

# PACED Pretzels

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## Lesson Author

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## Standards and Benchmarks (see page 17)

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## Lesson Description

Students learn about the five-step PACED decision-making process. They watch a video that explains the PACED model and how Sarah uses the process to decide which pet to adopt. They complete a decision-making grid for a family trying to decide what to do for dinner tonight. In groups, the students participate in a taste test to determine the best mini pretzel based on criteria established during a classroom discussion. They learn about ways to complete a decision-making grid for criteria with different weights.

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## Concepts

Alternatives

Criteria

Opportunity cost

PACED decision-making process

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## Objectives

Students will be able to

- define alternatives, criteria, and opportunity cost;
  - describe the PACED decision-making process;
  - explain the value of using a decision-making process and grid when making a decision; and
  - identify the opportunity cost of a decision.
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## Compelling Question

Why is the PACED decision-making model a valuable tool when making a decision?

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## Time Required

45–60 minutes

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## Materials

- Visuals 1, 2, 3, and 4
  - Handout 1, three copies per student
  - Handouts 2, 3, and 4, one copy of each per student
  - One bag each of three different brands of mini pretzels—enough for each student to have at least one pretzel
  - Three large bowls for each of the three mini pretzel brands
  - Three large spoons or scoops for the three large pretzel bowls
  - Disposable plates, three for each group of three students
  - Small cups of water, one for each student
  - How Do I Make a Decision infographic at [http://bit.ly/decision\\_making\\_poster](http://bit.ly/decision_making_poster) (Optional)
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## Preparation

Prepare three large bowls, each containing one of the three brands of pretzels. Label one bowl as “A,” one as “B,” and one as “C.” Save the pretzel bags so that you can show the students the brand names and nutritional information in procedure step 16. Retain the price paid for each bag of pretzels.

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## Procedure

1. Discuss the following:
  - When you go to a store to buy something, how do you decide what to buy? (*Answers will vary.*)
  - Tell me about a time when you bought something and later regretted that decision. (*Answers will vary.*)
  - What could help you to avoid making a decision to buy something that you will later regret? (*Answers will vary but may include a shopping list, a shopping plan, and thinking more about purchases before making them.*)
2. Display *Visual 1: Vocabulary*. (Hide the definition of **opportunity cost** until procedure step 17.) Discuss the following:
  - In this lesson, you are going to learn about a method called PACED that can be used to help you make better decisions.

- With a specific, step-by-step process, anyone can make informed, thoughtful, and sound decisions.
  - The **PACED decision-making model** is a five-step procedure that allows anyone to carefully consider the options available to them, evaluate those options based on some important pre-established factors, and make a thoughtful, informed decision.
  - **Alternatives** are the options available to a person when they are making a decision. Decisions often involve multiple possible alternatives that can satisfy a want/need or solve a problem.
  - **Criteria** are the important factors considered when you evaluate the various alternatives.
3. Explain to the students that you are going to show them a video in which Sarah makes a decision about which pet to adopt. Show the students the PACED Decision-Making Model Video on YouTube at <http://bit.ly/PACEDvideo>. Discuss the following:
- What is the purpose of the PACED decision-making model? (*To make important decisions in a thoughtful way*)
  - In the PACED model, what does “P” stand for? (*P is for problem.*) In the PACED model, the problem is the thing you are trying to make a decision about.
  - What was Sarah’s problem? (*Every day she came home to an empty apartment, and she was lonely. She wanted to get a pet, but she didn’t know what kind of pet to get.*)
  - In the PACED model, what does “A” stand for? (*A is for alternatives.*)
  - What kinds of pets did Sarah identify as her alternatives? (*Dog, cat, iguana, parrot*)
  - What other alternatives did Sarah rule out right away? (*Ferret, finch, hamster, horse, alligator*)
  - What does “C” stand for in the PACED model? (*C is for criteria.*)
  - What criteria did Sarah establish in her PACED grid? (*Small, quiet, adaptable, cost, love*)
  - What does “E” stand for in the PACED model? (*E is for evaluate.*)
  - How did Sarah indicate on her grid if an alternative fit a criterion? (*With a plus sign*)
  - How did Sarah indicate on her grid if an alternative didn’t fit a criterion? (*With a minus sign*)
  - How did Sarah indicate on her grid if she wasn’t certain if an alternative fit a criterion? (*With a question mark*)
  - After Sarah evaluated her alternatives, which pet had the most pluses? (*Cat*)
  - What does “D” stand for in the PACED model? (*D is for decision.*)
  - Which pet did Sarah decide to adopt? (*Cat*)
  - Where did Sarah get her cat? (*The animal shelter*)
  - What did Sarah name her cat? (*Dexter*)

- Why was Sarah happy about the way she made her decision? (*The PACED decision-making process worked. She felt like she made the right decision.*)
- Why is it important for a decision to be made at the end of the process? (*A well-thought-out decision can only be made after carefully evaluating the alternatives subject to be criteria.*)

While discussing these questions with the students, you may feel it necessary to replay all or part of the video.

4. Divide students into groups of three. Distribute one copy each of *Handout 1: PACED Decision-Making Grid* and *Handout 2: PACED Dinner* to each student.
5. Explain to the students that they are going to work together in their groups to complete a PACED decision-making grid for the Robinson family. Review the Robinsons' story on Handout 2. Discuss the following:
  - What is the Robinson family's problem? (*They need to decide what they are going to do for dinner tonight.*)
  - What are the family's alternatives? (*Make chili and eat at home, order pizza and wings and eat at home, or go out for dinner at the all-you-can-eat buffet*)
  - What criteria do the family establish for deciding what to do? (*Eat dinner in less than an hour, spend less than \$45 for dinner, ensure everyone is happy, and eat healthy*)
6. Display *Visual 2: The Robinsons' Dinner Grid*. Demonstrate to the students how to enter one of the three alternatives in the first column of the PACED grid. Instruct the students to complete the first column by entering the three alternatives (chili, pizza and wings, buffet) in separate cells in the first column.
7. Demonstrate to the students how to enter one of the criteria in the first cell of the second column on the PACED grid. Instruct the students to complete the first row of the grid by entering the four criteria (less than an hour, less than \$45, everyone happy, healthy) in separate cells.
8. Instruct the students to work in their groups to evaluate the Robinsons' three alternatives subject to their criteria. Explain that the students should enter a plus sign (+) in the appropriate cell if the alternative satisfies that criterion, a minus sign (–) if the alternative doesn't satisfy the criterion, or a question mark (?) if they aren't certain if the alternative satisfies the criterion or not. Then, they should add up the number of pluses (+) and enter that sum in the total column for each alternative. Finally, as a group, they should answer questions 2 and 3.
9. Review the answers to Handout 2 by having the students help you complete the PACED grid on Visual 2. Discuss the following:
  - What decision did you make, based on the PACED grid, for the Robinson family? (*Go out to eat at the buffet*)

- Why did you make this decision for the family? (*Answers will vary but should include that the buffet met all of the criteria set by the family.*)

The completed grid is shown in *Visual 3: The Robinsons' Dinner Grid (Completed)*.

10. Explain that the students will work in groups to taste test three different brands of mini pretzels and use the PACED process to determine which pretzel is the best. Discuss the following:
  - What is a taste test? (*In a taste test, people try different brands or types of the same food to determine which is best.*)
  - Where have you seen or participated in a taste test? (*On television or at a store*)
  - What is the problem we are trying to solve? (*Determining which pretzel is best*)
  - What criteria should we use to evaluate which pretzel is best? List the students' suggestions on the board. (*Answers will vary, but students are likely to suggest crunchiness, saltiness, freshness, smell, color, nutritional value, gluten content, size, uniformity, and so on. If students suggest that price should be a criterion, explain that you will reveal the price of each of the pretzel brands at the end, but since price doesn't have to do with taste, you will exclude it from the taste test.*)
11. Lead a discussion with the class to choose the four criteria from the list generated on the board that will be used to evaluate the pretzels in the taste test. Display *Visual 4: PACED Pretzel Grid*. Distribute one copy of Handout 1 to each student. Instruct the students to enter the four criteria on their grid as you do so on the visual.
12. Show the students the three bowls of pretzels and explain that these are the three alternatives for this PACED decision-making exercise. Assign one student in each group to pretzel "A," one to pretzel "B," and one to pretzel "C." Instruct the students to enter the three alternatives on their grid on Handout 1 as you do so on the visual.
13. Explain to the students that once they get their pretzels, each member of the group will taste each of the pretzels. As a group, they will evaluate each pretzel brand subject to the criteria established by the class. Unlike in the Robinson family activity, for each criterion, the group will assign points to each pretzel based on how well it meets the criterion. The students should assign three points to the pretzel brand that best meets the criterion, two points to the second best brand for that criterion, and one point for the brand that performed the worst in meeting the criterion. Once the group has evaluated all of the alternatives subject to the criteria, they should sum up the points in the last column of Handout 1. They should then identify which pretzel brand is the best choice for their group.
14. Explain to the students that they are to send each of their members to use a paper plate to get a few of their assigned pretzels from the appropriate bowl and a cup of water for themselves. They should be sure to drink water between pretzel brands to improve their ability to evaluate each pretzel.

15. Give the groups time to complete the activity. A few minutes before time is up, let students know that they have three minutes remaining to complete the activity. Once all of the groups have completed their PACED grid and decided which pretzel brand is best, discuss the activity with the students. Have each group report which brand (A, B, or C) they chose.
16. Using the pretzel bags, reveal each brand to the students, along with the price per bag and price per unit. Explain the unit price to the students by showing them how to divide the price per bag by the bag weight in ounces to obtain a price per ounce. Discuss the following:
  - What surprised you about the pretzel taste test? (*Answers will vary, but students may say they were surprised that the most expensive pretzel wasn't necessarily preferred by everyone.*)
17. Display Visual 1 and reveal the definition of opportunity cost. Explain that not all choices are all-or-nothing decisions. But in all-or-nothing decisions, such as which brand of mini pretzels to buy, the next-best alternative given up is the **opportunity cost**. Discuss the following:
  - If a consumer can only buy one brand of pretzels, what is the opportunity cost of the consumer's decision to buy his or her favorite brand? (*Their second-favorite brand*)
  - Which pretzel brand would be your group's opportunity cost if you were able to buy just one bag of pretzels and chose your favorite? (*Each group should identify its second choice as the opportunity cost.*)
18. Explain that for some decisions, not all of the criteria are equally important. For instance, when choosing a rental home in a beach community, the house's per-week rental price may be more important than its distance from the beach.
19. Distribute one copy of *Handout 3: Rental House Decision* to each student. Read the story or have a student read the story about the Robinsons. Then allow time for students to answer the questions. Explain that students should discuss each question with a partner before writing down answers.
20. Discuss the following:
  - What is the Robinson family's problem? (*They have to decide which of the three rental houses they are going to rent.*)
  - Which house do you recommend they rent? (*457 Walnut Street*)
  - Why is that your recommendation? (*Based on their criteria and the values they assigned to each criterion, 457 Walnut Street earns the most points in their PACED decision-making grid.*)
  - If they rent 457 Walnut Street, what will be the opportunity cost of that decision? (*It's 1735 Union Street because that alternative had the second highest number of points in the grid.*)
  - If the Robinsons had used only +, -, ? to evaluate their alternatives, how would your recommendation have been different? (*Answers may vary, but students will likely say that 1735*

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*Union Street would have been the choice, with three plus signs [less than six blocks from school, at least four bedrooms, garage] and one minus sign [less than \$1,500 per month].)*

21. Explain that the PACED decision-making grid can be expanded to help with any decision. More rows can be added if you have more than three alternatives. More columns can be added if there are more than four criteria you want to consider.

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## Closure

22. Review the major points of the lesson by discussing the following:
- When you make a decision, what is the opportunity cost of that choice? (*The next-best alternative that is given up*)
  - What is the PACED decision-making process? (*A five-step process for making a thoughtful, informed decision*)
  - What are the five steps of the PACED decision-making process? (*State the problem, list the alternatives, identify criteria, evaluate the alternatives, and make a decision.*)
  - Why is the PACED decision-making model a valuable tool when making a decision? (*Answers will vary, but students should explain that the PACED model provides a logical method for thinking through the decision. That careful thinking likely results in better, more carefully considered decisions.*)

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## Assessment

23. Distribute a copy of *Handout 4: Assessment* and a copy of *Handout 1* to each student. Use *Handout 4: Assessment Suggested Answers* to review student answers.

## Visual 1: Vocabulary

### **PACED Decision-Making Model**

A five-step process for making thoughtful, informed decisions.

### **Alternatives**

The various options available to us when making a decision.

### **Criteria**

The important factors we evaluate during the decision-making process.

### **Opportunity Cost**

The next-best alternative that is given up when a decision is made.



**Visual 2: The Robinson’s Dinner Grid**

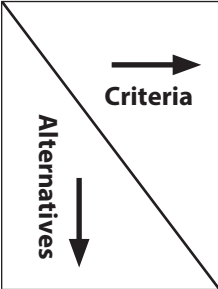
STEP 1: State the **P**roblem.

STEP 2: List **A**lternatives.

STEP 3: Identify **C**riteria.

STEP 4: **E**valuate the Alternatives.

STEP 5: Make a **D**ecision.

	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Total
Alternative 1					
Alternative 2					
Alternative 3					

**Visual 3: The Robinson’s Dinner Grid (Completed)**



STEP 1: State the **P**roblem.

STEP 2: List **A**lternatives.

STEP 3: Identify **C**riteria.

STEP 4: **E**valuate the Alternatives.

STEP 5: Make a **D**ecision.

 Criteria  Alternatives	Criterion 1 Less than an hour	Criterion 2 Less than \$45	Criterion 3 Everyone happy	Criterion 4 Healthy	Total
<b>Alternative 1</b> Chili	-	+	+	+	<b>3</b>
<b>Alternative 2</b> Pizza and wings	+	+	-	-	<b>2</b>
<b>Alternative 3</b> Buffet	+	+	+	+	<b>4</b>

**Visual 4: PACED Pretzel Grid**

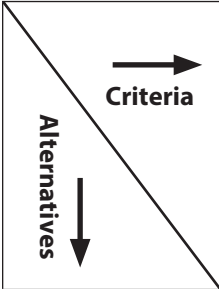
STEP 1: State the **P**roblem.

STEP 2: List **A**lternatives.

STEP 3: Identify **C**riteria.

STEP 4: **E**valuate the Alternatives.

STEP 5: Make a **D**ecision.

	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Total
Alternative 1					
Alternative 2					
Alternative 3					

### Handout 1: PACED Decision-Making Grid

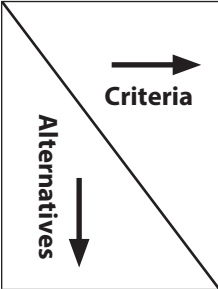
STEP 1: State the **P**roblem: Identify the problem you are trying to solve or the decision you are trying to make.

STEP 2: List **A**lternatives: Create a list of the alternatives that could solve the problem, satisfy the want/need, or be an outcome of the decision.

STEP 3: Identify **C**riteria: Establish the important factors on which you will judge your alternatives.

STEP 4: **E**valuate the Alternatives: Consider your alternatives based on your established criteria.

STEP 5: Make a **D**ecision: Make a decision based on your evaluation.

	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Total
Alternative 1					
Alternative 2					
Alternative 3					

## Handout 2: PACED Dinner

Tonight is a school night. The Robinson family—Martha, Jeff, and their two children, Kamal and Yvette—have all just gotten home, but there’s nothing planned for dinner. Kamal suggests that his dad make his famous chili for dinner. Everyone likes the chili, and it’s healthy! Jeff points out that the chili takes an hour and a half to make. They bought the chili ingredients this past weekend for \$9.67.

Martha suggests they order in pizza and wings. A half an hour after they place their order, the delivery person can be at their door with their food. Yvette reminds everyone that she doesn’t like wings. They are too hot for her. Kamal says, “I’m not sure if I want pizza again. I just had it for lunch.” Jeff says, “Pizza and wings isn’t a very healthy dinner.” It costs \$20 for 2 large pizzas with toppings and \$10 for 20 wings.

Yvette suggests they go to the local all-you-can-eat buffet. They can be there in 15 minutes. Everyone likes the buffet, and there are many healthy things to eat there. The buffet is \$10 per person.

The Robinson family wants to be able to eat dinner in an hour or less. Martha explains to the kids that she and Jeff don’t want to spend any more than \$45 for dinner tonight. And they want everyone to be happy and have a healthy dinner.

1. Complete the PACED decision-making grid as follows:
  - a. Enter each alternative in a separate cell in the left-most column of the table.
  - b. Enter each criterion in a separate cell in the top row of the table.
  - c. Evaluate each alternative based on each criterion. Enter a plus sign (+) in the appropriate cell if the alternative satisfies the criterion, a minus sign (–) if the alternate doesn’t satisfy the criterion, or a question mark (?) if you aren’t sure if the alternative satisfies the criterion.
2. Make a decision for the Robinson family. What should they do for dinner tonight? Write your decision in the space below.
3. Write two or three sentences in the space below to explain why, based on the PACED decision-making process, you made the decision you did for the Robinson family.

### Handout 3: Rental House Decision

The Robinson family’s lease is up soon, and they want to move to a bigger place. They need to decide between three different houses available for rent in their neighborhood. They’ve put together a list of four criteria and decided that some criteria are worth more than others. For example, it’s more important for monthly rent to be less than \$1,500 per month than it is for the house to have a garage. Therefore, they assigned four points to the rental price and one point to the garage. Their list of criteria appears in the table below with the values they assigned to each.

Criteria	Value
Less than \$1,500 per month	4 points
At least 4 bedrooms	3 points
Less than 6 blocks from school	2 points
Garage	1 point

The Robinsons have three houses to choose from, and their completed PACED decision-making-grid appears below:

Criteria →	Criterion 1: Less than \$1,500 per month	Criterion 2: At least 4 bedrooms	Criterion 3: Less than 6 blocks from school	Criterion 4: Garage	Total points
Value	4 points	3 points	2 points	1 point	
<b>Alternative 1:</b> 235 Front Street	0	3	2	0	5
<b>Alternative 2:</b> 457 Walnut Street	4	3	0	1	8
<b>Alternative 3:</b> 1735 Union Street	0	3	2	1	6

1. What is the Robinson family’s problem?
2. Based on the family’s established criteria and values, which house do you recommend they rent?
3. If they rent that house, what will be the opportunity cost of that decision?
4. If the Robinsons had used only +, -, ? to evaluate their three alternatives using their four criteria, how would the outcome have been different?

## Handout 4: Assessment

The Shah family—Sujita, John, and their two children, Jennifer and Tom—are planning a fun family activity for this Saturday. Jennifer suggested that they go bowling. Tom suggested that they go on a picnic at the lake. Sujita suggested they go to the beach for the day.

The Shah family wants to do something that will cost less than \$100, that requires less than an hour of travel each way, that everyone will enjoy, and that will not require purchasing, renting, or borrowing any additional equipment.

It only takes 10 minutes each way to drive to and from the bowling alley. It usually costs them \$95 when they all bowl a few games and get a couple snacks and sodas. Tom doesn't have his own bowling shoes but usually borrows a pair from his dad. Sujita and Jennifer don't really like bowling.

It will take 25 minutes to get to the lake. Everyone enjoys the family's picnics. They've estimated that it costs \$20 for the food and beverages they pack and \$10 for all of them to enter the picnic area at the lake. Unfortunately, they don't have a picnic basket. They always borrow one from the Robinsons.

The drive to the beach is more than an hour and a half each way. It usually costs the Shahs more than \$150 in gas, food, tolls, and beach tags to go to the beach for the day. Everyone enjoys the beach, and they have all the equipment they need for the day trip to the beach.

1. What is the Shah family's problem?
2. What are the Shah family's alternatives?
3. What are the Shah family's criteria for evaluating their alternatives?
4. Based on the information provided above, complete the PACED decision-making grid for the Shahs on your copy of Handout 1 using +, -, ?. Add up the total number of plus signs (+) for each alternative and enter it in the Total column.
5. Write up to two sentences to explain what activity you think the Shahs should choose to do on Saturday and why.
6. Based on your decision for the Shahs, what is their opportunity cost?

### Handout 4: Assessment Suggested Answers

The Shah family—Sujita, John, and their two children, Jennifer and Tom—are planning a fun family activity for this Saturday. Jennifer suggested that they go bowling. Tom suggested that they go on a picnic at the lake. Sujita suggested they go to the beach for the day.

The Shah family wants to do something that will cost less than \$100, that requires less than an hour of travel each way, that everyone will enjoy, and that will not require purchasing, renting, or borrowing any additional equipment.

It only takes 10 minutes each way to drive to and from the bowling alley. It usually costs them \$95 when they all bowl a few games and get a couple snacks and sodas. Tom doesn't have his own bowling shoes but usually borrows a pair from his dad. Sujita and Jennifer don't really like bowling.

It will take 25 minutes to get to the lake. Everyone enjoys the family's picnics. They've estimated that it costs \$20 for the food and beverages they pack and \$10 for all of them to enter the picnic area at the lake. Unfortunately, they don't have a picnic basket. They always borrow one from the Robinsons.

The drive to the beach is more than an hour and a half each way. It usually costs the Shahs more than \$150 in gas, food, tolls, and beach tags to go to the beach for the day. Everyone enjoys the beach, and they have all the equipment they need for the day trip to the beach.

1. What is the Shah family's problem?  
*They need to decide on a fun activity to do together on Saturday.*
2. What are the Shah family's alternatives?  
*Bowling, picnic, beach*
3. What are the Shah family's criteria for evaluating their alternatives?  
*Cost less than \$100, less than one hour travel time, something everyone will enjoy, no additional equipment*
4. Based on the information provided above, complete the PACED decision-making grid for the Shahs on your copy of Handout 1 using +, -, ?. Add up the total number of plus signs (+) for each alternative and enter it in the Total column.

	<i>Less than \$100</i>	<i>Less than 1 hour</i>	<i>Everyone enjoys</i>	<i>No additional equipment</i>	<i>Total</i>
<i>Bowling</i>	+	+	-	-	2
<i>Picnic</i>	+	+	+	-	3
<i>Beach</i>	-	-	+	-	1

5. Write up to two sentences to explain what activity you think the Shahs should choose to do on Saturday and why.  
*Based on the decision-making grid, the Shahs should decide to go on a picnic at the lake. They should choose the picnic because it satisfies most of their criteria (three plus signs total).*
6. Based on your decision for the Shahs, what is their opportunity cost?"  
*(It is the alternative with the next highest number of plus signs. In this case, it's bowling.)*



## Standards and Benchmarks

### Voluntary National Content Standards in Economics

#### Standard 1: Scarcity

Productive resources are limited. Therefore, people can not have all the goods and services they want; as a result, they must choose some things and give up others.

- **Benchmarks: Grade 4**

4. Whenever a choice is made, something is given up because resources are limited.
5. The opportunity cost of an activity is the value of the best alternative that would have been chosen instead. It includes what would have been done with the money spent and the time and other resources used in undertaking the activity.

#### Standard 2: Decision Making

Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Many choices involve doing a little more or a little less of something; few choices are “all or nothing” decisions.

- **Benchmarks: Grade 4**

1. Choices involve getting more of one thing by giving up something else.

### National Standards for Financial Literacy

#### Standard 2: Buying Goods and Services

People cannot buy or make all the goods and services they want; as a result, people choose to buy some goods and services and not buy others. People can improve their economic well-being by making informed spending decisions, which entails collecting information, planning, and budgeting.

- **Benchmarks: Grade 4**

5. Informed decision-making requires comparing the costs and benefits of spending alternatives. Costs are things that a decision maker gives up; benefits are things that a decision maker gains.

- **Benchmarks: Grade 12**

1. Consumer decisions are influenced by the price of a good or service, the price of alternatives, and the consumer’s income, as well as his or her preferences.

