents the $40 cost of renting the gym; the value of the rate of change, 2, represents the $2 cost per person), and describe a situation that could be modelled by a given linear equation (e.g., the linear equation $M = 50 + 6d$ could model the mass of a shipping package, including 50 g for the packaging material, plus 6 g per flyer added to the package)

Connecting Various Representations of Linear Relations and Solving Problems Using the Representations

- describe the effects on a linear graph and make the corresponding changes to the linear equation when the conditions of the situation they represent are varied (e.g., given a partial variation graph and an equation representing the cost of producing a yearbook, describe how the graph changes if the cost per book is altered, describe how the graph changes if the fixed costs are altered, and make the corresponding changes to the equation)
- determine graphically the point of intersection of two linear relations, and interpret the intersection point in the context of an application (Sample problem: A video rental company has two monthly plans. Plan A charges a flat fee of $30 for unlimited rentals; Plan B charges $9, plus $3 per video. Use a graphical model to determine the conditions under which you should choose Plan A or Plan B.)
- select a topic involving a two-variable relationship (e.g., the amount of your pay cheque and the number of hours you work; trends in sports salaries over time; …), pose a question on the topic, collect data to answer the question, and present its solution using appropriate representations of the data (Sample problem: Individually or in a small group, collect data on the cost compared to the capacity of computer hard drives. Present the data numerically, graphically, and [if linear] algebraically. Describe the results and any trends orally or by making a poster display or by using presentation software.)
Principles of Mathematics, Grade 10, Academic (MPM2D)

Quadratic Relations of the Form \( y = ax^2 + bx + c \)

Solving Problems Involving Quadratic Relations
- solve problems arising from a realistic situation represented by a graph or an equation of a quadratic relation, with and without the use of technology

Analytic Geometry

Using Linear Systems to Solve Problems
- solve problems that arise from realistic situations described in words or represented by linear systems of two equations involving two variables, by choosing an appropriate algebraic or graphical method (Sample problem: The Robotics Club raised $5000 to build a robot for a future competition. The club invested part of the money in an account that paid 4% annual interest, and the rest in a government bond that paid 3.5% simple interest per year. After one year, the club earned a total of $190 in interest. How much was invested at each rate? Verify your result.)

Foundations of Mathematics, Grade 10, Applied (MFM2P)

Measurement and Trigonometry

Solving Problems Involving Surface Area and Volume, Using the Imperial and Metric Systems of Measurement
- solve problems involving the surface areas of prisms, pyramids, and cylinders, and the volumes of prisms, pyramids, cylinders, cones, and spheres, including problems involving combinations of these figures, using the metric system or the imperial system, as appropriate (Sample problem: How many cubic yards of concrete are required to pour a concrete pad measuring 10 feet by 10 feet by 1 foot? If poured concrete costs $110 per cubic yard, how much does it cost to pour a concrete driveway requiring 6 pads?)

Modelling Linear Relations

Solving and Interpreting Systems of Linear Equations
- solve problems that arise from realistic situations described in words or represented by given linear systems of two equations involving two variables, by choosing an appropriate algebraic or graphical method (Sample problem: Maria has been hired by Company A with an annual salary, \( S \) dollars, given by \( S = 32 500 + 500a \), where \( a \) represents the number of years she has been employed by this company. Ruth has been hired by Company B with an annual salary, \( S \) dollars, given by \( S = 28 000 + 1000a \), where \( a \) represents the number of years she has been employed by that company. Describe what the solution of this system would represent in terms of Maria’s salary and Ruth’s salary. After how many years will their salaries be the same? What will their salaries be at that time?)
Functions, Grade 11, University Preparation (MCR3U)

A. Characteristics of Functions

2. Solving Problems Involving Quadratic Equations
2.3 solve problems involving quadratic functions arising from real-world applications and represented using function notation

Sample problem: The profit, \( P(x) \), of a video company, in thousands of dollars, is given by \( P(x) = -5x^2 + 550x - 5000 \), where \( x \) is the amount spent on advertising, in thousands of dollars. Determine the maximum profit that the company can make, and the amounts spent on advertising that will result in a profit and that will result in a profit of at least $4 000 000.

B. Exponential Functions

3. Solving Problems Involving Exponential Functions
3.2 identify exponential functions, including those that arise from real-world applications involving growth and decay, given various representations (i.e., tables of values, graphs, equations), and explain any restrictions that the context places on the domain and range

Sample problem: Using data from Statistics Canada, investigate to determine if there was a period of time over which the increase in Canada’s national debt could be modelled using an exponential function.

3.3 solve problems using given graphs or equations of exponential functions arising from a variety of real-world applications (e.g., … compound interest) by interpreting the graphs or by substituting values for the exponent into the equations

C. Discrete Functions

3. Solving Problems Involving Financial Applications
3. make connections between sequences, series, and financial applications, and solve problems involving compound interest and ordinary annuities

3.1 make and describe connections between simple interest, arithmetic sequences, and linear growth, through investigation with technology (e.g., use a spreadsheet or graphing calculator to make simple interest calculations, determine first differences in the amounts over time, and graph amount versus time)

Sample problem: Describe an investment that could be represented by the function \( f(x) = 500(1 + 0.05x) \).

3.2 make and describe connections between compound interest, geometric sequences, and exponential growth, through investigation with technology (e.g., use a spreadsheet to make compound interest calculations, determine finite differences in the amounts over time, and graph amount versus time)

Sample problem: Describe an investment that could be represented by the function \( f(x) = 500(1.05)^x \).
3.3 solve problems, using a scientific calculator, that involve the calculation of the amount, $A$ (also referred to as future value, $FV$), the principal, $P$ (also referred to as present value, $PV$), or the interest rate per compounding period, $i$, using the compound interest formula in the form $A = P(1 + i)^n$ [or $FV = PV(1 + i)^n$]

Sample problem: Two investments are available, one at 6% compounded annually and the other at 6% compounded monthly. Investigate graphically the growth of each investment, and determine the interest earned from depositing $1000 in each investment for 10 years.

3.4 determine, through investigation using technology (e.g., scientific calculator; the TVM solver on a graphing calculator; online tools), the number of compounding periods, $n$, using the compound interest formula in the form $A = P(1 + i)^n$ [or $FV = PV(1 + i)^n$]; describe strategies (e.g., guessing and checking; using the power of a power rule for exponents; using graphs) for calculating this number; and solve related problems

3.5 explain the meaning of the term annuity, and determine the relationships between ordinary simple annuities (i.e., annuities in which payments are made at the end of each period, and compounding and payment periods are the same), geometric series, and exponential growth, through investigation with technology (e.g., use a spreadsheet to determine and graph the future value of an ordinary simple annuity for varying numbers of compounding periods; investigate how the contributions of each payment to the future value of an ordinary simple annuity are related to the terms of a geometric series)

3.6 determine, through investigation using technology (e.g., the TVM Solver on a graphing calculator; online tools), the effects of changing the conditions (i.e., the payments, the frequency of the payments, the interest rate, the compounding period) of ordinary simple annuities (e.g., long-term savings plans, loans)

Sample problem: Compare the amounts at age 65 that would result from making an annual deposit of $1000 starting at age 20, or from making an annual deposit of $3000 starting at age 50, to an RRSP that earns 6% interest per annum, compounded annually. What is the total of the deposits in each situation?

3.7 solve problems, using technology (e.g., scientific calculator, spreadsheet, graphing calculator), that involve the amount, the present value, and the regular payment of an ordinary simple annuity (e.g., calculate the total interest paid over the life of a loan, using a spreadsheet, and compare the total interest with the original principal of the loan)

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Functions and Applications, Grade 11, University/College Preparation (MCF3M)

A. Quadratic Functions

1. Solving Quadratic Equations

1.5 determine, through investigation, and describe the connection between the factors used in solving a quadratic equation and the $x$-intercepts of the graph of the corresponding quadratic relation

Sample problem: The profit, $P$, of a video company, in thousands of dollars, is given by $P = -5x^2 + 550x - 5000$, where $x$ is the amount spent on advertising, in thousands of dollars. Determine, by factoring and by graphing, the amount spent on advertising that will result in a profit of $0$. Describe the connection between the two strategies.
2. Connecting Graphs and Equations of Quadratic Functions

2.2 substitute into and evaluate linear and quadratic functions represented using function notation [e.g., evaluate \( f\left(\frac{1}{2}\right) \)], given \( f(x) = 2x^2 + 3x - 1 \), including functions arising from real-world applications

**Sample problem:** The relationship between the selling price of a sleeping bag, \( s \) dollars, and the revenue at that selling price, \( r(s) \) dollars, is represented by the function \( r(s) = -10s^2 + 1500s \). Evaluate, interpret, and compare \( r(29.95) \), \( r(60.00) \), \( r(75.00) \), \( r(90.00) \), and \( r(130.00) \).

B. Exponential Functions

2. Solving Problems Involving Exponential Functions

2.3 solve problems using given graphs or equations of exponential functions arising from a variety of real-world applications (e.g., … compound interest) by interpreting the graphs or by substituting values for the exponent into the equations

3. Solving Financial Problems Involving Exponential Functions

3. demonstrate an understanding of compound interest and annuities, and solve related problems

3.1 compare, using a table of values and graphs, the simple and compound interest earned for a given principal (i.e., investment) and a fixed interest rate over time

**Sample problem:** Compare, using tables of values and graphs, the amounts after each of the first five years for a $1000 investment at 5% simple interest per annum and a $1000 investment at 5% interest per annum, compounded annually.

3.2 solve problems, using a scientific calculator, that involve the calculation of the amount, \( A \) (also referred to as future value, \( FV \)), and the principal, \( P \) (also referred to as present value, \( PV \)), using the compound interest formula in the form \( A = P(1 + i)^n \) [or \( FV = PV(1 + i)^n \)]

**Sample problem:** Calculate the amount if $1000 is invested for three years at 6% per annum, compounded quarterly.

3.3 determine, through investigation (e.g., using spreadsheets and graphs), that compound interest is an example of exponential growth [e.g., the formulas for compound interest, \( A = P(1 + i)^n \), and present value, \( PV = A(1 + i)^\frac{-n}{m} \), are exponential functions, where the number of compounding periods, \( n \), varies]

**Sample problem:** Describe an investment that could be represented by the function \( f(x) = 500(1.01)^x \).

3.4 solve problems, using a TVM Solver on a graphing calculator or on a website, that involve the calculation of the interest rate per compounding period, \( i \), or the number of compounding periods, \( n \), in the compound interest formula \( A = P(1 + i)^n \) [or \( FV = PV(1 + i)^n \)]

**Sample problem:** Use the TVM Solver in a graphing calculator to determine the time it takes to double an investment in an account that pays interest of 4% per annum, compounded semi-annually.

3.5 explain the meaning of the term *annuity*, through investigation of numeric and graphical representations using technology
3.6 determine, through investigation using technology (e.g., the TVM Solver on a graphing calculator, online tools), the effects of changing the conditions (i.e., the payments, the frequency of the payments, the interest rate, the compounding period) of ordinary simple annuities (i.e., annuities in which payments are made at the end of each period, and the compounding period and the payment period are the same) (e.g., long-term savings plans, loans)

Sample problem: Compare the amounts at age 65 that would result from making an annual deposit of $1000 starting at age 20, or from making an annual deposit of $3000 starting at age 50, to an RRSP that earns 6% interest per annum, compounded annually. What is the total of the deposits in each situation?

3.7 solve problems, using technology (e.g., scientific calculator, spreadsheet, graphing calculator), that involve the amount, the present value, and the regular payment of an ordinary simple annuity (e.g., calculate the total interest paid over the life of a loan, using a spreadsheet, and compare the total interest with the original principal of the loan)

Foundations for College Mathematics, Grade 11, College Preparation (MBF3C)

A. Mathematical Models

2. Connecting Graphs and Equations of Exponential Relations
2.1 determine, through investigation using a variety of tools and strategies (e.g., graphing with technology; looking for patterns in tables of values), and describe the meaning of negative exponents and of zero as an exponent

2.6 distinguish exponential relations from linear and quadratic relations by making comparisons in a variety of ways (e.g., comparing rates of change using finite differences in tables of values; inspecting graphs; comparing equations), within the same context when possible (e.g., simple interest and compound interest; …)

3. Solving Problems Involving Exponential Relations
3.3 pose problems involving exponential relations arising from a variety of real-world applications (e.g., … compound interest), and solve these and other such problems by using a given graph or a graph generated with technology from a given table of values or a given equation
3.4 solve problems using given equations of exponential relations arising from a variety of real-world applications (e.g., … compound interest) by substituting values for the exponent into the equations

B. Personal Finance

Note: Since all expectations in this strand relate directly to financial literacy, only the overall expectations have been included here.

1. compare simple and compound interest, relate compound interest to exponential growth, and solve problems involving compound interest

2. compare services available from financial institutions, and solve problems involving the cost of making purchases on credit
3. interpret information about owning and operating a vehicle, and solve problems involving the associated costs

**D. Data Management**

1. Working With One-Variable Data
   1.9 compare two or more sets of one-variable data, using measures of central tendency and measures of spread

   **Sample problem:** Use measures of central tendency and measures of spread to compare data that show the lifetime of an economy light bulb with data that show the lifetime of a long-life light bulb.

**Mathematics for Work and Everyday Life, Grade 11, Workplace Preparation (MEL3E)**

*Note:* Since all expectations in this course relate directly to financial literacy, only the strand titles and overall expectations have been included here. For all expectations in this course, go to www.ontario.ca/edu.

**A. Earning and Purchasing**

1. interpret information about different types of remuneration, and solve problems and make decisions involving different remuneration methods
2. demonstrate an understanding of payroll deductions and their impact on purchasing power
3. demonstrate an understanding of the factors and methods involved in making and justifying informed purchasing decisions

**B. Saving, Investing, and Borrowing**

1. describe and compare services available from financial institutions
2. demonstrate an understanding of simple and compound interest, and solve problems involving related applications
3. interpret information about different ways of borrowing and their associated costs, and make and justify informed borrowing decisions

**C. Transportation and Travel**

1. interpret information about owning and operating a vehicle, and solve problems involving the associated costs
2. plan and justify a route for a trip by automobile, and solve problems involving the associated costs
3. interpret information about different modes of transportation, and solve related problems
**Advanced Functions, Grade 12, University Preparation (MHF4U)**

**D. Characteristics of Functions**

2. Combining Functions

2.4 determine the composition of two functions [i.e., \( f(g(x)) \)] numerically (i.e., by using a table of values) and graphically, with technology, for functions represented in a variety of ways (e.g., function machines, graphs, equations), and interpret the composition of two functions in real-world applications

*Sample problem:* For a car travelling at a constant speed, the distance driven, \( d \) kilometres, is represented by \( d(t) = 80t \), where \( t \) is the time in hours. The cost of gasoline, in dollars, for the drive is represented by \( C(d) = 0.09d \). Determine numerically and interpret \( C(d(5)) \), and describe the relationship represented by \( C(d(t)) \).

2.6 solve problems involving the composition of two functions, including problems arising from real-world applications

*Sample problem:* The speed of a car, \( v \) kilometres per hour, at a time of \( t \) hours is represented by \( v(t) = 40 + 3t + t^2 \). The rate of gasoline consumption of the car, \( c \) litres per kilometre, at a speed of \( v \) kilometres per hour is represented by

\[
c(v) = \left(\frac{v}{500} - 0.1\right)^2 + 0.15.
\]

Determine algebraically \( c(v(t)) \), the rate of gasoline consumption as a function of time. Determine, using technology, the time when the car is running most economically during a four-hour trip.

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**Calculus and Vectors, Grade 12, University Preparation (MCV4U)**

**B. Derivatives and Their Applications**

2. Solving Problems Using Mathematical Models and Derivatives

2.2 make connections between the graphical or algebraic representations of derivatives and real-world applications (e.g., … prices and inflation rates, …)

*Sample problem:* Given a graph of prices over time, identify the periods of inflation and deflation, and the time at which the maximum rate of inflation occurred. Explain how derivatives helped solve the problem.

2.4 solve optimization problems involving polynomial, simple rational, and exponential functions drawn from a variety of applications, including those arising from real-world situations

*Sample problem:* The number of bus riders from the suburbs to downtown per day is represented by \( 1200(1.15)^{-x} \), where \( x \) is the fare in dollars. What fare will maximize the total revenue?
Mathematics of Data Management, Grade 12, University Preparation (MDM4U)

B. Probability Distributions

1. Understanding Probability Distributions for Discrete Random Variables
1.7 solve problems involving probability distributions (e.g., uniform, binomial, hypergeometric), including problems arising from real-world applications

Sample problem: The probability of a business person cancelling a reservation at La Place Pascal hotel is estimated to be 8%. Generate and graph the probability distribution for the discrete random variable that represents the number of business people cancelling when there are 10 reservations. Use the probability distribution to determine the probability of at least 4 of the 10 reservations being cancelled.

2. Understanding Probability Distributions for Continuous Random Variables
2.6 recognize that the normal distribution is commonly used to model the frequency and probability distributions of continuous random variables, describe some properties of the normal distribution (e.g., the curve has a central peak; the curve is symmetric about the mean; the mean and median are equal; approximately 68% of the data values are within one standard deviation of the mean and approximately 95% of the data values are within two standard deviations of the mean), and recognize and describe situations that can be modelled using the normal distribution (e.g., … household incomes in a neighbourhood, …)

C. Organization of Data for Analysis

1. Understanding Data Concepts
1.1 recognize and describe the role of data in statistical studies (e.g., the use of statistical techniques to extract or mine knowledge of relationships from data), describe examples of applications of statistical studies (e.g., in medical research, political decision making, market research), and recognize that conclusions drawn from statistical studies of the same relationship may differ

2. Collecting and Organizing Data
2.2 explain the distinction between the terms population and sample, describe the characteristics of a good sample, explain why sampling is necessary (e.g., time, cost, or physical constraints), and describe and compare some sampling techniques (e.g., simple random, systematic, stratified, convenience, voluntary)

Sample problem: What are some factors that a manufacturer should consider when determining whether to test a sample or the entire population to ensure the quality of a product?
D. Statistical Analysis

1. Analysing One-Variable Data
1.4 interpret, for a normally distributed population, the meaning of a statistic qualified by a statement describing the margin of error and the confidence level (e.g., the meaning of a statistic that is accurate to within 3 percentage points, 19 times out of 20), and make connections, through investigation using technology (e.g., dynamic statistical software), between the sample size, the margin of error, and the confidence level (e.g., larger sample sizes create higher confidence levels for a given margin of error).

Sample problem: Use census data from Statistics Canada to investigate, using dynamic statistical software, the minimum sample size such that the proportion of the sample opting for a particular consumer or voting choice is within 3 percentage points of the proportion of the population, 95% of the time (i.e., 19 times out of 20).

1.5 interpret statistical summaries (e.g., graphical, numerical) to describe the characteristics of a one-variable data set and to compare two related one-variable data sets (e.g., compare annual incomes in Canada and in a third-world country; compare Aboriginal and non-Aboriginal incomes); describe how statistical summaries (e.g., graphs, measures of central tendency) can be used to misrepresent one-variable data; and make inferences, and make and justify conclusions, from statistical summaries of one-variable data orally and in writing, using convincing arguments.

2. Analysing Two-Variable Data
2.2 recognize and distinguish different types of relationships between two variables that have a mathematical correlation (e.g., the common-cause relationship between ice cream sales and forest fires over the course of a year; the accidental relationship between the consumer price index and the number of known planets in the universe).

2.5 interpret statistical summaries (e.g., scatter plot, equation representing a relationship) to describe the characteristics of a two-variable data set and to compare two related two-variable data sets; describe how statistical summaries (e.g., graphs, linear models) can be used to misrepresent two-variable data; and make inferences, and make and justify conclusions, from statistical summaries of two-variable data orally and in writing, using convincing arguments.

3. Evaluating Validity
3. demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations.

3.1 interpret statistics presented in the media (e.g., the UN’s finding that 2% of the world’s population has more than half the world’s wealth, whereas half the world’s population has only 1% of the world’s wealth), and explain how the media, the advertising industry, and others (e.g., marketers, pollsters) use and misuse statistics (e.g., as represented in graphs) to promote a certain point of view (e.g., by making a general statement based on a weak correlation or an assumed cause-and-effect relationship; by starting the vertical scale at a value other than zero; by making statements using general population statistics without reference to data specific to minority groups).
3.2 assess the validity of conclusions presented in the media by examining sources of data, including Internet sources (i.e., to determine whether they are authoritative, reliable, unbiased, and current), methods of data collection, and possible sources of bias (e.g., sampling bias, non-response bias, cultural bias in a survey question), and by questioning the analysis of the data (e.g., whether there is any indication of the sample size in the analysis) and conclusions drawn from the data (e.g., whether any assumptions are made about cause and effect).

Sample problem: The headline that accompanies the following graph says “Big Increase in Profits”. Suggest reasons why this headline may or may not be true. [Graph on page 121 is omitted.]

3.3 gather, interpret, and describe information about applications of data management in occupations (e.g., actuary, statistician, business analyst, sociologist, medical doctor, psychologist, teacher, community planner), and about university programs that explore these applications.

Mathematics for College Technology, Grade 12, College Preparation (MCT4C)

B. Polynomial Functions

3. Solving Problems Involving Polynomial Functions
3.7 make connections between formulas and linear, quadratic, and exponential functions [e.g., recognize that the compound interest formula, \( A = P(1 + i)^n \), is an example of an exponential function \( A(n) \) when \( P \) and \( i \) are constant, and of a linear function \( A(P) \) when \( i \) and \( n \) are constant], using a variety of tools and strategies (e.g., comparing the graphs generated with technology when different variables in a formula are set as constants).

3.8 solve multi-step problems requiring formulas arising from real-world applications (e.g., determining the cost of two coats of paint for a large cylindrical tank).

3.9 gather, interpret, and describe information about applications of mathematical modelling in occupations, and about college programs that explore these applications.

Foundations for College Mathematics, Grade 12, College Preparation (MAP4C)

A. Mathematical Models

2. Modelling Graphically
2.3 recognize that graphs and tables of values communicate information about rate of change, and use a given graph or table of values for a relation to identify the units used to measure rate of change (e.g., … for a table showing earnings over time, the units of rate of change are dollars per hour).

2.5 compare, through investigation with technology, the graphs of pairs of relations (i.e., linear, quadratic, exponential) by describing the initial conditions and the behaviour of the rates of change (e.g., compare the graphs of amount versus time for equal initial deposits in simple interest and compound interest accounts).
3. Modelling Algebraically
3. make connections between formulas and linear, quadratic, and exponential relations, solve problems using formulas arising from real-world applications, and describe applications of mathematical modelling in various occupations
3.3 make connections between formulas and linear, quadratic, and exponential functions [e.g., recognize that the compound interest formula, $A = P(1 + i)^n$, is an example of an exponential function $A(n)$ when $P$ and $i$ are constant, and of a linear function $A(P)$ when $i$ and $n$ are constant], using a variety of tools and strategies (e.g., comparing the graphs generated with technology when different variables in a formula are set as constants)
3.4 solve multi-step problems requiring formulas arising from real-world applications (e.g., determining the cost of two coats of paint for a large cylindrical tank)
3.5 gather, interpret, and describe information about applications of mathematical modelling in occupations, and about college programs that explore these applications

B. Personal Finance

Note: Since all expectations in this strand relate directly to financial literacy, only the overall expectations have been included here.
1. demonstrate an understanding of annuities, including mortgages, and solve related problems using technology
2. gather, interpret, and compare information about owning or renting accommodation, and solve problems involving the associated costs
3. design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance

C. Geometry and Trigonometry

3. Solving Problems Involving Trigonometry
3.5 gather, interpret, and describe information about applications of trigonometry in occupations, and about college programs that explore these applications

Sample problem: Prepare a presentation to showcase an occupation that makes use of trigonometry, to describe the education and training needed for the occupation, and to highlight a particular use of trigonometry in the occupation.

D. Data Management

2. Applying Data Management
2. demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations
2.1 recognize and interpret common statistical terms (e.g., percentile, quartile) and expressions (e.g., accurate 19 times out of 20) used in the media (e.g., television, Internet, radio, newspapers)
2.2 describe examples of indices used by the media (e.g., consumer price index, S&P/TSX composite index, new housing price index) and solve problems by interpreting and using indices (e.g., by using the consumer price index to calculate the annual inflation rate)

**Sample problem:** Use the new housing price index on E-STAT to track the cost of purchasing a new home over the past 10 years in the Toronto area, and compare with the cost in Calgary, Charlottetown, and Vancouver over the same period. Predict how much a new home that today costs $200 000 in each of these cities will cost in 5 years.

2.3 interpret statistics presented in the media (e.g., the UN’s finding that 2% of the world’s population has more than half the world’s wealth, whereas half the world’s population has only 1% of the world’s wealth), and explain how the media, the advertising industry, and others (e.g., marketers, pollsters) use and misuse statistics (e.g., as represented in graphs) to promote a certain point of view (e.g., by making a general statement based on a weak correlation or an assumed cause-and-effect relationship; by starting the vertical scale on a graph at a value other than zero; by making statements using general population statistics without reference to data specific to minority groups)

2.4 assess the validity of conclusions presented in the media by examining sources of data, including Internet sources (i.e., to determine whether they are authoritative, reliable, unbiased, and current), methods of data collection, and possible sources of bias (e.g., sampling bias, non-response bias, cultural bias in a survey question), and by questioning the analysis of the data (e.g., whether there is any indication of the sample size in the analysis) and conclusions drawn from the data (e.g., whether any assumptions are made about cause and effect)

**Sample problem:** The headline that accompanies the following graph says “Big Increase in Profits”. Suggest reasons why this headline may or may not be true. [Graph on page 145 is omitted.]

2.5 gather, interpret, and describe information about applications of data management in occupations, and about college programs that explore these applications

Mathematics for Work and Everyday Life, Grade 12, Workplace Preparation (MEL4E)

A. Reasoning With Data

1. Interpreting and Displaying Data
1.2 explain the distinction between the terms *population* and *sample*, describe the characteristics of a good sample, and explain why sampling is necessary (e.g., time, cost, or physical constraints)

**Sample problem:** What are some factors that a manufacturer should consider when determining whether to test a sample or the entire population to ensure the quality of a product?

1.7 explain how the media, the advertising industry, and others (e.g., marketers, pollsters) use and misuse statistics (e.g., as represented in graphs) to promote a certain point of view (e.g., by making general statements based on small samples; by making statements using general population statistics without reference to data specific to minority groups)

**Sample problem:** The headline that accompanies the following graph says “Big Increase in Profits”. Suggest reasons why this headline may or may not be true. [Graph on page 149 is omitted.]
2. Investigating Probability

2.6 interpret information involving the use of probability and statistics in the media, and describe how probability and statistics can help in making informed decisions in a variety of situations (e.g., … using sales data to stock a clothing store with appropriate styles and sizes)

Sample problem: A recent study on youth gambling suggests that approximately 30% of adolescents gamble on a weekly basis. Investigate and describe the assumptions that people make about the probability of winning when they gamble. Describe other factors that encourage gambling and problems experienced by people with a gambling addiction.

B. Personal Finance

Note: Since all expectations in this strand relate directly to financial literacy, only the overall expectations have been included here.

1. gather, interpret, and compare information about owning or renting accommodation and about the associated costs
2. interpret, design, and adjust budgets for individuals and families described in case studies
3. demonstrate an understanding of the process of filing a personal income tax return, and describe applications of the mathematics of personal finance

C. Applications of Measurement

1. Measuring and Estimating

1.3 estimate quantities (e.g., bricks in a pile, time to complete a job, people in a crowd), and describe the strategies used

Sample problem: Look at digital photos that show large quantities of items, and estimate the numbers of items in the photos.

1.5 convert measures between systems (e.g., centimetres and inches, pounds and kilograms, square feet and square metres, litres and U.S. gallons, kilometres and miles, cups and millilitres, millilitres and teaspoons, degrees Celsius and degrees Fahrenheit), as required within applications that arise from familiar contexts

Sample problem: Compare the price of gasoline in your community with the price of gasoline in a community in the United States.

2. Applying Measurement and Design

2. apply measurement concepts and skills to solve problems in measurement and design, to construct scale drawings and scale models, and to budget for a household improvement

2.8 investigate, plan, design, and prepare a budget for a household improvement (e.g., landscaping a property; renovating a room), using appropriate technologies (e.g., design or decorating websites, design or drawing software, spreadsheet)

Sample problem: Plan, design, and prepare a budget for the renovation of a 12-ft by 12-ft bedroom for under $2000. The renovations could include repainting the walls, replacing the carpet with hardwood flooring, and refurnishing the room.

3.2 identify situations in which it is useful to make comparisons using unit rates, and solve problems that involve comparisons of unit rates

*Sample problem:* If 500 mL of juice costs $2.29 and 750 mL of the same juice costs $3.59, which size is the better buy? Explain your reasoning.

3.3 identify and describe real-world applications of proportional reasoning (e.g., mixing concrete; calculating dosages; converting units; painting walls; calculating fuel consumption; calculating pay; enlarging patterns), distinguish between a situation involving a proportional relationship (e.g., … long-distance phone calls billed at a fixed cost per minute, where talking for half as many minutes costs half as much) and a situation involving a non-proportional relationship (e.g., cellular phone packages, where doubling the minutes purchased does not double the cost of the package; food purchases, where it can be less expensive to buy the same quantity of a product in one large package than in two or more small packages; hydro bills, where doubling consumption does not double the cost) in a personal and/or workplace context, and explain their reasoning

3.6 solve problems involving proportional reasoning in work-related situations (e.g., calculating overtime pay; calculating pay for piecework; …)

See the Preface for important information on the organization of the following material.

Although none of the expectations in the Native languages curriculum explicitly addresses financial literacy, in each of the strands in the various courses the development of financial literacy can be fostered through both the learning context (e.g., a topic, a thematic unit, or an issue related to financial literacy) and materials (e.g., books, websites, media). Students could address issues related to personal finances or economics from different points of view in a debate, panel discussion, role play, speech, or written assignment.

See the Preface for important information on the organization of the following material.

The courses in the native studies curriculum provide opportunities for students to explore economic issues, challenges, and opportunities within Aboriginal communities and in relation to government policies.

Aboriginal Peoples in Canada, Grade 10, Open (NAC2O)

Identity

Aboriginal World View
  – describe the basic values of modern Aboriginal society and how these values influence the political, social, economic, and legal affairs of Aboriginal communities in Canada

Aboriginal and Canadian Relations
  – describe the key aspects of the Indian Act and the impact that it has on the lives of Aboriginal peoples
  – identify social, economic, and political issues within Aboriginal communities in relation to Canadian government policies

Relationships

Aboriginal World View
  – identify different points of view concerning a Canadian treaty negotiated between Indians and the government
  – demonstrate understanding of the different considerations that define the social, economic, and political relationships that developed between Aboriginal peoples and Canadian society

Renewal and Reconciliation
  – describe the different economic relationships that Aboriginal peoples in Canada have cultivated with the public and private sectors (e.g., ecotourism, co-management of Crown lands, banking)

Challenges
  • describe the challenges that social, economic, and political renewal pose for Aboriginal and other communities throughout Canada

Aboriginal and Canadian Relations
  – identify contemporary challenges that Aboriginal women face within Aboriginal and Canadian society
English: Contemporary Aboriginal Voices, Grade 11, University Preparation (NBE3U)

Challenges
• demonstrate an understanding of the barriers facing Aboriginal peoples in education and employment, as presented in the works of Aboriginal writers

Aboriginal Voices in Literature
– identify challenges faced by Aboriginal peoples (e.g., challenges related to … urbanization, the need for improved educational and employment opportunities, …), as presented in the works of Aboriginal writers

Current Aboriginal Issues in Canada, Grade 11, University/College Preparation (NDA3M)

Relationships

Renewal and Reconciliation
– identify ways in which Aboriginal peoples and non-Aboriginal peoples could co-operate to achieve a common economic, political, or social objective (e.g., … by jointly providing ecotourism tours)
– predict how global trends (e.g., … changes in economic opportunity) will impact on the relationship between Aboriginal peoples and Canadian society

Challenges
• identify social, political, and economic issues currently being addressed by Aboriginal individuals and communities in Canada

Aboriginal and Canadian Relations
– identify areas of conflict between Aboriginal peoples and the government of Canada with respect to treaty interpretation (e.g., … funding for education, …)

Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Grade 11, College Preparation (NBV3C)

Identity

Aboriginal and Canadian Relations
– explain how Aboriginal values might conflict with economic forces
– describe how the interaction of Aboriginal communities and Canadian society in the twentieth century has affected Aboriginal beliefs and values (e.g., the effect of the wage economy, …)
Challenges

Aboriginal and Canadian Relations
– research and describe how an Aboriginal community is using traditional values and beliefs to support economic and political growth (e.g., Inuit art cooperatives)

English: Contemporary Aboriginal Voices, Grade 11, College Preparation (NBE3C)

Relationships

Language
– identify specialized language appropriate to business and technical contexts in either First Nation communities or Canadian society and use it with precision in oral and written work

Challenges

Aboriginal Voices in Literature
– identify challenges faced by Aboriginal peoples (e.g., challenges related to … the need for improved educational and employment opportunities, …), as presented in the works of Aboriginal writers

Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Grade 11, Workplace Preparation (NBV3E)

Identity

Renewal and Reconciliation
– identify Aboriginal businesses that incorporate traditional beliefs, values, and aspirations (e.g., ecotourism projects, wild rice marketing, Air Creebec)

Relationships

Renewal and Reconciliation
– explain issues, problems, and changes that young Aboriginal peoples must deal with in their relationships with Canadian society (e.g., … developing future job prospects)

Challenges

Aboriginal and Canadian Relations
– describe the challenges of accommodating both Aboriginal and business corporation values concerning ecological sustainability in such areas as logging, mining, and the production of hydro-electric power
English: Contemporary Aboriginal Voices, Grade 11, Workplace Preparation (NBE3E)

*Challenges*

**Aboriginal Voices in Literature**
- describe lifestyle challenges facing Aboriginal peoples as a result of interaction with Canadian society (e.g., the urbanization of Aboriginal communities, consumerism, …), as depicted in the literature of Aboriginal writers (e.g., Beatrice Culleton-Moisoner, Drew Hayden Taylor, Wayne Keon)

**Aboriginal Voices in Media Works**
- identify challenges to Aboriginal communities (e.g., urbanization, economic pressures) that are presented in media works

Aboriginal Governance: Emerging Directions, Grade 12, University/College Preparation (NDG4M)

*Challenges*

**Aboriginal World View**
- describe the difference in how land is perceived by Aboriginal society and by Canadian society (e.g., in terms of … compatible resource development, and sustainable small-scale economies) and explain the crucial importance of this difference to governance among Aboriginal peoples

Issues of Indigenous Peoples in a Global Context, Grade 12, University/College Preparation (NDW4M)

*Identity*
- describe emerging global economic and environmental practices and their impact on indigenous cultural identity

**Indigenous World View**
- describe the legal and political perspectives of the world views of indigenous peoples concerning their own social, economic, or cultural development (e.g., regarding … resource development, …)

**Indigenous and International Relations**
- describe how indigenous peoples throughout the world have responded to economic trends in the global economy and yet maintained their traditional way of life
Renewal and Reconciliation
- define the factors that indigenous peoples believe are critical for ensuring healthy, sustainable communities (e.g., ... a viable community-based economy)
- demonstrate an understanding of the different political, economic, and environmental issues that unite indigenous peoples throughout the world (e.g., ... economic exploitation, ...)

Relationships
• identify examples of partnerships between indigenous communities and national governments or multinational corporations to foster indigenous economic self-sufficiency

Indigenous and International Relations
- identify examples in which indigenous peoples developed economic partnerships with national governments or multinational corporations (e.g., the James Bay Cree’s partnership with the Yamaha Corporation to develop watercraft)

Challenges
• demonstrate an understanding of the factors that influence indigenous peoples’ participation in international affairs or the global economy

Indigenous and International Relations
- identify, through analysis, factors (e.g., ... political and economic marginalization) that impede indigenous peoples from assuming full participation within the international community
- describe the effects of economic globalization on the future development of indigenous communities
- demonstrate an understanding of the impact that the economic systems of national governments and the growth of multinational corporations have on indigenous peoples throughout the world (e.g., the exploitation of workers, expropriation of lands, the forced relocation of a population)

Renewal and Reconciliation
- identify strategies that indigenous peoples might use to achieve financial stability
All courses in the science curriculum require students to identify and explore science-related careers and postsecondary pathways in which their interests and skills can be applied. Such career exploration relates directly to financial literacy, as students consider the ways in which their financial needs can be met by pursuing careers connected to their interests, skills, and aptitudes. Connections can also be made to financial literacy in many of the expectations in the science curriculum relating science to technology, society, and the environment. In addressing these expectations, students explore the costs and benefits of various science-related technologies and, in so doing, address the financial considerations involved.

Science, Grade 9, Academic (SNC1D)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., astrophysicist, geophysicist, conservation officer, park warden, fire protection engineer, hydrologist, electrician) and the education and training necessary for these careers

C. Chemistry: Atoms, Elements, and Compounds

C1. Relating Science to Technology, Society, and the Environment
C1. assess social, environmental, and economic impacts of the use of common elements and compounds, with reference to their physical and chemical properties
C1.2 assess social, environmental, and economic impacts of the use of common elements or compounds [AI, C]

Sample issue: By reducing the accumulation of ice on roads, road salt makes winter driving safer, decreasing medical and insurance costs associated with motor vehicle accidents. But the compounds in road salt damage roads and vehicles, pollute water systems, and harm animals and vegetation.

Sample questions: ... How does the widespread use of agricultural chemicals in Canada or elsewhere affect the economy, society, and the environment? What are the economic benefits and environmental costs of diamond mining for Northern Canadian communities?

D1. Relating Science to Technology, Society, and the Environment
D1. assess some of the costs, hazards, and benefits of space exploration and the contributions of Canadians to space research and technology
D1.1 assess, on the basis of research, and report on the contributions of Canadian governments, organizations, businesses, and/or individuals to space technology, research, and/or exploration (e.g., as part of the International Space Station mission; in the fields of telecommunications and satellite technology) [IP, PR, AI, C]

Sample issue: The Canadarm was developed by a Canadian company with financial support from the federal government to offset its high costs. It is an important component of the International Space Station, a unique facility that provides many innovative opportunities for space exploration and research.

Sample questions: ... How have partnerships between the public and private sectors in Canada contributed to the development of technology used in space research and exploration?

D1.2 assess some of the costs, hazards, and benefits of space exploration (e.g., the expense of developing new technologies, accidents resulting in loss of life, contributions to our knowledge of the universe), taking into account the benefits of technologies that were developed for the space program but that can be used to address environmental and other practical challenges on Earth (e.g., radiation monitors and barriers, sensors to monitor air and water quality, remote sensing technology, fire-resistant materials) [AI, C]

Sample issue: Technologies that were originally developed for space exploration now have a range of environmental, medical, business, and domestic uses. However, these technologies were developed at great cost, using funds that might have been directed to other types of research and development.

Sample questions: ... How much money was spent to develop the Canadarm? How is Canadarm technology now used in other sectors such as medicine and the environment?

E. Physics: The Characteristics of Electricity

E1. Relating Science to Technology, Society, and the Environment

E1. assess some of the costs and benefits associated with the production of electrical energy from renewable and non-renewable sources, and analyse how electrical efficiencies and savings can be achieved, through both the design of technological devices and practices in the home

E1.1 analyse the design of a technological device that improves its electrical efficiency or protects other devices by using or controlling static electricity (e.g., paint sprayers, photocopiers, lightning rods, grounding wires) [AI, C]

Sample questions: How does eliminating static electricity help or hinder the performance of a device? How have static electricity controls helped in developing new technologies?

E1.2 assess some of the social, economic, and environmental implications of the production of electrical energy in Canada from renewable and non-renewable sources (e.g., wind, solar, hydro, coal, oil, natural gas, nuclear) [AI, C]

Sample issue: The operation of wind farms along Lake Huron produces electricity from a renewable source, reducing dependence on non-renewable sources of electricity. However, the wind farms produce noise and visual pollution, affect local animal life, and reduce the amount of land available for agriculture.

Sample questions: What is the price difference between electricity produced from solar power and by coal-burning plants? What effects do coal mining, oil production, wind farms, and hydroelectric dams have on surrounding ecosystems? What types of hazardous substances are used or created in the production of solar power and nuclear power? What types of emissions are produced by coal-burning and hydroelectric power plants? What are the effects of these emissions on human health and the environment?
E1.3 produce a plan of action to reduce electrical energy consumption at home (e.g., using EnerGuide information when purchasing appliances), and outline the roles and responsibilities of various groups (e.g., government, business, family members) in this endeavour [IP, AI, C]

Sample issue: Replacing incandescent light bulbs with compact fluorescent bulbs can reduce the energy needed to light a home by 75%. Although the bulbs are more expensive than incandescent bulbs, electrical companies sometimes provide coupons to reduce the price. …

Sample questions: What are EnerGuide and ENERGY STAR, and how can they be used when purchasing appliances or electronics? What is the difference in energy consumption between a conventional and a front-loading washing machine? What appliances consume electrical energy even when they are not in use?

Science, Grade 9, Applied (SNC1P)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., radar satellite technician, fish and wildlife technologist, ceramicist, electrician) and the education and training necessary for these careers

E. Physics: Electrical Applications

E1. Relating Science to Technology, Society, and the Environment
E1. assess the major social, economic, and environmental costs and benefits of using electrical energy, distinguishing between renewable and non-renewable sources, and propose a plan of action to reduce energy costs

E1.1 assess social, economic, and environmental costs and benefits of using a renewable and a non-renewable source of electrical energy (e.g., solar, wind, hydro, nuclear, coal, oil, natural gas), taking the issue of sustainability into account [AI, C]

Sample issue: The production of electricity at nuclear power plants generates very low levels of greenhouse gases. However, the construction and maintenance of nuclear power plants is expensive and the long-term storage of nuclear waste may have an impact on the environment.

Sample questions: Which method of production of electrical energy generates the greatest amount of greenhouse gases? Which generates the smallest amount? What are the economic and long-term environmental costs of producing nuclear energy? Of using solar energy? What are some of the social and environmental effects of oil production?

E1.2 propose a plan of action to decrease household energy costs by applying their knowledge of the energy consumption of different types of appliances (e.g., front-load and top-load washing machines; cathode ray tube [CRT] and liquid crystal display [LCD] computer monitors) [PR, AI, C]

Sample questions: Which appliances in the home consume the greatest amount of energy? What are some options for reducing the amount of energy they consume? How cost-efficient is it to purchase a new energy-efficient appliance when a less efficient appliance is still in good working condition?
E2. Developing Skills of Investigation and Communication
E2.7 calculate the costs of running common household electrical devices, and compare their efficiency (e.g., using EnerGuide information) [AI, C]

Science, Grade 10, Academic (SNC2D)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., meteorologist, medical illustrator, geochemist, optical physicist) and the education and training necessary for these careers

D. Earth and Space Science: Climate Change

D1. Relating Science to Technology, Society, and the Environment
D1.2 assess, on the basis of research, the effectiveness of some current individual, regional, national, or international initiatives that address the issue of climate change (e.g., Drive Clean, ENERGY STAR, federal and provincial government rebates for retrofitting older buildings to be more energy efficient, carbon offset programs, community tree-planting programs, municipal recycling programs, Intergovernmental Panel on Climate Change [IPCC]), and propose a further course of action related to one of these initiatives [PR, AI, C]

Sample issue: Governments and industry have created rebates or tax cuts to encourage consumers to replace their old appliances with efficient ENERGY STAR appliances. However, such initiatives do not take into account the resources used to create the new products or the problems associated with the disposal of old appliances.

Sample questions: … What is the purpose of carbon offset credits? Do they achieve that purpose? Why or why not?

Science, Grade 10, Applied (SNC2P)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., veterinarian assistant, quality control technician, conservation officer, sound and light technician) and the education and training necessary for these careers
**D. Earth and Space Science: Earth’s Dynamic Climate**

**D1. Relating Science to Technology, Society, and the Environment**

D1.2 analyse ways in which human actions (e.g., burning fossil fuels, implementing tree-planting programs) have increased or decreased the production of greenhouse gases [AI, C]

*Sample issue:* Motor vehicle emissions are a major contributor to greenhouse gases. People can reduce such emissions by walking, biking, or using public transportation instead of driving; by keeping their vehicle in good operating condition; or by driving a hybrid vehicle.

*Sample questions:* Why do government and/or industry offer rebates to consumers buying programmable thermostats and compact fluorescent light bulbs? … What is the difference in greenhouse gas emissions between a traditional SUV and a hybrid vehicle? … What actions have you and/or your community taken to help reduce levels of greenhouse gases?

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**BIOLOGY, GRADES 11 AND 12**

**Biology, Grade 11, University Preparation (SBI3U)**

**A. Scientific Investigation Skills and Career Exploration**

A2. Career Exploration

A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., zoologist, botanist, geneticist, ecologist, pharmacologist, farmer, forester, horticulturalist) and the education and training necessary for these careers

**C. Evolution**

C1. Relating Science to Technology, Society, and the Environment

C1. analyse the economic and environmental advantages and disadvantages of an artificial selection technology, and evaluate the impact of environmental changes on natural selection and endangered species

C1.1 analyse, on the basis of research, the economic and environmental advantages and disadvantages of an artificial selection technology (e.g., livestock and horticultural breeding) [IP, PR, AI, C]

*Sample issue:* Selective breeding of agricultural crops can benefit populations in less-developed countries by producing hardier crops, increasing food supplies, and improving the nutritional content of food. However, opponents of artificial selection technology believe that it affects the natural ability of a species to reproduce, which negatively affects biodiversity.

*Sample questions:* How has selective breeding of specific crops helped to increase the yield of the crop and decrease the need for chemicals in the fields? …
F. Plants: Anatomy, Growth, and Function

F1. Relating Science to Technology, Society, and the Environment
F1.1 evaluate, on the basis of research, the importance of plants to the growth and development of Canadian society (e.g., as a source of food, pharmaceuticals, Aboriginal medicines, building materials, flood and erosion control; as a resource for recreation and ecotourism) [IP, PR, AI, C]

Sample issue: The agricultural sector holds great economic potential as demand increases for products such as biofuels, biochemicals, and biopharmaceuticals. Bioresources could also support our efforts to produce renewable energy, improve health, and minimize environmental impact. However, critics are concerned about the impact of bioresources on the availability of food crops and the price of food.

Sample questions: In what ways does the local-food movement contribute to community development? … What plant species are considered important in sustaining Canada’s growth in the agricultural sector? How might the increasing demand for straw-bale housing materials support Canada’s agricultural sector and increase the sustainability of other natural resources?

Biology, Grade 11, College Preparation (SBI3C)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., food science technologist, medical laboratory technologist, dental hygienist, outpost clinic/primary care nurse, respiratory therapist, veterinary technician, water or wastewater technician) and the education and training necessary for these careers

E. Anatomy of Mammals

E1. Relating Science to Technology, Society, and the Environment
E1. analyse the social or economic impact of a technology used to treat systems in the human body, and the impact of lifestyle choices on human health
E1.1 analyse the social or economic impact of a medical device or technology related to the treatment of the human circulatory, respiratory, or digestive system (e.g., a pacemaker, a heart-lung bypass machine, kidney dialysis) [AI, C]

Sample issue: A reliable blood substitute for use during emergencies or blood shortages could save many lives and create huge revenues for its producers. However, clinical trials have shown that patients receiving artificial blood have a significantly higher risk of heart attack than those receiving donated blood, thus increasing medical costs.

Sample questions: Are the costs of the disposable capsules used for capsule endoscopy worth the benefits of detecting gastrointestinal diseases? Why or why not? …
Biology, Grade 12, University Preparation (SBI4U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., scientific journalist, fisheries and wildlife officer, physician, infectious disease researcher, geneticist) and the education and training necessary for these careers

CHEMISTRY, GRADES 11 AND 12

Chemistry, Grade 11, University Preparation (SCH3U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., pharmacist, forensic scientist, chemical engineer, food scientist, environmental chemist, occupational health and safety officer, water quality analyst, atmospheric scientist) and the education and training necessary for these careers

E. Solutions and Solubility

E1. Relating Science to Technology, Society, and the Environment
E1. analyse the origins and effects of water pollution, and a variety of economic, social, and environmental issues related to drinking water

E1.2 analyse economic, social, and environmental issues related to the distribution, purification, or use of drinking water (e.g., the impact on the environment of the use of bottled water) [AI, C]

Sample issue: In developing countries, thousands of people, many of them children, die every year from drinking contaminated water. Many of these countries cannot afford to build water treatment plants. In North America, where safe water is generally available, we spend millions of dollars on bottled water, draining sources of fresh water and challenging waste-disposal systems.

Sample questions: What are the economic costs of building, maintaining, and monitoring water-purification plants? What are the social and environmental costs if these plants are not properly maintained and monitored? ...
Chemistry, Grade 12, University Preparation (SCH4U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., food and drug analyst, chemical safety officer, nurse practitioner, consumer protection specialist, metallurgy technologist, environmental and waste management technician, geochemist) and the education and training necessary for these careers

D. Energy Changes and Rates of Reaction

D1. Relating Science to Technology, Society, and the Environment
D1.1 analyse some conventional and alternative energy technologies (e.g., fossil fuel–burning power plants, hydro-powered generators, solar panels, wind turbines, fuel cells), and evaluate them in terms of their efficiency and impact on the environment [AI, C]

Sample issue: The cooling of homes and commercial buildings in summer requires more energy than heating in the winter at peak times. Brownouts are more likely in summer than in winter. However, new technologies use deep lake water cooling as an alternative to conventional air conditioning systems in office towers. This significantly reduces energy use and its environmental impact

Sample questions: What proportion of Ontario’s energy needs is served by solar and wind technologies? What are the pros and cons of expanding the availability of these technologies? … What are the advantages and disadvantages, in terms of efficiency and environmental impact, of using corn to produce ethanol fuel?

D1.2 analyse the conditions (e.g., temperature, pressure, presence of a catalyst) required to maximize the efficiency of some common natural or industrial chemical reactions (e.g., decomposition, combustion, neutralization), and explain how the improved efficiency of the reaction contributes to environmental sustainability [AI, C]

Sample issue: Bleaches such as hydrogen peroxide and chlorine are used when fibres are processed into paper or textiles. Concentrations of these substances can harm the environment, but if enzymes are added to these processes as biocatalysts, fewer chemicals are needed, less energy is consumed, and there is less environmental impact.

Sample questions: How can you increase the rate of decomposition in a home composter? What can be done to improve the efficiency of an automobile that runs entirely on fossil fuels? Why is just a very small quantity of catalyst required in industrial processes? Why is the ozone layer still deteriorating despite the banning of chlorofluorocarbons (CFCs)?

Chemistry, Grade 12, College Preparation (SCH4C)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., environmental technologist, pharmacy technician, electroplating technician, green building or renewable energy technician, veterinary technician, biochemical technologist) and the education and training necessary for these careers
EARTH AND SPACE SCIENCE, GRADE 12

Earth and Space Science, Grade 12, University Preparation (SES4U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the field of science under study (e.g., astronomer, paleontologist, astrophysicist, geologist, professor, planetarium curator) and the education and training necessary for these careers

C. Planetary Science (Science of the Solar System)

C1. Relating Science to Technology, Society, and the Environment
C1. analyse political, economic, and environmental issues related to the exploration and study of the solar system, and how technology used in space exploration can be used in other areas of endeavour
C1.1 analyse political considerations related to, and economic and environmental consequences (actual and/or potential) of, exploration of the solar system (e.g., … the ability to monitor environmental conditions from space) [AI, C]

Sample issue: As we deplete Earth’s natural resources, researchers are studying the feasibility of supplementing those resources through space mining. Asteroids and other bodies in the solar system are potentially rich sources of minerals and other valuable substances, but their exploitation raises a range of legal, economic, environmental, and technological questions.

Sample questions: … What types of factors affect government decisions about allocating funds for space exploration? Is the investment made in space exploration money well spent? Why or why not?

E. Earth Materials

E1. Relating Science to Technology, Society, and the Environment
E1. analyse technologies used to explore for and extract Earth materials, and assess the economic and environmental impact of the exploitation of such materials
E1.1 assess the direct and indirect impact on local, provincial/regional, or national economies of the exploration for and extraction and refinement/processing of Earth materials (e.g., gold, uranium, sand, gravel, dimension stone, fossil fuels) [AI, C]

Sample issue: Diamonds are prized for industrial and personal uses. The demand contributes to the existence of illegal trade in “blood diamonds”, in which stones mined in war zones are sold and the revenue is used to fund military action by insurgent groups. The protracted wars devastate local and national economies.

Sample questions: What are the effects on local economies of oil extraction in Alberta, transportation by pipeline through the Prairies, and refinement in Ontario? How does the economic benefit of manufacturing items using a mineral resource compare to the economic benefits for the communities that mine the resource? What is the impact on the economy of local Aboriginal communities of diamond mining on their lands?
A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., organic chemist, landscaper, conservationist, air quality technician, personal support worker, environmental lawyer) and the education and training necessary for these careers

B. Scientific Solutions to Contemporary Environmental Challenges

B1. Relating Science to Technology, Society, and the Environment
B1. analyse social and economic issues related to an environmental challenge, and how societal needs influence scientific endeavours related to the environment
B1.1 analyse, on the basis of research, social and economic issues related to a particular environmental challenge (e.g., overfishing, deforestation, acid rain, melting of the polar ice cap) and to efforts to address it [IP, PR, AI, C]
Sample issue: Greenhouse gas emissions from motor vehicles are a major contributor to global warming. The use of ethanol and other biofuels in motor vehicles reduces these emissions. However, diverting crops from food production to fuel production can increase prices and decrease the supply of food.
Sample questions: What are some of the social and economic challenges associated with cleaning up and conserving fresh water supplies? What are some alternative energy sources? What social and economic challenges are associated with their development? In what ways can consuming locally grown foods help the local economy, society, and the environment?
B1.2 analyse ways in which societal needs or demands have influenced scientific endeavours related to the environment (e.g., the development of drought- and pest-resistant crops to address the rising global need for food; research into alternative energy sources in response to demands to address the impact on climate change of burning fossil fuels) [AI, C]
Sample issue: Because of unstable oil prices and the environmental damage caused by motor vehicle emissions, many consumers have been demanding more environmentally friendly vehicles. As a result, car companies are devoting greater resources towards the development of more fuel-efficient engines, hybrid vehicles, and cars powered by electricity or other types of energy.
Sample questions: How and why do demands by environmentally conscious consumers affect the types of products developed by corporations? What impact have the energy needs of remote communities had on innovations in the development of off-grid energy sources? …

D. Sustainable Agriculture and Forestry

D1. Relating Science to Technology, Society, and the Environment
D1. evaluate the impact of agricultural and forestry practices on human health, the economy, and the environment
D1.1 evaluate, on the basis of research, a variety of agricultural and forestry practices (e.g., companion planting, biological pest control, the use of genetically modified seed, forest fire control) with respect to their impact on the economy and the environment (e.g., the use of nematodes eliminates crop damage from grubs, thus contributing to better harvests, while reducing the use of toxic chemical pesticides; under some circumstances, forest thinning can help prevent or reduce the seriousness of forest fire, and its economic and environmental consequences) [IP, PR, AI, C]

*Sample issue:* The recycling of animal waste as fertilizer is economical and is generally considered an environmentally sustainable practice. However, care must be taken that the manure does not run off into water sources, as it can contaminate them with E. coli and other bacteria.

*Sample questions:* What are the economic and environmental pros and cons of growing crops that are genetically modified to be herbicide resistant? Why is organic produce more expensive than conventionally grown produce? What are the economic advantages of monoculture, both on farms and in forestry operations? …

**E. Reducing and Managing Waste**

**E1. Relating Science to Technology, Society, and the Environment**

**E1.** analyse economic, political, and environmental considerations affecting waste management strategies

**E1.1** analyse, on the basis of research, the impact of economic and political considerations on the development of waste management practices or strategies (e.g., incineration of hazardous waste; biological filtration and reuse of greywater; user fees for garbage disposal; vermicomposting) [IP, PR, AI, C]

*Sample issue:* The use of landfill sites has been a long-time strategy for disposal of garbage. As local sites fill up, some municipalities are shipping their garbage to distant sites. This strategy is often politically unpopular and, with high fuel prices, is increasingly expensive, so local politicians are under pressure to implement new strategies.

*Sample questions:* What are the costs of recycling compared to the costs of using landfill sites or incinerating garbage? Why is garbage incineration a controversial political issue? …

**F. Conservation of Energy**

**F1. Relating Science to Technology, Society, and the Environment**

**F1.** assess the impact on society and the environment of the use of various renewable and non-renewable energy sources, and propose a plan to reduce energy consumption

**F1.1** evaluate the impact on the environment of renewable and non-renewable energy sources, and propose an environmentally friendly solution to reduce non-renewable energy consumption (e.g., a plan for broader use of hybrid cars or solar panels) [AI, C]

*Sample issue:* In some remote areas that are off the electrical grid, generators that run on fossil fuels are used to generate electricity. However, these devices are inefficient, and they produce carbon dioxide, which contributes to global warming, and noise pollution.

*Sample questions:* … How can the use of ethanol reduce the amount of petroleum needed to run cars?
A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., hydro meter reader, hospitality employee, waste management operator, custodian) and the education and training necessary for these careers

D. Energy Conservation

D1. Relating Science to Technology, Society and the Environment
D1. evaluate initiatives and technological innovations related to energy consumption and conservation, and assess their impact on personal lifestyles, social attitudes, and the environment

D1.1 assess, on the basis of research, the impact that initiatives for reducing energy consumption and waste have on personal lifestyles, societal attitudes, and the environment (e.g., local, provincial, or national initiatives by government, business, or non-governmental organizations) [IP, PR, AI, C]

Sample issue: Home energy audit and retrofit rebate programs have been established by many provincial governments to help homeowners reduce their energy bills. Although these programs raise awareness of the environmental impact of wasting energy and provide practical ways of reducing waste, not all homeowners take advantage of them.

Sample questions: What types of incentives exist to encourage consumers to purchase energy-efficient products and services? How effective are such incentives? What methods do energy companies use to encourage consumers to conserve energy? …

D1.2 evaluate, on the basis of research, some of the advantages or disadvantages of technological innovations that contribute to the production of renewable energy and/or aid in conservation (e.g., bio-oil, biodiesel, wind turbines, improved insulation, programmable thermostats) [IP, PR, AI, C]

Sample issue: Tankless water heaters heat water only when it is needed. They save energy over traditional water heaters, which keep a large tank of water hot at all times. However, tankless water heaters may not be able to supply enough hot water for multiple uses.

Sample questions: What technologies are used to produce biofuels? How do these fuels help to reduce use of non-renewable energy? What problems might be associated with the use of agricultural crops for fuel rather than food? … What are the advantages and disadvantages of replacing old appliances with more energy-efficient ones?
PHYSICS, GRADES 11 AND 12

Physics, Grade 11, University Preparation (SPH3U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., theoretical physicist; communications, networks, and control systems professional; engineer; metallurgist) and the education and training necessary for these careers

F. Electricity and Magnetism

F1. Relating Science to Technology, Society, and the Environment

F1.2 analyse the efficiency and the environmental impact of one type of electrical energy production (e.g., from hydroelectric, fossil fuel–burning, wind, solar, geothermal, or nuclear sources), and propose ways to improve the sustainability of electrical energy production [AI, C]

Sample issue: Compared to oil, coal is relatively inexpensive and plentiful, and, globally, the number of coal-burning electrical plants is expanding. Yet, coal power is inefficient, and the mining and burning of coal produce a great deal of pollution. Although technology is available to make coal cleaner, it is costly and has been implemented to only a limited extent.

Sample questions: How efficient are the small- and large-scale solar-power systems used in individual homes and industrial settings? … What technologies are being used to improve the efficiency of energy sources such as coal and biofuel? …

Physics, Grade 12, University Preparation (SPH4U)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., laser optics researcher, geoscientist, photonics researcher, aerospace engineer) and the education and training necessary for these careers

Physics, Grade 12, College Preparation (SPH4C)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., alternative energy advocate, sustainable energy technician, electrician, mechanic) and the education and training necessary for these careers
F. Hydraulic and Pneumatic Systems

F1. Relating Science to Technology, Society, and the Environment
F1.2 analyse some of the social and economic consequences of the use of robotic systems for different kinds of operations (e.g., in the manufacturing of computers, for lifting and manoeuvring heavy objects on assembly lines, for handling hazardous materials, for activities under water and in space) [AI, C]

Sample issue: The use of robotic systems on assembly lines in automotive plants speeds up production, cuts labour costs, reduces the need for workers to perform small repetitive tasks, and reduces workplace injuries. But the use of such systems has eliminated some jobs.

Sample questions: … How can simulations using robotics reduce the social and economic costs associated with natural disasters?

SCIENCE, GRADE 12

Science, Grade 12, University/College Preparation (SNC4M)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., nuclear medicine technician, nurse practitioner, hematologist, dietitian, geneticist) and the education and training necessary for these careers

B. Medical Technologies

B1. Relating Science to Technology, Society, and the Environment
B1.1 assess the costs and benefits of a conventional medical technology, therapy, or device that is used to diagnose or treat a human health condition (e.g., diagnostic technologies such as X-rays and ultrasound; surgical procedures such as laser removal of tumours; biomedical devices such as prosthetics) [AI, C]

D. Nutritional Science

D1. Relating Science to Technology, Society, and the Environment
D1.1 analyse the social and economic costs and benefits of the use of non-nutrient food additives in food preservation and food enhancement techniques (e.g., sulfites in dried fruit; food colouring; MSG) [AI, C]

Sample issue: Non-nutrient food additives increase the shelf life of many foods, decreasing waste from spoiled food and allowing foods to be transported around the globe. Importing food increases consumer choice, yet it also increases carbon emissions and can hurt the Canadian farm economy.

Sample questions: What types of additives are used to make vegetables in salad bars and grocery stores stay green and fresh looking? How do these additives benefit the retailer? What effect do they have on consumers? …
F. Biotechnology

F1. Relating Science to Technology, Society, and the Environment
F1.1 analyse social issues related to an application of biotechnology in the health, agricultural, or environmental sector (e.g., issues related to the uses of genetically modified organisms or to the uses and availability of in vitro fertilization) [AI, C]

Sample issue: The promise of genetically modified (GM) crops was that they would be resistant to pests and would produce more abundant harvests. However, GM crops can crossbreed with crops in adjoining fields, thus contaminating traditional food sources, reducing biodiversity, changing farming practices, and limiting the choices available to consumers.

Science, Grade 12, Workplace Preparation (SNC4E)

A. Scientific Investigation Skills and Career Exploration

A2. Career Exploration
A2.1 identify and describe a variety of careers related to the fields of science under study (e.g., chemical technician, baker, blood laboratory assistant, custodian, public works employee, cosmetologist) and the education and training necessary for these careers

E. Electricity at Home and Work

E1. Relating Science to Technology, Society, and the Environment
E1.1 assess the social and environmental impact of electrical technologies, including the impact associated with the manufacture and disposal of electronic devices (e.g., the impact of electrical devices used in the health care field, such as pacemakers or respirators; the impact of energy generation needed to power electrical devices and appliances) [AI, C]

Sample questions: How often do you replace an electronic device because something newer, faster, or more powerful has been developed? What do you do with the older devices? What impact have computers had on society?
In social sciences and humanities courses, there are many explicit connections to financial literacy. Students develop skills in decision making, critical thinking, and consumer awareness as they explore choices related to food, fashion, parenting, and personal and family resource management. Students also develop an understanding of the causes and effects of economic changes and challenges on individuals, families, and communities.

Food and Nutrition, Grade 9 or 10, Open (HFN1O/HFN2O)

**Self and Others**
- identify the various reasons for the choices people make about food

**Food Needs of Individuals and Families**
- demonstrate creativity in planning, preparing, and serving a meal that meets the specifically defined needs and budget of a particular family or individual

**Food Choices**
- explain how families, peers, and the media influence an individual’s food choices and habits

**Personal and Social Responsibilities**
- identify consumer responsibility in the investigation of current food issues

**Consumer Awareness**
- produce general food-shopping guidelines that are efficient and economical
- prepare an evaluation of several sources of food information (e.g., newspapers, magazines, marketing media, the Internet, and other food and nutrition publications) in order to detect bias
- describe the influence of marketing and advertising on personal food choices
- examine the relationship between consumer awareness and food marketing

**Practical Skills**
- plan meals that address factors such as nutritional needs, age, likes and dislikes, activity levels, special diets, and considerations related to time, money, and effort
- plan and budget for a family’s meals for one week and prepare a list of all ingredients
Individual and Family Living, Grade 9 or 10, Open (HIF1O/HIF2O)

Personal and Social Responsibilities
• demonstrate practical skills that contribute to the proper functioning of families and that are transferable to the workplace and to the community

Decision Making and Problem Solving
– apply appropriate decision-making models, grounded in research, to choices related to individual and family well-being and quality of life (e.g., use of time, household or clothing purchases, …) and suggest strategies for making difficult choices

Practical Skills
– demonstrate practical skills required for meeting their own and their family’s food, clothing, health and security, and housing needs (e.g., … planning and preparing a meal; …)
– identify part-time work and occupational opportunities that support the needs of families, by using resources such as CD-ROMs, the Internet, and supermarket bulletin boards

Social Challenges
• describe strategies by which individuals and family members manage resources in a changing environment
• demonstrate an understanding of the principles of consumer awareness

Change
– evaluate a new product, service, or technology for its ability to meet their own needs or the needs of their families (e.g., develop criteria for choosing a long-distance service)

Resource Management
– describe the impact of economic, social, technological, environmental, and health factors on lifestyle decisions (e.g., whether to purchase a product, use a service, or participate in an activity)
– describe strategies for acquiring money, including summer employment, and for managing their own money to meet financial and personal goals (e.g., buying a mountain bike, paying for college)

Family and Society
– describe the role of employment and income in enabling families to perform their functions

Consumer Awareness
– describe strategies for making informed and responsible consumer decisions (e.g., comparison shopping, reading labels, checking warranties, handling complaints)
– identify information required on labels (e.g., material, percentage composition of each component, CSA approval, manufacturer’s identification number)
– determine whether specific examples of marketing are factual or misleading
– describe the influence of marketing and high-pressure sales pitches on personal purchase choices, and how to recognize and resist this influence
– demonstrate the ability to conduct a thorough investigation before making a large purchase
- identify consumer agencies that handle complaints about defective goods
- demonstrate an understanding of how to make sound purchase decisions in stressful situations
- examine sources of information (e.g., newspapers, magazines, marketing media, the Internet) with the aim of identifying marketing strategies
- demonstrate an understanding of financial responsibility (e.g., banking, saving for purchases, long-term savings, managing debt)

**Social Science Skills**

**Research Skills**
- conduct research about individual, family, and social issues, using surveys and interviews (e.g., about … principles of informed consumerism; financial stability; investigation before making large purchases; …)

**FAMILY STUDIES, GRADES 11 AND 12**

**Living and Working With Children, Grade 11, College Preparation (HPW3C)**

**Children in Society**

**Planning for Future Parenthood**
- demonstrate an understanding of the planning involved in becoming a father, mother, or child-care worker (e.g., planning for … financial changes)
- identify and describe the training opportunities available for preparation for parenthood (e.g., … community-based parenting programs) and for occupations involving children (e.g., university and college programs, cooperative education placements)

**Social Challenges**

**Issues and Challenges**
- describe ways in which children become the targets of marketing, advertising, and the media (e.g., through licensing of products, back-to-school ad campaigns, Christmas toy launches)

**Managing Personal and Family Resources, Grade 11, College Preparation (HIR3C)**

**Self and Others**

**Making the Transition to Adulthood**
- demonstrate an understanding of the need for greater responsibility, maturity, and independence as part of the transition from adolescence to adulthood
- describe skills that are required in the workplace (e.g., academic, personal resource management, …)
**Personal and Social Responsibilities**
- identify the principles of and techniques required for effective management of personal and family resources (e.g., time, money, talent)
- analyse the role that responsible consumerism plays in independent and family living

**Understanding Models of Decision Making**
- evaluate the process of using a decision-making model to make specific personal choices (e.g., what furniture to buy, where to live, what occupations to explore in the future)

**Managing Resources**
- identify the different types of resources (e.g., material, ...) available to individuals and families
- analyse how personal goals and priorities, personal needs and wants, and cultural influences affect the use of time, talent, and money
- demonstrate an understanding of the money-management techniques required for independent living (e.g., budgeting and using credit in order to buy a car; covering the cost of appropriate housing; purchasing food, clothing, and other necessities of life)
- demonstrate an understanding of the relationship between a family’s income, expenses, cash flow, net worth, and personal goals, drawing on information from a case study
- demonstrate an understanding of the management skills involved in the wise use of family resources (e.g., budgeting for, planning, preparing, and serving balanced family meals within a given set of time, money, and equipment constraints)

**Becoming a Responsible Consumer**
- analyse how advertising and other influences affect the individual’s choices in the marketplace
- explain the process of making wise consumer decisions (e.g., comparison shopping, reading labels, checking warranties) for a variety of purposes (e.g., purchasing food and clothing, choosing housing or modes of transportation)
- use a variety of print and electronic sources and telecommunications tools as aids in investigating a specific product or comparing products
- investigate a variety of retail shopping opportunities (e.g., telemarketing, home shopping channels, buying clubs, catalogue shopping, bulk purchasing, outlet shopping, Internet shopping, shopping for second-hand goods)
- plan for a specific major purchase (e.g., refrigerator, computer, entertainment system), using wise consumer techniques

**Preparing for the Challenges of the Future**

*Note:* Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
- identify and describe occupations for which they are well suited, taking into account their personal resources
- demonstrate an awareness of how traditional forms of employment compare with various alternative forms
- analyse how families are affected by global disparities in wealth and resources
Social Structures
• identify and describe the major expenses of individuals and families throughout the stages of life
• explain the effects of economic and business trends on the family
• identify the options and services available to individuals and families for managing resources

Expenses Throughout the Life Cycle
– identify the major expenses of individuals and families throughout the life cycle (e.g., housing, clothing, food, transportation, education, child care, recreation)
– analyse how different lifestyles (e.g., those of single people, childless couples, dual-earner families, single-parent families, retired people) affect spending patterns
– explain how being employed affects the personal resources of teenagers (e.g., time to study; time to spend on family or extracurricular activities; amount of disposable family income)
– predict, on the basis of a case study, the costs associated with a specific life event (e.g., getting married, going to college or university, moving into a place of one’s own)

Economics and the Family
– analyse the ways in which economic factors (e.g., interest rates, consumer price index, inflation, unemployment rates, fluctuations in the value of the dollar) affect the family
– describe the impact that employment-related trends and events (e.g., long strikes; layoffs due to downsizing, plant closures, or out-sourcing; promotions) have on family finances and family relationships
– investigate and analyse the spending patterns of various socio-economic classes as documented by Statistics Canada
– determine how demographic changes (e.g., those associated with the aging of the baby-boomers) affect the production of goods and services
– devise, conduct, and analyse the results of a survey exploring differing attitudes of families towards various aspects of money management and family finances (e.g., towards buying on credit, borrowing, saving, investing, owning or renting property)
– evaluate the costs and implications for families of buying on credit (e.g., credit cards, bank loans, mortgages) and assess the benefits of alternative approaches

Resources in the Community
– investigate community resources that are available to assist individuals and families (e.g., stress-management or financial counselling, occupational therapy, community college courses)
– describe the types of financial services (e.g., savings and chequing accounts, credit, investment) available at various institutions in the community (e.g., banks, credit unions, finance companies, trust companies)
Managing Personal Resources, Grade 11, Workplace Preparation (HIP3E)

**Personal Responsibilities**
- identify the basic principles and techniques an individual would use in effectively managing personal resources, including talent, time, and money

**Making Personal Decisions**
- describe how cultural differences, personal beliefs, and personal preferences can influence attitudes about the ways in which personal resources are used

**Managing Money**
- describe how factors such as personal goals, priorities, and needs and wants affect the use of money as a resource
- demonstrate an understanding of money-management techniques (e.g., budgeting, banking, credit-card use) in specific situations (e.g., planning to own and operate a vehicle; finding appropriate housing independent of family; budgeting for food, clothing, and other living expenses when living on one’s own)
- demonstrate an understanding of the ways in which money can be used most efficiently in attaining a specific goal (e.g., in planning and preparing a meal within specified budgetary constraints)
- identify influences on buying decisions (e.g., advertising, status, convenience) and describe guidelines for becoming a wise and responsible consumer (e.g., comparison shopping, reading labels, checking warranties)
- plan the purchase of specific items for personal use (e.g., clothing, appliances, entertainment equipment), using wise consumer techniques
- identify and evaluate retail shopping opportunities available within and/or from their communities (e.g., catalogue shopping, retail stores, outlet malls, television home shopping channels, Internet shopping, buying clubs, bulk warehouse purchasing), using a variety of print and electronic sources and telecommunications tools

**Preparing for the Challenges of the Future**
- identify the elements of successful employment and lifestyle planning

**Planning for Employment and Lifestyle**
- describe the primary personal considerations that affect the choice of an occupation (e.g., skills in dealing with people, information, and tools used in the workplace; interests; personal attributes)
- identify their short- and long-term goals, and the skills and experience they need to achieve them
- identify occupations available in fields related to their own talents, interests, and personal attributes
- establish a personal lifestyle and employment plan (e.g., through tracking experience; identifying skills, interest, and educational achievements; preparing a résumé and letter of application; collecting references; filling out job application forms)
Social Structures

Note: Since all expectations in this strand relate to financial literacy, only the overall expectations have been included here.
• describe how economic influences affect the individual
• identify ways in which financial institutions assist in the management of personal economics
• identify the benefits and costs of working for pay

Fashion and Creative Expression, Grade 11, Open (HNC3C)

Functions of Clothing
• identify the criteria used by families in making clothing decisions and purchases

Family Influences on Clothing Selection
– demonstrate an understanding of how various aspects of family life (e.g., ... special needs, budget, values, lifestyle) influence an individual’s clothing choices
– describe ways in which families use their resources to meet clothing needs (e.g., ... recycling, purchasing new or second-hand, making clothing)

The Apparel Industry
• identify occupational opportunities in the fashion field

The Retailing of Clothing
– identify the factors that contribute to the cost of goods produced in Canada and abroad (e.g., ... standard of living, ... transportation, market size, ... unionization of workforce, government regulation of industry)

Occupational Opportunities in Fashion
– classify the types of occupations associated with the three areas of fashion production and distribution identified below, and describe the competencies they require and opportunities for employment in them:
1. primary markets and industries that provide the raw materials of fashion (e.g., ... weaver, farmer, quality-control inspector)
2. secondary fashion markets and manufacturers of apparel and accessories (e.g., designer, pattern maker, pattern grader, cutter, sewer, finisher)
3. retail distribution (e.g., salesperson, fashion coordinator, display technician, buyer)
– outline a career path for a fashion- or textile-related occupation

Society and the Apparel Industry
– evaluate the impact on Canadian society of issues relating to the apparel industry, such as the redistribution of jobs brought about by computerization and new technologies, the exploitation of workers both in Canada and abroad, the role of unions in the garment industry, and the hiring of skilled and unskilled immigrant labour
Living Spaces and Shelter, Grade 11, Open (HLS3O)

*SHELTER FOR EVERYONE*

- identify the ways in which political, social, economic, and technological trends, as well as psychological factors, affect available types of shelter

*TRENDS AFFECTING SHELTER*

- analyse how various societal changes (e.g., high unemployment, home-based businesses, population increases, the aging population, technological changes) create a need for accommodation tailored to the physical, financial, and psychological requirements of individuals and families
- identify how families are affected by new trends in household technologies (e.g., … the computerized home, the ecological house, new energy sources, new trends in appliances and household equipment)

*SHELTER FOR SPECIAL MARKETS*

- demonstrate an understanding of sociological, psychological, political, and economic factors connected with dwellings for specialized markets (e.g., criteria for tenant eligibility; geared-to-income and subsidized housing, Habitat For Humanity homes, trailer parks, homes in northern First Nations communities) and of societal attitudes towards those living in such dwellings

*CONSIDERATIONS IN ACQUIRING SHELTER AND DESIGNING LIVING SPACES*

- identify legal, economic, and social considerations involved in acquiring and financing a home

*ACQUIRING AND FINANCING A HOME*

- identify the proportion of income to be allocated for shelter needs, based on the amount and stability of income, age of family members, size of family, values and goals, and available shelter options
- identify the steps involved in renting, buying, and furnishing a house or a unit in a multiple dwelling
- identify various options for financing the purchase of a home, condominium, or other type of dwelling
- identify the costs associated with living in a household (e.g., rent, property taxes, utilities, condominium maintenance fees, telephone and cable service fees)
- demonstrate an understanding of legal terminology (e.g., lease, sublet, assign, leasehold, offer to purchase, term, amortization, mortgage) and of the types of documents associated with the various options for financing shelter
- summarize the criteria derived from personal and/or family circumstances and values that are used in selecting a type of accommodation (single- or multiple- family dwelling), a style of accommodation (bungalow, Tudor, high-rise), a neighbourhood, and a community
Meeting Diverse Needs in the Home Environment
- describe home furnishings and equipment requirements as influenced by family composition, living patterns, changing needs throughout the stages of life, cultural traditions, economic and human resources, and energy costs
- explain the criteria involved in the purchase of home furnishings, equipment, and appliances, and describe how these items are maintained

**Occupational Opportunities Related to Living Spaces and Shelter**

*Note:* Since all expectations in this strand relate to financial literacy, only the overall expectation has been included here.
- identify and describe occupational opportunities related to living spaces and shelter, and the career paths leading to them

**Parenting, Grade 11, Open (HPC3O)**

*Personal and Social Responsibilities*

**Preparation for Parenthood**
- identify the factors involved in deciding whether or not to become a parent (e.g., ... economic stability)

**Parenthood**
- identify and describe career opportunities related to families at all stages of the life cycle

**Social and Legal Challenges of Parenthood**

**Parenting Challenges in the Early Years**
- demonstrate an understanding of the challenges faced by parents of young children in today’s rapidly changing society (e.g., balancing work and family, finding quality child care, divorce, poverty)

**Food and Nutrition Sciences, Grade 12, University/College Preparation (HFA4M)**

*Self and Others*

**Factors Affecting Food Choices**
- describe economic factors that have an impact on the food choices of individuals and families
- plan menus for, select, and prepare foods, taking into consideration economic, geographical, and seasonal factors that affect the availability of ingredients
**Personal and Social Responsibilities**

**Occupations and Entrepreneurship Opportunities in Food and Nutrition Sciences**
- use a variety of print and electronic sources to find information on employment opportunities in areas relating to food and nutrition sciences, such as health and medicine, hospitality services, agriculture, and food technology and production
- identify types of small businesses related to the food industry (e.g., cottage industries, vendors of Native food products, truck gardeners, pick-your-own-produce ventures)
- design, cost, market, produce, and evaluate a food product (e.g., flavoured vinegar, sugared nutmeats, seasonal cookies)

**Diversity, Interdependence, and Global Connections**

**Factors Affecting Food Production and Supply**
- describe the effects of various economic factors on food production and supply (e.g., standards of living, poverty, personal and family incomes, employment and unemployment)
- identify current food crises (e.g., contamination, crop failures), the factors causing each of them (e.g., production increases, unfavourable global weather changes), and their impact on the availability and cost of food

**Food Security and Hunger**
- summarize the causes of food insecurity (e.g., an emphasis on cash-cropping and large-scale food production, globalization, urbanization, continued feminization of poverty)
- identify economic and social policies that influence food security (e.g., debt restructuring, the operations of the World Bank)
- describe the social and cultural traditions that account for inequality among peoples of the world (e.g., gender issues, distribution of wealth, failure to support small business)

**Individuals and Families in a Diverse Society, Grade 12, University/College Preparation (HHS4M)**

**Diversity, Interdependence, and Global Connections**

**Diverse Roles of Individuals**
- analyse changes in labour-force participation, taking into consideration male and female participation rates, child labour, retirement, and the impact of work on socialization

**Family Diversity**
- analyse factors influencing the transition of the family from an economic unit to a psychological unit (e.g., industrialization, feminism, employment of women)
Social Challenges and Social Structures

Individual Development
- describe current perceptions, opinions, and demographic trends relating to the life patterns of individuals (e.g., life expectancy, educational attainment, labour-force participation, income), and speculate on the significance of these trends for individual development
- explain the impact on individual development and decision making of social changes and challenges … and life events (e.g., illness, … disability, unemployment, death, divorce)
- demonstrate an understanding of the effect of various aspects of social systems on individual development (e.g., … economic factors; educational opportunities; employment trends; availability of social support)

Parent and Child
- summarize the impact of economic and political instability (including war) and migration on child development and socialization

Issues in Human Growth and Development, Grade 12, University/College Preparation (HHG4M)

Socialization and Human Development

The Media as Agents of Socialization
- demonstrate an understanding of how the media influence people’s lives (e.g., making lifestyle changes, stereotyping), and evaluate the effectiveness of media censorship

Diversity, Interdependence, and Global Connections

Social Challenges in an Integrated Framework
- demonstrate an understanding of the effects that various economic, political, and social factors (e.g., poor nutrition, low birth weight, illiteracy, technological change) can have on human development

Parenting and Human Development, Grade 12, Workplace Preparation (HPD4E)

Stages of Family Life

The Expanding Family
- identify the factors involved in the timing of first and subsequent children in families (e.g., financial situation, goals, …)
Job Opportunities
- explain the differences between volunteer positions and occupations involving children and adolescents
- demonstrate an understanding of the training and knowledge required to work in occupations involving older children and adolescents
- summarize the results of an investigation into occupations relating to families at different stages of the life cycle

Social Structures and Social Challenges

Media Influence
- analyse the influences advertising has on families (e.g., pressure to purchase fad items)

The Role of Social Services
- identify job opportunities in the social-service sector that involve helping families

The Fashion Industry, Grade 12, Open (HNB4O)

Fashion and Society

The Impact of History and Social Change on Fashion
- analyse the fashion process from a variety of different perspectives (e.g., ... economic, ... marketing)

The Canadian Fashion Industry
- identify and describe occupations in the fashion industry

The Nature of the Canadian Fashion Industry
- describe the diverse nature and economic importance of specific segments of the clothing and fashion industry (e.g., footwear, small leather goods, hats, jewellery, sunglasses, umbrellas, wigs, specialized prostheses)

Consumer Satisfaction
- explain the relationship between individual purchases and the influential role of the consumer in the Canadian fashion industry

International Influences
- summarize the results of an investigation into the international factors that affect the Canadian apparel industry (e.g., government regulations, availability of materials and labour, child and worker exploitation and related issues, economic cycles, size of the Canadian and other markets)

Fashion-Related Occupations
- identify fashion-related occupations, both entry-level and those requiring postsecondary education (e.g., fashion illustrator, designer, buyer, pattern maker, wardrobe co-ordinator,
stylist) and satellite opportunities that are seen as fashion-related (e.g., cosmetology, promotion, photography)
  – identify community-based resources related to the job-search and educational requirements for careers in the fashion industry
  – describe postsecondary programs for careers in fashion arts, and programs that support occupational aspirations related to the fashion field
  – describe entrepreneurial opportunities in the fashion industry in terms of social, technological, political, and economic changes, with a focus on community needs, financial resources, and demographic patterns

**GENERAL SOCIAL SCIENCE, GRADES 11 AND 12**

**Introduction to Anthropology, Psychology, and Sociology, Grade 11, University/College Preparation (HSP3M)**

**Social Structures and Institutions**

**Social Structure: The World of Work**
  – analyse the structural changes that are occurring in the world of work within Canada (e.g., the shift to part-time jobs and home offices, the focus on information technologies)
  – identify current trends in Canadian employment and unemployment patterns, using information from Statistics Canada, and analyse the influence these trends have on individuals, groups, and communities

**Challenge and Change in Society, Grade 12, University/College Preparation (HSB4M)**

**Social Change**

**Forces That Influence Social Change**
  – demonstrate an understanding of how social change is influenced by poverty and affluence (e.g., consequences of unequal access to personal computers or higher education)

**Social Trends**

**Trends Related to the Baby Boom and Echo Boom**
  – demonstrate an understanding of the social impact of the baby boom and echo boom (e.g., on … pensions, … entrepreneurial and employment opportunities)

**Social Challenges**

**Challenges Facing Canadians in a Global Context**
  – analyse, from a Canadian perspective, the social structures that support, and those that weaken, global inequalities (e.g., literacy, poverty, new technologies)

See the Preface for important information on the organization of the following material.

All courses in the technological education curriculum are concerned with the connections between technology and society, including the economy. In addition, all technology courses include a strand entitled Professional Practice and Career Opportunities. In this strand, students explore career opportunities in the field and consider the ways in which their financial needs can be met by pursuing careers connected to their interests, skills, and aptitudes. In the Professional Practice and Career Opportunities strand, rather than including all specific expectations given under Career Opportunities, only the overall expectation has been included.

Exploring Technologies, Grade 9, Open (TIJ1O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.3 describe economic, ecological, social, and safety considerations facing consumers when they make choices between particular products or services (e.g., natural versus synthetic materials, renewable versus non-renewable resources; inexpensive products created in developing countries versus more costly products created domestically; higher-priced products with additional safety features versus less costly products without them)

C2.5 describe how social and economic factors influence the development and use of technology (e.g., high fuel prices and safety concerns influence automotive design, rotating blackouts speed the development of energy alternatives, people’s desire to be connected with family and friends drives telephone and wireless device design)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify careers in various technological fields, and describe the educational requirements for them

Communications Technology, Grade 10, Open (TGJ2O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.2 describe the effects of recent changes in communications technology and applications on society and the economy (e.g., effects arising from the use of devices such as cellular phones, personal digital assistants [PDAs], and portable media players and from the emergence of computer-based social networks, user-generated web content such as wikis and blogs, and easy-to-download music file formats)
C2.3 identify emerging communications technologies and describe their potential impact on society and the economy
C2.4 describe legal concepts and issues relating to communications technology and media production (e.g., copyright, privacy rights, consent)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify career opportunities in communications technology and demonstrate an understanding of the skills, work habits, education, and training required for entry into postsecondary programs or employment in these fields

Computer Technology, Grade 10, Open (TEJ2O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.2 describe how computers are used in various occupations (e.g., engineering calculations, architectural drawings, customer tracking and business data collection, navigation of airplanes and ships), and what work in these occupations would be like without computers

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. identify various careers related to computer technology, and describe the education and/or training required for them

Construction Technology, Grade 10, Open (TCJ2O)

D. Technology, the Environment, and Society

D2. Technology and Society
D2. describe ways in which the construction industry affects society
D2.1 identify the economic and social effects of the construction industry on society (e.g., local primary and secondary employment opportunities, quality of life; ...)
D2.2 describe the economic and social consequences of recent changes in the construction industry (e.g., the effects of automation, manufactured housing, and globalization on employment and costs)

E. Professional Practice and Career Opportunities

E2. Career Opportunities
E2. identify career opportunities in the construction industry, and describe the training required for these careers
Green Industries, Grade 10, Open (THJ2O)

**C. Technology, the Environment, and Society**

C2. Technology and Society
C2.1 describe the societal and economic implications of recent innovations and trends in the green industries (e.g., mechanization and its effects on productivity and employment, expanded distribution systems and their consequences for consumer choice and local production, transgenic plants and their effects on food cost and availability)

C3. Local Industries
C3.3 describe the effects of local green industries on the community (e.g., effects on employment, water and air quality, leisure opportunities, ...; availability of locally produced specialty products)

**D. Professional Practice and Career Opportunities**

D2. Career Opportunities
D2. identify careers in the green industries and describe the skills, education, and training required for entry into these positions

Hairstyling and Aesthetics, Grade 10, Open (TXJ2O)

**D. Professional Practice and Career Opportunities**

D2. Career Opportunities
D2. describe career opportunities in hairstyling and aesthetics, including relevant secondary and postsecondary educational pathways, and identify key knowledge, skills, attitudes, and habits that are important for success in the industry

Health Care, Grade 10, Open (TPJ2O)

**D. Professional Practice and Career Opportunities**

D2. Career Opportunities
D2. identify and describe career opportunities in health care and the postsecondary education and training required for entry into these occupations
Hospitality and Tourism, Grade 10, Open (TFJ2O)

C. Industry Practices, the Environment, and Society

C2. Industry Practices and Society
C2.1 explain the economic and social impact of the tourism industry (e.g., developing tourist facilities creates jobs; tourism can cause road congestion, pollution, and/or degradation of the environment; tourists bring money into the community)

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. identify career opportunities in the various sectors of the tourism industry and the education and training that would best prepare them for employment in various occupations in the industry

Manufacturing Technology, Grade 10, Open (TMJ2O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. demonstrate an understanding of ways in which the manufacturing industry affects society
C2.1 describe the past and present effects of manufacturing on society (e.g., changes in work environments and lifestyle brought about by the Industrial Revolution, rising standards of living, widespread availability of consumer goods, effect of resource extraction on Aboriginal communities, effect on developing countries that accept industrialized countries’ waste), and predict how manufacturing will affect society in the future
C2.2 identify the economic benefits that the manufacturing industry can provide at the local and provincial levels
C2.3 evaluate from various perspectives (e.g., safety, technical, financial, environmental, ethical) the effects of new and emerging manufacturing technologies (e.g., wireless technology in cell phones and personal digital assistants [PDAs], improved materials and design in sports equipment that offer better protection, collision avoidance safety feature on motor vehicles) on culture and society

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. describe career opportunities in the manufacturing industry and the education and training required for these careers
Technological Design, Grade 10, Open (TDJ2O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 describe how society influences the development and use of technology (e.g., environmental awareness leads to increased use of alternative energy sources)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify careers related to technological design, and the education and training required for them

Transportation Technology, Grade 10, Open (TTJ2O)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.3 explain the pros and cons of various means of transporting people/materials (e.g., by road [bicycle, car, bus, truck], rail, air, water) in terms of economy, safety, convenience, and so on

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify career opportunities in the transportation industry and the education and training required for them

COMMUNICATIONS TECHNOLOGY, GRADES 11 AND 12

Communications Technology, Grade 11, University/College Preparation (TGJ3M)

B. Communications Technology Skills

B1. Project Management
B1.1 describe the roles that are required for effective management of team-based projects (e.g., scheduler, budget controller, secretary/coordinator) and apply coordination techniques (e.g., meeting regularly to review progress and make decisions, forming task groups to deal with special issues)

B2. Problem Solving
B2.2 define project objectives and performance criteria precisely and in adequate detail, and identify constraints such as cost, time, or technology restrictions that will limit design or problem-solving options
C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 describe the impact of current communications media technologies on the environment (e.g., increased energy consumption, disposal of electronic equipment and batteries, ...)

D. Professional Practice and Career Opportunities

D2. Professional Standards and Ethics
D2.1 demonstrate an understanding of and adhere to laws applicable to creative content (e.g., laws governing copyright and other creative property rights, domain names, privacy, defamation)
D2.2 describe privacy and security issues related to the use of communications media technology
D2.3 demonstrate an understanding of and adhere to ethical standards relating to the creation of media products (e.g., restrictions on appropriation of content and image manipulation) and to their dissemination (e.g., honesty in advertising)

D3. Career Opportunities
D3. identify careers in communications technology for which postsecondary education is required or advantageous, and describe college and university programs that prepare students for entry into these occupations

Communications Technology: Broadcast and Print Production, Grade 11, Open (TGJ3O)

C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.2 describe ways in which environmental problems are being or can be addressed by the audio, video, broadcast journalism, graphic arts, and printing industries (e.g., using energy-efficient equipment, upgrading rather than replacing obsolete equipment, recycling equipment slated for disposal, using environmentally friendly inks and environmentally responsible press cleanup methods, using the persuasive power of the media to promote environmental stewardship, environmental certification of operations [EcoLogo, ISO 14001])

C2. Technology and Society
C2.2 identify legal and ethical issues related to communications media production (e.g., copyright, respect of privacy and personal information)
C2.3 identify recent innovations in audio, video, broadcast journalism, graphic arts, and printing technologies (e.g., increasing affordability and ease of use of high-quality equipment; development of software for performing complex tasks) and describe their social and economic effects (e.g., new opportunities for small businesses to produce CDs, videos, and other products; weakening of the traditional newspaper and magazine market; new opportunities to reach specialized audiences through short-run publishing; new opportunities for Aboriginal or other ethnocultural or social groups to promote their culture and points of view; decline of old technology businesses and rise of new technology businesses)
D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify careers in audio and video production, broadcast journalism, graphic arts, and printing and publishing, and describe the skills, work habits, education, and training required for entry into employment in these fields

Communications Technology, Grade 12, University/College Preparation (TGJ4M)

B. Communications Technology Skills

B2. Problem Solving
B2.2 define project objectives and performance criteria precisely and in adequate detail, and assess the effects of constraints such as cost, time, or technology restrictions that will limit design or problem-solving options

C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 analyse the environmental costs and benefits, local and global, of recent innovations in communications technology (e.g., costs and benefits related to resource usage, energy demand, waste disposal, toxic substances, radiation, air and water pollution)

C2. Technology and Society
C2.2 evaluate the societal and cultural effects of converging and emerging technologies (e.g., in digital imaging, interface design, interactive media) from various perspectives (e.g., the head of an established business, an entrepreneur, a media worker, a consumer)

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. demonstrate an understanding of career opportunities and career development in a rapidly changing technological environment, and maintain a portfolio of their work as evidence of their qualifications for future education and employment
Communications Technology: Digital Imagery and Web Design, Grade 12, Open (TGJ4O)

B. Communications Technology Skills

B2. Problem Solving

B2.1 apply the steps in a design process to develop solutions to creative challenges (e.g., define the problem or challenge, taking into account relevant contextual or background information; define project objectives and criteria and identify constraints such as cost, time, or technology limitations; gather information and generate possible solutions using techniques such as brainstorming; evaluate possible solutions and apply the one that most effectively meets the objectives and criteria within the existing constraints)

C. Technology, the Environment, and Society

C1. Technology and the Environment

C1.2 describe ways in which environmental problems are being or can be addressed by the photographic, digital imaging, animation, 3D modelling, and web design industries (e.g., use of rechargeable batteries; reduction of packaging; recycling of paper, toner and ink cartridges; use of energy-efficient equipment; upgrading rather than replacing obsolete equipment; recycling equipment slated for disposal; environmental certification of operations [EcoLogo, ISO 14001])

C2. Technology and Society

C2.2 identify legal and ethical issues applicable to communications media production (e.g., copyright, respect of privacy and personal information)

C2.3 identify recent innovations in photography, digital imaging, animation, 3D modelling, and web design technology (e.g., replacement of film photography by digital photography, web publication as an alternative to print publication, development of software for performing complex tasks), and describe their social and economic effects (e.g., decline of film manufacturing and related businesses; changes in the professional photography market; new opportunities to reach specialized or mass audiences via the Internet; increased access to information; new ways for individuals and communities to interact socially, to share information, ideas, and creative work, and to influence public opinion; rapid product obsolescence; shifting job opportunities)

D. Professional Practice and Career Opportunities

D2. Career Opportunities

D2. identify careers in photography, digital imaging, animation, 3D modelling, and web design, and describe the skills, work habits, education, and training required for entry into employment in these fields.
C. Technology, the Environment, and Society

C1. Technology and the Environment
C1. describe environmental issues related to the widespread use of computers and associated technologies
C1.1 describe the effects of computer and electronic technology on the environment (e.g., accumulation of electronic waste, including lead and other toxic materials used in computers; ... energy consumed by computers left in standby mode; fuel consumption and air pollution reduced by computerized traffic-control systems)

C2. Technology and Society
C2. describe societal issues related to the widespread use of computers and associated technologies
C2.1 describe the benefits of computer and electronic technology for society (e.g., greater efficiency and lower costs for information services, improved access to technology for economically disadvantaged people and nations, ...)
C2.2 describe some of the drawbacks of computer and electronic technology for society (e.g., loss of privacy, infringement of intellectual property rights through unlicensed copying and electronic distribution, ... telemarketing, Internet gambling addictions)

D. Professional Practice and Career Opportunities

D2. Ethics and Security
D2. describe ethical and security issues related to the use of computers
D2.2 explain the importance of and comply with software licensing legislation (e.g., copyright and patent acts)
D2.3 explain the importance of security (e.g., password protection, encryption) for confidential data and other sensitive electronic information (e.g., to protect against industrial espionage or identity theft)

D3. Career Opportunities
D3. describe various careers related to computer technology and electronics, and the entry requirements for these careers

Computer Technology, Grade 11, Workplace Preparation (TEJ3E)

B. Computer Technology Skills

B1. Hardware Solutions
B1.2 compare availability and costs for hardware from local, national, and/or global suppliers
C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 describe the effects of computer technology on the environment (e.g., accumulation of electronic waste, use of lead and other toxic materials in computers, ... energy consumed by computers left in standby mode, energy saved by use of programmable thermostats)

C2. Technology and Society
C2. describe societal issues related to the widespread use of computer technology
C2.1 describe the benefits of computer technology for society (e.g., cheaper and more efficient information services, telecommuting, ...)
C2.2 describe the drawbacks of computer technology for society (e.g., Internet gambling addictions, more sedentary lifestyle, spam, telemarketing, loss of privacy)

D. Professional Practice and Career Opportunities

D2. Ethics and Security
D2. describe ethical and security issues related to the use of computers
D2.1 comply with acceptable-use policies for computers (e.g., restrictions on commercial or personal use, ... protection of privacy and intellectual property rights)
D2.2 explain how copyright legislation applies to computer software and media content, and follow proper licensing and registration procedures for such material (e.g., rights: copyright, open source, public domain; licences: shareware, retail, copyleft such as Creative Commons and GNU)
D2.3 explain the importance of passwords, security software updates, and protection of personal information and client data

D5. Career Opportunities
D5. describe opportunities for careers and training related to computer technology

Computer Engineering Technology, Grade 12, University/College Preparation (TEJ4M)

C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 assess the effects of computer and electronics technology on the environment (e.g., hazardous materials contained in computer components, use of energy and other resources, fuel consumption and air pollution reduced by computerized traffic-control systems)

C2. Technology and Society
C2. analyse societal issues related to the widespread use of computers and associated technologies
C2.1 assess the benefits of computer and electronic technology for society (e.g., improved access to technology for economically disadvantaged people and nations; greater efficiency and lower costs for information services; ...)

Technological Education 183
C2.2 assess the drawbacks of computer and electronics technology for society (e.g., Internet gambling addictions, more sedentary lifestyle, spam, telemarketing, loss of privacy, infringement of intellectual property rights through unlicensed copying and electronic distribution)

D. Professional Practice and Career Opportunities

D2. Ethics and Security
D2. describe ethical and security issues related to the use of computers and related technology
D2.1 describe the components of an acceptable-use policy for computers, cellular technology, PDAs, and/or other electronic devices (e.g., ... protection of intellectual property rights, ...)
D2.2 outline a purchasing policy for computers, taking ethical issues into account (e.g., the environment, human rights, child labour)
D2.3 describe methods to safeguard confidential data and other sensitive electronic information (e.g., password protection, encryption, biometrics, behaviometrics, steganography)

D3. Career Opportunities
D3. assess career opportunities related to computer technology and electronics, and explain the importance of postsecondary education and lifelong learning in the computer technology industry

Computer Technology, Grade 12, Workplace Preparation (TEJ4E)

C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 assess the effects of computer technology on the environment (e.g., leakage of hazardous substances from obsolete computers dumped in landfills or improperly recycled; increased energy use; benefits of computer-controlled heating and cooling systems)

C2. Technology and Society
C2. analyse societal issues related to the widespread use of computer technology
C2.1 analyse the benefits of computer technology for society (e.g., improved access to technology for economically disadvantaged people and nations, greater efficiency and lower costs for information services, ...)
C2.2 analyse the drawbacks of computer technology for society (e.g., Internet gambling addictions, ... telemarketing, ...)

D. Professional Practice and Career Opportunities

D2. Ethics and Security
D2. describe ethical and security issues related to the use of computers
D2.1 describe the components of an acceptable-use policy for computers (e.g., restrictions on commercial or personal use, ... protection of privacy and intellectual property rights)
D2.2 explain the reasons for software licensing agreements and registration procedures
D2.3 explain the importance of computer security (e.g., passwords, security software updates, protecting personal identity information and client data)

D5. Career Opportunities
D5. describe opportunities for careers and training related to computer technology, and explain the need for lifelong learning in the computer technology industry

CONSTRUCTION TECHNOLOGY, GRADES 11 AND 12

Construction Engineering Technology, Grade 11, College Preparation (TCJ3C)

B. Design, Layout, and Planning Skills

B4. Mathematical Skills
B4.3 prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units (e.g., metres, square metres, litres, board feet, linear feet, square feet, cubic yards)

D. Technology, the Environment, and Society

D1. Technology and the Environment
D1.1 plan projects and processes to minimize waste (e.g., use efficient cutting patterns, reuse and recycle leftover materials)
D1.2 identify and describe environmentally friendly building practices (e.g., high-efficiency heating and cooling, renewable energy technologies, reuse of grey water, use of materials produced from sustainable resources)
D1.4 describe ways of reducing and/or managing energy consumption in the home (e.g., smart meters, energy-efficient lighting, timers, heat-recovery ventilators)

D2. Technology and Society
D2.1 describe the economic and social effects of the construction industry (e.g., land use, creation of primary and secondary jobs, transportation of equipment and materials; ...)
D2.3 describe how societal and client needs (e.g., budget constraints, barrier-free access, energy efficiency, cultural practices) affect construction projects

E. Professional Practice and Career Opportunities

E2. Career Opportunities
E2. describe career opportunities in the construction industry, and the importance of lifelong learning for these careers
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)

A. Construction Technology Fundamentals

A4.3 estimate the quantities and costs of materials for construction projects, using appropriate metric and imperial units (e.g., metres, square metres, cubic metres, board feet, linear feet, square feet, cubic yards), and estimate the labour costs for these projects.

D. Technology, the Environment, and Society

D1. Technology and the Environment
D1.1 compare the efficiency and environmental effects of a variety of energy sources used in residential dwellings (e.g., solar, ground source, pellets, propane, wood, oil, natural gas, wind).
D1.2 plan projects and processes to minimize waste (e.g., use efficient cutting patterns, reuse and recycle leftover materials).
D1.3 identify ways of reducing energy consumption in the home (e.g., heat recovery ventilator, tankless water heater, timers, energy-efficient lighting).

D2. Technology and Society
D2.1 identify how societal and client needs (e.g., budget constraints, barrier-free access, energy efficiency, cultural preferences) affect construction projects.
D2.3 identify the economic and social effects of the construction industry on a community or region (e.g., direct and indirect effects on employment, waste disposal, land use, water supply, Aboriginal land claims and traditional hunting).

E. Professional Practice and Career Opportunities

E2. Career Opportunities
E2. describe career opportunities in the construction industry, and explain the importance of lifelong learning for these careers.

Custom Woodworking, Grade 11, Workplace Preparation (TWJ3E)

B. Design, Layout, and Planning Skills

B4. Mathematical Skills
B4.5 prepare estimates of quantities and costs of materials required to complete woodworking projects, using appropriate metric and/or imperial units (e.g., metres, square metres, litres, board feet, linear feet, square feet).
D. Technology, the Environment, and Society

D1. Technology and the Environment
D1.1 describe the major effects of the woodworking industry on the environment (e.g., costs and benefits related to forest management; non-sustainable logging that causes deforestation, destruction of old-growth forests, and/or loss of wilderness habitat for endangered species; water and air pollutants released during the production of manufactured materials; energy required to produce and transport materials for woodworking)
D1.4 plan projects and use materials to minimize waste (e.g., use efficient cutting patterns, reuse or recycle leftover materials)

D2. Technology and Society
D2.2 describe the economic and cultural effects of the custom woodworking industry (e.g., creation of jobs within the community, opportunity to preserve and/or apply traditional designs) on a specific community or population (e.g., Mennonite, Aboriginal)
D2.3 describe how societal needs and client preferences (e.g., budget restraints; ...) affect custom woodworking projects

E. Professional Practice and Career Opportunities

E2. Career Opportunities
E2. identify career opportunities in custom woodworking, and describe the training required for these careers

Construction Engineering Technology, Grade 12, College Preparation (TCJ4C)

B. Design, Layout, and Planning Skills

B5. Mathematical Skills
B5.4 prepare detailed, accurate estimates of the quantities and costs of materials required for construction projects (e.g., concrete, aggregate, reinforcing steel, asphalt, lumber, roofing, interior and exterior finishes)

D. Technology, the Environment, and Society

D1. Technology and the Environment
D1.1 plan projects and construction processes to minimize waste (e.g., use efficient cutting patterns, reuse leftover material)
D1.2 describe the costs and benefits of environmentally friendly building practices (e.g., high-efficiency heating and cooling, renewable energy technologies, reuse of grey water, use of materials produced from sustainable resources)
D1.3 compare ways of reducing the environmental footprint of construction projects through the choice of energy sources (e.g., solar, geothermal, wind), building design (e.g., extra insulation, high-efficiency heating systems, green roof), and construction processes (e.g., use of recycled material, fuel-efficient equipment)
D2. Technology and Society
D2.1 research and assess the economic and social effects of the construction industry (e.g., creation of primary and secondary jobs, transport of materials, ... resource management, ...)
D2.3 describe how provincial and municipal regulations affect the design and cost of construction projects and influence how the construction industry meets societal needs

E. Professional Practice and Career Opportunities
E2. Career Opportunities
E2. demonstrate an understanding of careers in the construction industry and the education, training, and workplace skills required for these careers

Construction Technology, Grade 12, Workplace Preparation (TCJ4E)

A. Construction Technology Fundamentals
A4.4 prepare detailed estimates of quantities and costs of materials for construction projects (e.g., concrete, lumber, roofing, millwork, finishes), and of labour costs for these projects

B. Design, Layout, and Planning Skills
B1. Design and Planning
B1.3 compare design considerations for a residential property with those for a light commercial property (e.g., client needs and budget, ... energy efficiency)

D. Technology, the Environment, and Society
D1. Technology and the Environment
D1.1 assess environmentally friendly alternatives for building systems (e.g., heating with solar energy, heat pumps, or geothermal systems; reusing grey water; harvesting rainwater; ...)
D1.3 compare ways of reducing and/or managing energy consumption in homes and businesses (e.g., smart meters, timers, skylights, heat recovery, energy-efficient lighting)

D2. Technology and Society
D2.1 identify the economic and social effects of the construction industry (e.g., waste disposal, land use, labour supply and cost, water supply, local infrastructure)
D2.3 assess the societal and cultural impact of construction-related emerging technologies from various perspectives (e.g., Aboriginal, safety, technical, financial, business)
E. Professional Practice and Career Opportunities

E2. Construction Business
E2. describe the organization and management of construction companies and the entrepreneurial skills needed to establish a successful construction business
E2.3 identify factors to be considered when starting a construction company (e.g., potential clients, product offered, competition, start-up costs, business plan)

E3. Career Opportunities
E3. describe the skills and training required for careers in the construction industry

Custom Woodworking, Grade 12, Workplace Preparation (TWJ4E)

B. Design, Layout, and Planning Skills

B1. Design
B1.3 demonstrate how the overall design of a project is affected by design concepts and other factors (e.g., structure, ergonomics, aesthetics, cost and availability of materials, customer needs)
B1.5 explain the reasons for choosing particular materials for various woodworking projects (e.g., strength, cost, ease of use, availability, environmental considerations)

B4. Mathematical Skills
B4.5 prepare detailed, accurate estimates of quantities and costs of materials for woodworking projects (e.g., lumber, hardware, finishes), and of labour costs for these projects

D. Technology, the Environment, and Society

D1. Technology and the Environment
D1.3 plan projects and apply strategies to minimize or mitigate degradation of the environment (e.g., use efficient cutting patterns, reuse and recycle leftover materials, select sustainably produced products, contribute to restoration plans, purchase carbon offsets)

D2. Technology and Society
D2.2 assess economic and societal issues related to the custom woodworking industry (e.g., waste disposal, labour supply, ... imports and exports, use of renewable and non-renewable resources)

E. Professional Practice and Career Opportunities

E2. Custom Woodworking Business
E2. describe the knowledge and skills important for success in a custom woodworking business
E2.1 describe the skills important for success as an entrepreneur in the custom woodworking industry (e.g., communication, organization, creativity, problem solving)
E2.2 describe the factors that should be considered when starting and/or operating a custom woodworking business (e.g., potential market, products, competition, financing, business plan)

E2.3 identify and compare the organization and management of unionized and non-unionized custom woodworking companies (e.g., role of lead hand, shop steward, and contractor)

E2.4 identify various types of business structures (e.g., sole proprietorship, partnership, limited company)

E3. Career Opportunities
E3. demonstrate an understanding of careers in the custom woodworking industry, and the skills, education, and training required for these careers

GREEN INDUSTRIES, GRADES 11 AND 12

Green Industry Fundamentals, Grade 11, University/College Preparation (THJ3M)

A. Green Industry Fundamentals

A4. Technological and Mathematical Literacy and Communication Skills
A4.3 describe commercial and technical issues of current significance in the green industries (e.g., adoption of innovative technologies, marketing boards versus open markets, food safety testing), using information from industry sources (e.g., trade publications and websites, marketing boards, growers’ associations)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. analyse social and economic relationship and issues involving the green industries
C2.1 describe linkages between local communities and economies and the green industries (e.g., consumer needs and green industry goods and services, green industries as sources of jobs and tax revenues, communities as providers of services to green industries and as regulators of green industry activities)

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. identify careers in the green industries, and describe the skills, education, and training required for entry into these occupations
Green Industry Fundamentals, Grade 11, Workplace Preparation (THJ3E)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. describe social and economic relationships and issues involving the green industries
C2.1 identify linkages between local communities and economies and the green industries (e.g., consumer needs and green industry goods and services, green industries as sources of jobs and tax revenues, communities as providers of services to green industries and as regulators of green industry activities)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify careers in the green industries, and describe the skills, education, and training required for entry into these occupations

Green Industries, Grade 12, University/College Preparation (THJ4M)

A. Green Industry Fundamentals

A4. Technological and Mathematical Literacy and Communication Skills
A4.4 analyse commercial or technical issues of current significance in the green industries, using information from media and industry sources (e.g., marketing boards, industry organizations, commodity websites, trade publications, news reports)
A4.5 accurately perform complex measurements and calculations required for advanced applications in the green industries (e.g., ... pricing, surveys, economic forecasts, ...)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. analyse social, economic, and cultural relationships involving the green industries
C2.1 analyse ways in which the green industries are affected by the social, economic, and cultural characteristics of the communities in which they operate (e.g., relations with Aboriginal communities, ethnic preferences and demands for specialized food products, income distribution and demand for landscaping services and horticultural products, age profile of community and requirements for different types of outdoor recreation facilities)
C2.2 assess the economic importance of linkages between the green industries and related industries and technologies (e.g., agriculture: food processing industry, farm implement industry; horticulture: shipping industry, event-related businesses [funeral homes, wedding planners]; landscaping: recreational industries, small-engine industry; forestry: heavy equipment industry, paper-consuming industries such as newspapers)
D. Professional Practice and Career Opportunities

D2. Business and Regulatory Environment
D2.2 explain economic principles, concepts, and arrangements that affect operations in the green industries (e.g., transportation routes, bonuses, quota system, free trade, treaties, supply and demand)

D3. Career Opportunities
D3. identify careers in the green industries that require postsecondary education, and describe the qualifications required for entry into these occupations

Green Industries, Grade 12, Workplace Preparation (THJ4E)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. describe social, economic, and cultural relationships involving the green industries
C2.1 describe ways in which the green industries are affected by the social, economic, and cultural characteristics of the communities in which they operate (e.g., relations with Aboriginal communities, ethnic preferences and demands for specialized food products, income distribution and demand for landscaping services and horticultural products, age profile of community and requirements for different types of outdoor recreation facilities)

D. Professional Practice and Career Opportunities

D2. Business and Regulatory Environment
D2.2 identify basic economic concepts and principles that affect operations in the green industries (e.g., cost of production and transportation, supply and demand)

D3. Career Opportunities
D3. identify careers in the green industries, and describe the skills, education, and training required for entry into these occupations

HAIRSTYLING AND AESTHETICS, GRADES 11 AND 12

Hairstyling and Aesthetics, Grade 11, Workplace Preparation (TXJ3E)

A. Hairstyling and Aesthetics Fundamentals

A3.3 identify effective advertising and management strategies (e.g., appeal to new client groups, including diverse populations) and new products, tools, and equipment that can be used to support and enhance salon/spa operations
A3.4 identify a range of visual display techniques that are used in the hairstyling and aesthetics industry to attract clients (e.g., window/display showcases, holiday themes and promotions) and compare their effectiveness in different retail and service contexts
D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify and describe a variety of career opportunities and related training and education requirements in the hairstyling and aesthetics industry

Hairstyling and Aesthetics, Grade 12, Workplace Preparation (TXJ4E)

A. Hairstyling and Aesthetics Fundamentals

A3. demonstrate an understanding of effective business practices and strategies for salon/spa operators, managers, and owners
A3.1 identify the business and entrepreneurial procedures involved in operating and/or opening a business in the hairstyling and aesthetics industry (e.g., developing a business plan, arranging a lease and contracts, registering the business, managing commissions, controlling inventory, arranging insurance coverage)
A3.2 describe marketing techniques and strategies used in the hairstyling and aesthetics industry and evaluate their effectiveness
A3.3 identify and describe a variety of uses of computer software in the hairstyling and aesthetics industry (e.g., for design/image makeover, scheduling, billing, marketing)
A3.4 identify important requirements of professional ethics and customer relations in the hairstyling and aesthetics industry (e.g., client confidentiality, use of approved products and equipment, use of accredited employees, ...) and explain the legal and business implications of non-compliance with these requirements (e.g., loss of business, loss of reputation, potential lawsuits for violating privacy laws)
A3.5 explain the importance of literacy skills ... and mathematical skills (e.g., for measuring application amounts, calculating cash transactions and commissions, budgeting, accounting) in the hairstyling and aesthetics industry

B. Hairstyling and Aesthetics Skills

B3. Meeting the Needs of a Client
B3.5 use money-management and recordkeeping skills (e.g., for tracking commissions, tips, taxes, retail transactions, appointments, inventory) to ensure that hairstyling and aesthetics services are provided in a businesslike manner

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify and describe career opportunities and related training and education requirements in the hairstyling and aesthetics industry
**HEALTH CARE, GRADES 11 AND 12**

Health Care, Grade 11, University/College Preparation (TPJ3M)

**C. Health Care, the Environment, and Society**

C2. Health Care and Society
C2.2 research and analyse the relationship between socio-economic status and health (e.g., differences in various health parameters among children aged 4 to 6 from different socio-economic backgrounds)

**D. Professional Practice and Career Opportunities**

D3. Career Opportunities
D3. describe career opportunities in the health care field and related educational requirements

Health Care, Grade 11, College Preparation (TPJ3C)

**C. Health Care, the Environment, and Society**

C2. Health Care and Society
C2.2 explain the relationship between socio-economic status and health (e.g., differences in various health parameters among children aged 4 to 6 from different socio-economic backgrounds)

**D. Professional Practice and Career Opportunities**

D3. Career Opportunities
D3. describe career opportunities in the health care field and related educational requirements

Health Care, Grade 12, University/College Preparation (TPJ4M)

**D. Professional Practice and Career Opportunities**

D3. Career Opportunities
D3. demonstrate an understanding of the range of career opportunities in conventional and alternative therapy fields

Health Care, Grade 12, College Preparation (TPJ4C)

**D. Professional Practice and Career Opportunities**

D3. Career Opportunities
D3. demonstrate an understanding of career opportunities in conventional and alternative therapy fields
Child Development and Gerontology, Grade 12, College Preparation (TOJ4C)

C. Health Care, the Environment, and Society

C2. Health Care and Society
C2.2 evaluate the impact of emerging technologies on children and older adults (e.g., improved design of diapers or incontinence products, new skin care products, video monitoring from a remote site, electronic lifts) from various perspectives (e.g., safety, improvement or reduction in quality of life, financial or business implications, opportunities for more effective action for improved health care)
C2.3 describe how changing population patterns will affect society (e.g., decrease in child cohort resulting in excess capacity in schools, increase in elderly cohort resulting in increased demand for different levels of care)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. describe careers in child care, geriatric care, and related fields, as well as the education and/or training requirements for them

Health Care: Support Services, Workplace Preparation (TPJ4E)

D. Professional Practice and Career Opportunities

D2. Professional Standards
D2.2 describe the professional and ethical standards that health care workers are expected to adhere to (e.g., accountability, ...)

D4. Career Opportunities
D4. describe career opportunities in the health care field and their related educational requirements

HOSPITALITY AND TOURISM, GRADES 11 AND 12

Hospitality and Tourism, Grade 11, College Preparation (TFJ3C)

B. Hospitality and Tourism Skills

B3. Marketing and Promoting an Event or Activity
B3. design effective marketing initiatives to promote an event or activity
B3.1 identify a customer target group (e.g., students, family members, senior citizens) for an event or activity and determine the needs and wants of this target group (e.g., with regard to timing, budget, menu, facilities, location)
B3.2 develop a marketing strategy that is appropriate to the target group and the event or activity
B3.3 design an advertising and/or promotional tool (e.g., picture, slogan, announcement, giveaway) that aligns with their approved marketing strategy
C. Industry Practices, the Environment, and Society

C1. Industry Practices and the Environment
C1.3 explain how the relationship between food producers and food consumers affects the environment (e.g., production of organic foods in response to consumer demand results in less use of chemical fertilizers and pesticides; the Slow Food movement supports local food production and the continuing use of traditional food products; culinary tourism increases consumer awareness of and helps to support traditional food producers in many parts of the world)

C2. Industry Practices and Society
C2.1 describe how various sectors of the tourism industry (e.g., accommodations, food and beverage services) address needs and preferences arising from the cultural and religious diversity of their customers, and assess the effect this has on communities hosting tourist destinations
C2.2 describe ways in which the tourism industry can affect the economy of a community (e.g., multiplier effect – opening a new business creates secondary jobs, which in turn encourages further business activity; necessary leakage – much of the money spent by tourists [such as air fares] remains in the originating market or goes to tourism-related businesses outside the community)

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. identify career opportunities in the tourism industry and the individual personality traits and skills important for success in these careers

Hospitality and Tourism, Grade 11, Workplace Preparation (TFJ3E)

C. Industry Practices, the Environment, and Society

C2. Industry Practices and Society
C2.1 describe the social and economic impact of new products and technologies used in the food and beverage services sector (e.g., marketing of organic and genetically modified foods has raised consumer awareness of health and environmental issues; use of combination ovens has reduced labour costs and product wastage; advances in wireless technology have increased the popularity of Internet cafés)
C2.2 explain how the food and beverage services sector can affect the economy of a community (e.g., businesses in the sector create jobs and attract visitors; tourist spending supports the community) and how these effects can vary with changes in economic conditions (e.g., exchange rate fluctuations can encourage or discourage tourist travel and thus affect the number of visitors to the community; an economic downturn can result in reduced spending on hospitality and tourism-related activities, which can lead to a loss of jobs in the community)
D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. identify a range of careers in the food and beverage services sector of the tourism industry and the education and training that would best prepare them for these careers.

Hospitality and Tourism, Grade 12, College Preparation (TFJ4C)

B. Hospitality and Tourism Skills

B4. Managing an Event or Activity
B4.1 identify factors that determine the parameters of an event or activity (e.g., size, cost, location, timing) and factors that are critical for its success.

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. describe a range of career opportunities and the education and training required for employment in various sectors of the tourism industry.

Hospitality and Tourism, Grade 12, Workplace Preparation (TFJ4E)

C. Industry Practices, the Environment, and Society

C2. Industry Practices and Society
C2.1 explain the importance of the tourism industry at the local level (e.g., tourism can support local economies, create local jobs, preserve local culture, and/or provide funds for infrastructure development and social and recreational programs).
C2.2 explain how food and beverage services facilities benefit the local job market (e.g., by creating a range of entry-level jobs, providing experiential learning opportunities in hospitality and tourism-related businesses, having a ripple effect on other areas of the job market).

D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. describe the range of career opportunities and the education and training required for employment in the food and beverage services sector of the tourism industry.
C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 demonstrate an understanding of ways in which the manufacturing industry affects society
C2.1 describe the social and economic consequences that a manufacturing activity can have or has had on individuals and society, including Aboriginal communities
C2.2 explain how the manufacturing industry affects the local and provincial economy (e.g., with respect to job creation, standards of living, sustainability and conservation of the environment, impact on First Nation communities)
C2.3 describe recent trends in the local manufacturing industry (e.g., globalization, rise in energy costs, increase in environmental awareness) and their effect on the local community or the province as a whole, and predict future trends

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. demonstrate an understanding of postsecondary pathways that lead to career opportunities in the manufacturing industry

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 explain how the manufacturing industry affects the local and provincial economy (e.g., with respect to job creation, standards of living, ...)
C2.2 describe how the manufacturing industry responds to changes in the global economy (e.g., fluctuating currencies, trade agreements, fluctuating demand in other countries) and how this response affects the local community and/or the province as a whole (e.g., in terms of economic opportunities or risks for the local and/or provincial population)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. demonstrate an understanding of career opportunities in the manufacturing industry and the education, training, and certification required for these careers
Manufacturing Technology, Grade 11, Workplace Preparation (TMJ3E)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. explain how the manufacturing industry affects various aspects of society
C2.1 explain how the manufacturing industry affects the economy of their community or region
C2.2 explain how manufacturing affects people’s daily lives
C2.3 identify ways in which the manufacturing industry affects the culture and society of a community or region (e.g., by creating employment opportunities; supporting social and cultural activities in the community; increasing industrial activity in the community/region, which some people may see as a threat to their way of life and/or the environment)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. demonstrate an understanding of career opportunities in the manufacturing industry and the education, training, and certification required for these careers

Manufacturing Engineering Technology, Grade 12, University/College Preparation (TMJ4M)

A. Manufacturing Technology Fundamentals

A1.4 identify factors to be considered in estimating the cost of manufacturing a product (e.g., labour and materials, capital equipment, process costs, location/transportation) and explain their importance

B. Manufacturing Technology Skills

B2. Project Management
B2.2 demonstrate an understanding of the management of a manufacturing enterprise (e.g., set up and manage, in collaboration with others, a small-scale manufacturing enterprise; visit and document the activities of a local manufacturing enterprise) and its major areas of activity (e.g., research and development, production, marketing, and finance)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 explain how the globalization of the manufacturing industry affects the economy of the local community, the province of Ontario, and Canada as a whole
C2.3 assess the effects of emerging manufacturing technology industries on culture and society from various perspectives (e.g., safety, technical, financial, business)
D. Professional Practice and Career Opportunities

D3. Career Opportunities
D3. demonstrate an understanding of the postsecondary programs associated with manufacturing, and establish a personalized career pathway

Manufacturing Technology, Grade 12, College Preparation (TMJ4C)

B. Manufacturing Technology Skills

B2. Material Selection and Preparation
B2.2 demonstrate a working knowledge of factors affecting material selection (e.g., functionality, cost effectiveness, customer expectations, viability, availability)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. explain the importance of manufacturing to the economy and society
C2.1 explain how the local and/or provincial manufacturing industry has changed over time and describe the effects of these changes on the local and/or provincial economy and society
C2.2 explain how global economic shifts are reflected in the local and/or provincial manufacturing industry
C2.3 explain how apprenticeships, salaries, standards of living, and the role of skilled trades in society are interrelated
C2.4 assess the effects of emerging manufacturing technology industries on culture and society from various perspectives (e.g., safety, technical, financial, business)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. demonstrate an understanding of career opportunities in the manufacturing industry and the training and certification required for these careers

Manufacturing Technology, Grade 12, Workplace Preparation (TMJ4E)

B. Manufacturing Technology Skills

B2. Selection and Use of Materials
B2.2 select appropriate materials for a project based on identified criteria such as functionality, cost effectiveness, customer expectations, viability, availability, and sustainability
C. Technology, the Environment, and Society

C2. Technology and Society
C2. explain how the manufacturing industry affects society locally, provincially, and/or nationally
C2.1 describe the effect the manufacturing industry has on the local community and explain the advantages of manufacturing locally
C2.2 explain how the globalization of manufacturing industries affects Canadian society locally, provincially, and/or nationally (e.g., explain the effects of trade agreements, worker health and safety standards or the lack of such standards, environmental standards or the lack of such standards)
C2.3 demonstrate an understanding of the role and value of skilled trades in Canadian society (e.g., in terms of having a skilled and competitive workforce, employment opportunities, services provided)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. demonstrate an understanding of the postsecondary pathways leading to careers in manufacturing and the training and certification required for these careers

TECHNOLOGICAL DESIGN, GRADES 11 AND 12

Technological Design, Grade 11, University/College Preparation (TDJ3M)

A. Technological Design Fundamentals

A2. Research and Project Management
A2.2 research and describe strategies for the planning, organization, and management of human, material, and financial resources for a design project (e.g., strategies for ... selecting materials, estimating costs)

C. Technology, the Environment, and Society

C2. Technology and Society
C2. describe the relationship between society and technological development
C2.1 research and compare technological eras (e.g., agricultural, industrial, information), and describe ways in which societal needs influenced these eras

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify career opportunities in fields related to technological design, and describe the training and education required for these careers
Technological Design and the Environment, Grade 11, Open (TDJ3O)

B. Technological Design Skills

B1. Research, Planning, and Organization
B1.2 investigate and describe economic and environmental factors that should be considered during the design process

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 research and report on how society influences technology (e.g., higher energy costs spur development of more efficient vehicles, …)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. identify careers related to technological design, and describe the training and education required for these careers

Technological Design, Grade 12, University/College Preparation (TDJ4M)

A. Technological Design Fundamentals

A2. Research and Project Management
A2.2 describe strategies for organizing, planning, and managing the human, material, and financial resources for a design project and related activities, with an emphasis on advocacy of design ideas and rationales, diplomacy in dealing with clients and suppliers, and marketing of design solutions (e.g., … promoting and marketing innovative designs)

B. Technological Design Skills

B1. Researching and Managing Projects
B1.2 use project management methods and tools (e.g., checklists, templates, software, surveys, focus groups, questionnaires) to support, plan, and manage components (e.g., financial, labour, material) of design projects and related activities, with a view to incorporating effective advocacy and marketing principles in the process

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 independently research and report on political, economic, cultural, and/or environmental issues that affected technological innovations in the past
C2.2 describe examples of how culture, economics, and politics could influence the future design of products and/or processes (e.g., environmental awareness and rising costs for fossil fuels could increase the development and use of alternative energy sources)
D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. compare a variety of careers related to technological design, as well as the training and educational requirements for them, and maintain a portfolio of their work as evidence of their qualifications for further education and employment.

Technological Design in the Twenty-first Century, Grade 12, Open (TDJ4O)

A. Technological Design Fundamentals

A2. Research, Planning, and Organization
A2.2 describe strategies for the planning and management of human, material, and financial resources related to a design project (e.g., ... selecting materials, estimating costs)

B. Technological Design Skills

B3. Making and Testing Models and Prototypes
B3.3 analyse products and/or processes in terms of established criteria and constraints (e.g., appearance, durability, ease of use, cost, budgetary constraints, societal concerns and preferences)

C. Technology, the Environment, and Society

C2. Technology and Society
C2.2 describe how society influences technology (e.g., higher energy costs spur development of more efficient vehicles, ...)
C2.4 describe intellectual property rights related to the design of products (e.g., copyright, trademark, patent)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. investigate and describe a variety of careers related to technological design, and describe the training and education required for them.
TRANSPORTATION TECHNOLOGY, GRADES 11 AND 12

Transportation Technology, Grade 11, College Preparation (TTJ3C)

B. Transportation Technology Skills

B4. Challenges and Repair Problems
B4.4 identify issues related to a challenge or repair task (e.g., cost, availability of parts or materials, time required) and explain how these issues could affect the response to the challenge or the performance of the repair

C. Technology, the Environment, and Society

C1. Technology and the Environment
C1.1 describe the legislative requirements concerning the use of environmentally friendly products in the repair and service of vehicles or craft, and explain the costs and benefits of using such products

C2. Technology and Society
C2.2 describe the effects that increasing transportation costs (e.g., rising fuel costs, highway tolls, environmental taxes) have on society
C2.3 explain how current societal needs and preferences influence transportation technology (e.g., by creating a greater demand for vehicles with improved safety features, fuel efficiency, and emission levels)

D. Professional Practice and Career Opportunities

D2. Career Opportunities
D2. describe career opportunities in the transportation industry and the education and training required for them

Transportation Technology: Vehicle Ownership, Grade 11, Open (TTJ3O)

A. Vehicle Ownership Fundamentals

A3. Vehicle Loans and Insurance
A3. demonstrate an understanding of loans, leases, and insurance policies related to the purchase or lease of a vehicle
A3.1 identify appropriate resources for use in the selection of a vehicle loan or lease and insurance policy
A3.2 explain vehicle insurance coverage requirements and options (e.g., requirements: third-party liability coverage, statutory accident benefits coverage; options: collision or upset coverage, comprehensive coverage, loss of vehicle use coverage)
A3.3 explain the factors that affect the cost of vehicle insurance (e.g., age and model of vehicle, age and gender of policy holder, driving record)
A3.4 compare the overall cost of loans from various sources (e.g., banks, finance companies, private lenders)
A3.5 compare the advantages and disadvantages of purchasing versus leasing a vehicle (e.g., with regard to short-term and long-term costs, ownership, and responsibility for maintenance and repairs)
A3.6 describe the criteria financial institutions use to determine eligibility for a loan or lease (e.g., credit history, income, net worth)

D. Technology, the Environment, and Society

D2. Technology and Society
D2.2 describe the economic, environmental, and social effects that various aspects of the transportation industry have on a community (e.g., economic: new businesses encouraged by good transportation links; ...)
D2.3 assess from a consumer’s point of view the pros and cons (e.g., cost, availability, performance, reliability, emission levels) of various types of fuel/energy sources used to power vehicles (e.g., gasoline, propane, diesel, electrical/battery power, biodiesel, hybrid powerplant)

E. Professional Practice and Career Opportunities

E2. Career Opportunities
E2. identify and describe career opportunities in the transportation industry and the education and training required for these careers

Transportation Technology, Grade 12, College Preparation (TTJ4C)

B. Transportation Technology Skills

B4. Solving Repair Challenges
B4.3 perform an inspection for various repair challenges (e.g., brake service, ball-joint replacement, driveshaft or belt misalignment, transmission repair) and prepare a report on work to be done, including a cost-benefit analysis

C. Technology, the Environment, and Society

C2. Technology and Society
C2.1 assess the economic effects of the transportation industry on the local and global levels
C2.3 evaluate the potential benefits (e.g., technical, safety, financial, business) to society of emerging technologies related to the transportation industry (e.g., collision avoidance system, run-flat tires, fuel cells, composite materials)
C2.4 assess the pros and cons of various types of fuel/energy sources (e.g., gasoline, propane, diesel, electrical/battery power, biodiesel, hybrid powerplant, hydrogen power cells) used to power vehicles or small-engine products, taking into account a variety of perspectives (e.g., consumer’s perspective: cost to purchase, cost to operate, performance, emission levels; service/repair perspective: training, safety issues, new tools/equipment required)
D. Professional Practice and Career Opportunities

D2. Career Opportunities

D2. describe career opportunities in the transportation industry and the training and qualifications required for them

Transportation Technology, Grade 12, Workplace Preparation (TTJ4E)

C. Technology, the Environment, and Society

C2. Technology and Society

C2.2 assess the pros and cons of various types of fuel/energy sources (e.g., gasoline, propane, diesel, electrical/battery power, biodiesel, hybrid powerplant, hydrogen power cells) used to power vehicles or small-engine products, taking into account a variety of perspectives (e.g., consumer’s perspective: cost to purchase, cost to operate, performance, emission levels; service/repair perspective: training, safety issues, new tools/equipment required)

D. Professional Practice and Career Opportunities

D2. Career Opportunities

D2. identify and describe career opportunities in the transportation industry and the skills and training required for entry into these careers