

Making Good Decisions about Discounts

Guidance and Career Education, Grades 9/10, Learning Strategies 1: Skills for Success in Secondary School (GLS10, GLE10/20)

Overview

Discounts and sales are regular events in everyday life in Ontario. Students strengthen their understanding of handling percentages expressed as discounts and other language around discounts so that they know how to calculate discounted prices and make reasonable consumer choices.

They examine the mathematics of calculating percentages and then apply the skills towards calculating various types of discounts and developing an understanding of the language used to communicate discounts in everyday retail settings.

Connections to Financial Literacy

Students apply their knowledge of percentages to everyday life as they work with financial terms related to discounts. They develop an understanding of the mathematics required to calculate the amount of a discount and sale price.

Connections to Curriculum

Connections are made to numeracy skills applied in everyday situations. The content focus is in the strand: *Learning Skills - Developing Numeracy Skills and Strategies* specifically to the calculation and interpretation of common discount scenarios that would be used in retail stores.

The curriculum expectations addressed in each lesson are identified within the lesson plan. Full curriculum expectations with examples can be accessed through a hyperlink within the lesson.

Considerations for Planning

Discount is a topic that people see as a regular occurrence in everyday life. Many students have difficulty handling percent in calculations. These two lessons provide students with the opportunity to strengthen mathematical skills and develop a better understanding of terms that they may encounter in everyday dealings in a retail setting, thereby helping them make better financial choices.

The lessons could be broken up into smaller sections or spaced out over a number of days to fit with the teacher's class plan for instruction and could be used as support for other courses.

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The Mathematics and Language of Discount <small>Lesson 1</small>		
<p>Students review the mathematics related to discount and learn to decode the terminology related to discounts. Students work with the teacher to review percent-related calculations of discount. They work in pairs on problems related to calculating discounts.</p>		
Connections to Financial Literacy		
<p>Students learn to understand and compare discounts in the context of practising mathematics in everyday contexts.</p>		
Curriculum Expectations	Learning Goals	
<p>Click here to access expectations in full, with examples.</p> <p>Learning Skills</p> <ul style="list-style-type: none"> identify and use a variety of numeracy skills and strategies to improve their practical application of mathematics in everyday contexts <p>Developing Numeracy Skills and Strategies</p> <ul style="list-style-type: none"> describe how mathematics is applied in everyday situations (e.g., making financial transactions, budgeting, constructing, scheduling) 	<p>Students will:</p> <ul style="list-style-type: none"> interpret financial terms about discounts; use mathematics skills to check discount values to help make everyday purchasing decisions. <p>Sample Success Criteria</p> <p>I understand financial terms related to discounts (e.g., percent, sale, half-price, 10% off (or any % off), tax free).</p> <p>I can choose the right method to calculate discount and use it to determine the discounted price.</p>	
Considerations for Planning		
<p>Readiness</p> <p>Students must be able to do mathematical operations of addition, subtraction, multiplication and division either manually or with a calculator.</p>	<p>Terminology</p> <ul style="list-style-type: none"> Percent Sale HST Discount Mark down 	<p>Materials</p> <ul style="list-style-type: none"> Sample of advertisements involving discounts Calculators Handout: Discount

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The Mathematics and Language of Discount Lesson 1	
Minds On	Connections
<p>Small Groups → Decode the Discount</p> <p>Post sample print advertisements around the classroom, ideally for different types of products (e.g., electronics, food, clothing, sports equipment, etc). Facilitate a short discussion about what the discount means using one of the advertisements as an example.</p> <p>Sample Guiding Questions</p> <ul style="list-style-type: none"> • What does 10% off mean? • What does a no-tax sale mean? • How do you use a number stated as a percent in a calculation? <p>Students go to the advertisement for the product that interests them the most. Groups at each advertisement station read the advertisement and decode the discount, discussing what the discount wording in the advertisement means.</p> <p>A member of each group shares their group's "discount wording" as well as the group's interpretation of the wording with the class.</p>	<p>A^{or}L Use this opening discussion to determine how much students understand about the mathematics involving discounts and the language of discounts.</p>
Action!	Connections
<p>Pairs/Small Groups → Working with Discounts</p> <p>Demonstrate the use of percent in mathematics both to calculate discount and tax (HST). Ensure that the demonstration includes the importance of the order of calculations (i.e., calculate the discounted cost first and then calculate HST as 13% of the discounted cost).</p> <p>Working in pairs, students decode discount situations using sample advertisements. See Handout: Discount.</p> <p>Students pair up with a different partner to "take up" the worksheet. Distribute copies of the answer key to the worksheet for pairs to use as they take up the worksheet.</p> <p>In small groups, they share their understanding of discount terminology and calculations. Each group selects one problem which they found difficult for use in Consolidation.</p>	<p>A^{or}L Students peer assess each others' answers when calculating discounts.</p> <p>A^{or}L In roving conferences, teacher takes note of any difficulties experienced with particular problems.</p> <p>Discount (answers)</p> <ol style="list-style-type: none"> 1. \$61.01 2. Black \$79.09 3. \$137.84 4. \$76.27 5. \$216.11 6. ABC \$37.50
Consolidation	Connections
<p>Whole Class → Discussing Solutions to Discount Problems</p> <p>Work through the problems selected by different groups with the class.</p>	

HANDOUT

Discount

**Complete all calculations on a separate sheet and submit.
Include a 13% HST on all purchases.**

- Jennie is buying a new dress that costs \$59.99. She has her SPC student card that gives her 10% off all purchases in the store.

How much will the dress cost Jennie in total?

- Tom is looking for a portable media player to buy with money he saved. There is a black one he likes for \$99.99 with a 30% discount and a red one for \$129.99 with a 40% discount.

Which of the two costs less?

- Rashawn is at the mall shopping for a new skateboard. He finds what he is looking for in a store called, Skate Land. Skate Land is having a one day 50% off sale on everything in the store. Rashawn decides to take advantage of the sale and purchase some smaller items to go with his new board. Listed below are Rashawn's purchases with their original prices. How much did he spend in total?

New Skateboard	\$149.99
Wax	\$ 18.99
Extra wheel set	\$ 39.99
T-shirt	\$ 34.99

- Siena and her friend Jorge are purchasing new soccer shoes. Best Sport is having a "buy one pair – get a second pair for half off" promotion. If the shoes cost \$89.99, and both Siena and Jorge want to spend the same amount, how much will it cost each person?
- Tia is buying a new desk for her room at a furniture store that is having a big promotion. Tia finds the desk she wants and is offered a scratch coupon that she brings to the cashier. The desk costs \$225.00 and she scratches a discount of \$15%. How much will Tia pay in total for the desk?
- Jordan and her friend Sarah want to learn to skate. They have some money from the holidays and want to look at buying an inexpensive pair of skates to see if they like the sport. They heard that a number of stores have the Canadian made Maple Blade Skates for \$50.00. They find the following Boxing Week Sales.

Al's Pro Sport Shop	\$50.00 with a 15% discount
Capital Sport	\$45.00 with a 10% discount
ABC Super Store	\$50.00 plus a second pair at half price

Which promotion is the best one for Jordan and Sarah?

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<h3>Application of Discount-Related Skills <small>Lesson 2</small></h3> <p>Students work through calculation of discounts in a simulated store setting. Working in pairs, one student acts as a cashier and the other as a customer to calculate and check the price after discount on a variety of goods.</p>		
<h4>Connections to Financial Literacy</h4> <p>Students learn to compare discounts by practising mathematics skills in everyday contexts.</p>		
<h4>Curriculum Expectations</h4> <p>Click here to access expectations in full, with examples.</p> <p>Learning Skills</p> <ul style="list-style-type: none"> identify and use a variety of numeracy skills and strategies to improve their practical application of mathematics in everyday contexts <p>Developing Numeracy Skills and Strategies</p> <ul style="list-style-type: none"> describe how mathematics is applied in everyday situations (e.g., making financial transactions, budgeting, constructing, scheduling) 		<h4>Learning Goals</h4> <p>Students will learn how to use mathematics skills to check discount values and to help them make everyday purchasing decisions.</p> <p>Sample Success Criterion</p> <p>I can choose the right method to calculate discount and use it to determine the new price to make reasonable purchasing decisions.</p>
<h4>Considerations for Planning</h4>		
<p>Readiness</p> <p>Students must be able to do mathematical operations of addition, subtraction, multiplication and division either manually or with a calculator.</p>	<p>Terminology</p> <ul style="list-style-type: none"> Percent Sale HST Discount Mark down Retail price 	<p>Materials</p> <ul style="list-style-type: none"> Small items that can be used as products to purchase Price tags and signs Calculators Handout: Store Simulation
<p>Further Considerations</p> <p>This activity could be spread over several days, using 15 to 20 minutes per day, if a whole class cannot be allocated to the activity.</p>		

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Application of Discount-Related Skills Lesson 2	
Minds On	Connections
<p>Whole Class → Setting a Context for Problem Solving</p> <p>As students enter class they see the items arranged on desks with prices and signs. Explain that the classroom has been turned into a store for the period and they will be given roles of cashier or customer.</p> <p>Organize students giving them various roles - some as cashiers, others as customers. Divide the roles equally, if possible, to avoid students waiting around for their turn.</p> <p>Present and review the Handout: Store Simulation as a tool to help students organize and communicate their work.</p>	
Action!	Connections
<p>Pairs → Active Problem Solving</p> <p>Cashiers are seated on one side of a desk while customers circulate and decide what to buy. After choosing items to purchase, the customer approaches the cashier and both students calculate the total, including the discount, to arrive at the cost of the purchases.</p> <p>The cashier and customer compare answers to see if they are the same and agree with the teacher's answer. If not, the cashier and customer work together to calculate the correct answer.</p> <p>Cashiers return items and the teacher switches discount signs to new ones. Cashiers and customers change roles and begin the process again.</p>	<p>A⁴⁵L Circulate and respond to individual student's questions as they problem solve.</p>
Consolidation	Connections
<p>Whole Class → Debriefing and Further Practice</p> <p>In a whole class share, students provide feedback on the experience and identify those situations that were the most difficult for them.</p> <p>Students solve one more discount problem and hand it in.</p>	<p>Tip</p> <p>A final problem could be distributed a few days after the class activity to be completed by students individually and use as Assessment of Learning. This would allow students more time to practise and ask questions.</p> <p>A⁴⁶L Assess students' learning by marking the last discount scenario completed individually.</p>

Curriculum Expectations

Financial Literacy in Grade 9 and 10 Guidance and Career Education

Learning Strategies 1: Skills for Success in Secondary School, GLS10, GLE10/20

The Mathematics and Language of Discount Lesson 1	
Learning Skills	
Overall Expectations	Specific Expectations
<ul style="list-style-type: none">• identify and use a variety of numeracy skills and strategies to improve their practical application of mathematics in everyday contexts	Developing Numeracy Skills and Strategies <ul style="list-style-type: none">- describe how mathematics is applied in everyday situations (e.g., making financial transactions, budgeting, constructing, scheduling)

Application of Discount-Related Skills Lesson 2	
Learning Skills	
Overall Expectations	Specific Expectations
<ul style="list-style-type: none">• identify and use a variety of numeracy skills and strategies to improve their practical application of mathematics in everyday contexts	Developing Numeracy Skills and Strategies <ul style="list-style-type: none">- describe how mathematics is applied in everyday situations (e.g., making financial transactions, budgeting, constructing, scheduling)