

Lesson Plan

Financial Literacy in Grades 7 & 8 Mathematics and Health and Physical Education *Making Savvy Consumer Choices*

Students in this lesson are developing their understanding of personal financial planning by solving mathematical problems using real life situations. They add and subtract fractions and integers, apply a variety of computational strategies and use a variety of tools to solve problems. Students use their understanding of proportional relationships (with percent ratios and rate) and measurement units (considering conversions required) while demonstrating the ability to make connections related to health and well-being (considering the impact of healthy choices). They learn to apply the consumer skills they are developing to making purchasing decisions.

Curriculum Expectations

[Click here](#) to access expectations written out in full

Grades 7 and 8

Mathematics (2005)

Mathematical Process Expectations

Problem Solving

Communicating

Grade 7

Number Sense and Numeration

Operational Sense

- demonstrate an understanding of addition and subtraction of fractions and integers, and apply a variety of computational strategies to solve problems involving whole numbers and decimal numbers;

Proportional Relationships

- demonstrate an understanding of proportional relationships using percent, ratio, and rate.

Measurement

Measurement Relationships

- determine the relationships among units and measurable attributes, including the area of a trapezoid and the volume of a right prism.

Grade 8

Number Sense and Numeration

Operational Sense

- solve problems involving whole numbers, decimal numbers, fractions, and integers, using a variety of computational strategies;

Proportional Relationships

- solve problems by using proportional reasoning in a variety of meaningful contexts.

Measurement

Measurement Relationships

- determine the relationships among units and measurable attributes, including the area of a circle and the volume of a cylinder.

Health and Physical Education (2010)

Grades 7 and 8

Living Skills

1. demonstrate personal and interpersonal skills and the use of critical and creative thinking processes as they acquire knowledge and skills in connection with the expectations in the Active Living, Movement Competence, and Healthy Living strands for this grade.

1.5 Critical and Creative Thinking

Learning Goals

By the end of this lesson, students will be able to:

- plan food spending for a party within a given budget by comparing prices and considering healthy choices
- apply their knowledge of adding/subtracting decimal numbers to a real-life situation
- compare unit rates among food prices to determine the most reasonable cost

Sample success criteria for our spending plan:

- Our food choices are healthy and appropriate for a party
- We compared prices and unit rates in each category
- We did not go over the budget limit when deciding what to buy
- We communicated our ideas effectively to our audience

Grade 7**Healthy Living**

C3. demonstrate the ability to make connections that relate to health and well-being – how their choices and behaviours affect both themselves and others, and how factors in the world around them affect their own and others' health and well-being.

C3.1 Healthy Eating**Grade 8****Healthy Living**

C2. demonstrate the ability to apply health knowledge and living skills to make reasoned decisions and take appropriate actions relating to their personal health and well-being;

C2.1 Healthy Eating**Instructional Components and Context****Readiness**

Students are familiar with:

- Adding and subtracting with decimals (\$ values)
- Converting imperial units into metric units
- Finding a unit rate
- Reading a flyer/print advertisement for relevant information
- Practice with making decisions for healthy food choices

Students have completed a prior lesson about planning for a party. As part of their planning, students have determined healthy food choices for their party menu, the number of attendees and the quantities of food required.

Terminology

- Budget
- Comparing
- Unit rate

Materials

- Interactive whiteboard (*optional*)
- Handouts
 - Chart paper with “What is a budget used for?” written in the centre
 - [Budget Map/Planning Checklist](#)
 - [Food Cost Calculations](#)
 - [Exit slip](#)
 - Grocery store advertisements (*several per group*)
 - Calculators

Additional Resource

- [Canada's Food Guide](#)

Minds On

Whole Class Discussion and Brainstorm - What is a budget?

- Ask students “What is a budget?” Elicit answers to review students’ understanding of the term.

Small Group and Whole Class Discussion - What is a budget used for?

- Tell students they will be getting into groups to create a web of ideas related to what a budget is used for and why it is important. Provide each group with a piece of chart paper that has “What is a budget used for?” in the centre. Ask students to discuss the question and write their answers connected to the question, making links between related ideas.
- Ask each group to contribute some of their ideas to create a class web that outlines what a budget is used for, including what they as students would use a budget for.

Whole Class Review of Party Menu Criteria

- Review the previous lesson about planning for a party. Remind students that they have discussed what healthy food choices are, the number of attendees and the quantities required.
- Introduce learning goal and co-construct success criteria for the task.

Action!

Whole Class - Review of Strategies for Calculating Costs

- Let students know that they have a \$30 budget to purchase food for their party.
- Review strategies to calculate costs given different units of measure and prices per unit.
- Complete one calculation together as a class as an example of the process they will use when working in groups. Demonstrate what is expected when working in groups e.g., show computations/calculations for each item, how to do unit rate comparisons for similar products, list final choices and total spending.
- Note for clarification that the food categories students are using are ones that have been developed as organizers, not the food groups from [Canada’s Food Guide](#). Discuss with students where the foods they have selected fit within [Canada’s Food Guide](#).

Small Group Work - Calculating the Cost of a Healthy Party Menu

- In small groups, students will look through grocery store flyers to gather the information about prices and units of measure required to calculate the cost of their food purchases for the party.
- Students will use the [Budget Map/Planning Checklist](#) and [Food Cost Calculations](#) handouts to guide their work and show their calculations.



Differentiated Instruction

- Process: Provide all students with a budget “map” to help them organize their thinking and plan their work to solve the problem. Provide additional individual assistance, helping break down the steps further, as required.
- Process: Provide additional visual support as needed with a sample budget and rationale for choices identified.

Connections

Guiding Questions:

- What is a budget?
- What is a budget used for?
- Why is a budget important?
- What would Grade 7 or 8 students use a budget for?

A of L Assessment for Learning (AfL)

- Observe students’ initial understanding of budgeting concepts by noting responses to the question, “*What is a budget used for?*”

Connections

Guiding Questions:

- How will you/have you shown your thinking?
- Have you compared the prices of the same food to ensure you are getting the best price?
- What are healthy foods that people will enjoy at your party?
- How do you prioritize your choices to keep your purchases within your budget?
- What money management skills and strategies can we use in planning the budget for our party (looking for value for money, using sales and coupons effectively, comparison shopping, recycling)?
- What might your group decide to do with any additional money if you have money left over after making your decisions?

A of L Assessment of Learning (AoL)

- Check students’ understanding of unit rate conversions using the [Food Cost Calculations](#) worksheet

Consolidation

Small groups - Presentation to the whole class

- Groups share their work, including sharing the strategies used for making calculations.
- Use probing questions to elicit deeper thinking about the processes students used. Some questions could include:
 - How did you solve the problem?
 - What is similar/different among the group solutions?
 - Did you find it challenging to make healthy choices while staying within your budget?
 - What makes something a healthy choice?

Class discussion followed by Individual Self Reflection and Self-Assessment - Exit Slip

- Discuss with students the learning from today's lesson. Consider the following guiding questions:
 - What was the most challenging part of the task today? Why?
 - Is this task like something you have done before? How?
 - Where would you/do you use this math at home? At school? In other places?
- Have students individually complete an [exit slip](#), recording their thoughts in response to the following questions:
 - What did you learn from today's activity?
 - Where would you use budgeting and planning skills in your life?
 - Make a comment about your participation as a part of the group

Connections

Assessment as Learning (AaL)

- Students reflect on how they will communicate clearly as they present the results of their group work, communicating with their written information and through their presentation, using American Sign Language (ASL).

Assessment of Learning (AoL)

- Assessment of material shared in presentations based on co-constructed success criteria

Differentiated Instruction

- Process: Use guiding questions as part of group discussion, prior to students filling out exit slips individually to activate reflective thinking for students who require more time to process.

Assessment for Learning (AfL)

- Collect student reflections from exit slips for information about learning skills and learning related to the overall learning goal.

Differentiated Instruction

- Product: Provide opportunity for signed response (ASL) to exit slip, for individual students requiring written language accommodation.

Curriculum Expectations

Financial Literacy in Grades 7 & 8 Mathematics and Health and Physical Education Making Savvy Consumer Choices

Grade 7

Mathematics (2005)

Mathematical Process Expectations

Problem Solving: develop, select, apply, and compare a variety of problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;

Communicating: communicate mathematical thinking orally, visually, and in writing, using mathematical vocabulary and a variety of appropriate representations, and observing mathematical conventions.

Number Sense and Numeration

Operational Sense

- demonstrate an understanding of addition and subtraction of fractions and integers, and apply a variety of computational strategies to solve problems involving whole numbers and decimal numbers;
- solve multi-step problems arising from real-life contexts and involving whole numbers and decimals, using a variety of tools (e.g., concrete materials, drawings, calculators) and strategies (e.g., estimation, algorithms);

Proportional Relationships

- demonstrate an understanding of proportional relationships using percent, ratio, and rate.
- demonstrate an understanding of rate as a comparison, or ratio, of two measurements with different units (e.g., speed is a rate that compares distance to time and that can be expressed as kilometers per hour);
- solve problems involving the calculation of unit rates (**Sample problem:** You go shopping and notice that 25 kg of Ryan's Famous Potatoes cost \$12.95, and 10 kg of Gillian's Potatoes cost \$5.78. Which is the better deal? Justify your answer.).

Measurement

Measurement Relationships

- determine the relationships among units and measurable attributes, including the area of a trapezoid and the volume of a right prism.
- solve problems that require conversion between metric units of measure (e.g., millimetres and centimetres, grams and kilograms, millilitres and litres) (**Sample problem:** At Andrew's Deli, cheese is on sale for \$11.50 for one kilogram. How much would it cost to purchase 150 g of cheese?);

Grade 8

Mathematical Process Expectations

Problem Solving: develop, select, apply, and compare a variety of problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;

Communicating: communicate mathematical thinking orally, visually, and in writing, using mathematical vocabulary and a variety of appropriate representations, and observing mathematical conventions.

Number Sense and Numeration

Operational Sense

- solve problems involving whole numbers, decimal numbers, fractions, and integers, using a variety of computational strategies;
- solve multi-step problems arising from real-life contexts and involving whole numbers and decimals, using a variety of tools (e.g., graphs, calculators) and strategies (e.g., estimation, algorithms);

Proportional Relationships

- solve problems by using proportional reasoning in a variety of meaningful contexts.
- identify and describe real-life situations involving two quantities that are directly proportional (e.g., the number of servings and the quantities in a recipe, mass and volume of a substance, circumference and diameter of a circle);
- solve problems involving rates (**Sample problem:** A pack of 24 CDs costs \$7.99. A pack of 50 CDs costs \$10.45. What is the most economical way to purchase 130 CDs?).

Measurement

Measurement Relationships

- determine the relationships among units and measurable attributes, including the area of a circle and the volume of a cylinder.
- solve problems that require conversions involving metric units of area, volume, and capacity (i.e., square centimetres and square metres; cubic centimetres and cubic metres; millilitres and cubic centimetres) (**Sample problem:** What is the capacity of a cylindrical beaker with a radius of 5 cm and a height of 15 cm?);

Living Skills

1. demonstrate personal and interpersonal skills and the use of critical and creative thinking processes as they acquire knowledge and skills in connection with the expectations in the Active Living, Movement Competence, and Healthy Living strands for this grade.

Critical and Creative Thinking (CT)

1.5 use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, and evaluating their choices in connection with learning in health and physical education (e.g., **Active Living**: describe how they can use health-related fitness-assessment information when making action plans for personal fitness; **Movement Competence**: devise and experiment with different tactical solutions for better results in particular sports and other physical activities; **Healthy Living**: explain the connections between body image, mental health, and the risk of substance abuse; explain the importance of understanding connections between food choices and chronic diseases)

Healthy Living**Making Connections for Healthy Living**

C3. demonstrate the ability to make connections that relate to health and well-being – how their choices and behaviours affect both themselves and others, and how factors in the world around them affect their own and others' health and well-being.

Healthy Eating

C3.1 demonstrate an understanding of personal and external factors that affect people's food choices and eating routines (e.g., **personal**: likes and dislikes, busy schedules, food allergies or sensitivities, personal values, cultural practices or teachings; **external**: family budget, cost of foods, type of food available at home, at school, or in the community), and identify ways of encouraging healthier eating practices

Teacher prompt: "How can people make healthy food choices if their choices are limited by a dislike of certain foods, by a food allergy, by personal beliefs about ethical food choices, by cultural preferences or religious food rules, or by budget limitations?"

Student: "Some limitations can be removed or overcome. People often dislike certain foods without ever having tried them. We should always consider at least trying a food before rejecting it. Often we can learn to like a food by having it prepared or served in a different way. In other cases, we just have to work within the limitations. A lot of tasty food choices are available for people

Living Skills

1. demonstrate personal and interpersonal skills and the use of critical and creative thinking processes as they acquire knowledge and skills in connection with the expectations in the Active Living, Movement Competence, and Healthy Living strands for this grade.

Critical and Creative Thinking (CT)

1.5 use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, and evaluating their choices in connection with learning in health and physical education (e.g., **Active Living**: track and analyse changes in their health-related components of fitness over a designated period of time, and make any necessary adjustments in their fitness plans; plan ways to promote the involvement of all the students in the school in "healthy schools" activities such as litterless lunch programs and active recess activities; **Movement Competence**: explain how developing movement competence and building confidence influence the extent to which people participate in physical activity; **Healthy Living**: analyse potentially dangerous situations and devise solutions for making them safer)

Healthy Living**Making Connections for Healthy Living**

C2. demonstrate the ability to apply health knowledge and living skills to make reasoned decisions and take appropriate actions relating to their personal health and well-being;

Healthy Eating

C2.1 evaluate personal food choices on the basis of a variety of criteria, including serving size, nutrient content, energy value, and ingredients (e.g., **fats, carbohydrates, protein, vitamins and minerals, calories, additives, allergens**), preparation method, and other factors that can affect health and well-being [CT]

Teacher prompt: "Why is paying attention to nutrients more valuable than counting calories?"

Student: "Paying attention to nutrients helps you focus on eating in a balanced way. Calories are only one thing to consider and, by themselves, don't provide information about nutrition. By following Canada's Food Guide, I can make sure that I am meeting my energy and nutrient needs. It's important to get all of the different nutrients that my body needs. By considering nutrient content, I can make sure I get enough vitamins and minerals – for example, I need to eat orange vegetables like carrots and orange peppers to get Vitamin A. And if I make soup with milk instead of water, I'll get more calcium and Vitamin D."

who are making ethical choices or following religious and cultural food rules, or who have allergies. If we have a limited budget, we can still eat well by making careful food choices. Packaged foods are usually more expensive and less nutritious than fresh foods cooked at home. Local produce can be relatively inexpensive in season, and it is more nutritious than imported or packaged fruits and vegetables.”

Name: _____

Date: _____

Budget Map / Planning Checklist

Group:

- Determine which member of your group is responsible for each of the four food categories we have selected.

Individually:

- Use the flyers to select three specific food items in your category
- Record the price and quantity of each item.
- Calculate the unit rate of each of your food items.
- Decide which food item is your "best" choice.
- Calculate the price for the quantity you need, based on your unit rate.

Group:

- Determine the total for your group's four food items.
- Does your total fit into your given budget?

Food Cost Calculations

Group Members (list everyone and circle your own name): _____

ITEM NAME:

	Original Product	Single Unit
Price		
Quantity or Weight		

Calculations & Notes:

ITEM NAME:

	Original Product	Single Unit
Price		
Quantity or Weight		

Calculations & Notes:

ITEM NAME:

	Original Product	Single Unit
Price		
Quantity or Weight		

Calculations & Notes:

ITEM NAME:

	Original Product	Single Unit
Price		
Quantity or Weight		

Calculations & Notes:

