

Beatrice's Goat

By Page McBrier / ISBN: 0-689-82460-2

Lesson Author

Bonnie Meszaros, Ph.D., University of Delaware and
Mary C. Suiter, Ph.D., Federal Reserve Bank of St. Louis

Standards and Benchmarks (see page 10)

Lesson Description

In this lesson, students listen to a story about Beatrice, a little girl from Uganda who receives a goat, and the impact of that goat on her family. Students learn what it means to save and use estimation to decide whether or not four people have enough money to reach their individual savings goals. They also work through a set of problems requiring them to identify how much additional money must be saved to reach given savings goals. Students learn what opportunity cost is and identify the opportunity costs of savings decisions made by Beatrice and her family.

Grade Level

3-5

Economics Concepts

Income
Opportunity cost
Saving
Savings goal
Short-term savings goal
Long-term savings goal

Mathematics Concepts

Addition
Subtraction

Estimation
Problem solving

Objectives

Students will

- define income, opportunity cost, saving, savings goal, and short-term and long-term savings goals;
 - identify the opportunity cost of a decision;
 - give an example of a savings goal; and
 - explain the difference between long- and short-term savings goals.
-

Time

60 minutes

Materials

- *Beatrice's Goat* by Page McBrier (ISBN: 0-689-82460-2)
 - Handouts 1, 2, and 3, one copy for each student
 - One small jar
 - Tokens (such as beans)
-

Procedure

1. Tell students that you want to buy a new car. Your current car is 10 years old. Explain that you don't have enough money right now to buy a new car. Ask the students if they have ever wanted something but couldn't buy it because they didn't have enough money. Have students explain how they handled their problem. (*Answers will vary but students may say they went without, saved money until they had enough, or asked for a wanted item as a gift.*)
 2. Point out that the students' solutions are good ones. Explain that you are leaning toward saving each month for your new car. Explain that **saving** means not spending money now and keeping that money to use in the future.
 3. Explain that you have saved for things in the past. Tell students that you wanted a new pair of shoes. The price of the shoes was \$69.99. You didn't have \$69.99, so you decided to save. Your savings goal was \$69.99, enough to buy the shoes. You put some money aside each week and didn't spend it until you reached your goal. A **savings goal** is a good or service that you want to buy in the future.
-

4. Explain that saving for the shoes was a **short-term savings goal**. It was a relatively small amount of money, and it only took a few weeks for you to reach your goal. However, your new savings goal—a new car—is a **long-term savings goal**. A long-term savings goal involves a larger amount of money and requires a longer time to reach.
5. Tell students that they will listen to a story about a girl named Beatrice who didn't have enough money to get something she wanted very much. Ask students to listen for Beatrice's savings goal and how she achieved her goal.
6. Read the book, *Beatrice's Goat*. Discuss the following:
 - What did Beatrice yearn to do? (*Beatrice yearned to go to school.*)
 - Why couldn't Beatrice go to school? (*Beatrice's family didn't have the money to buy the uniform and books she needed to attend school.*)
 - How did the goat, Mugisa, help Beatrice's family? (*The goat's milk provided the family with nutrition, so they were healthier, and it also provided an income because the family sold the milk they didn't drink.*)
7. Explain that **income** is payment people earn for work that they do.
 - How did Beatrice earn income? (*Beatrice milked the goat and sold the milk.*)
 - What did Beatrice do with the coins that people paid her for the milk? (*She saved the coins in a small woven purse.*)
 - What was Beatrice's savings goal? (*Beatrice wanted to save enough to buy a new shirt for Moses and a warm blanket for the bed she shared with Grace.*)
 - What was Beatrice's mother's short-term savings goal? (*Beatrice's mother wanted to save enough money to pay for a uniform and books so Beatrice could go to school.*)
 - What was Beatrice's mother's long-term savings goal? (*Beatrice's mother wanted to build a house with a steel roof that didn't leak when it rained.*)
 - Beatrice named the goat Mugisa because it means luck. Was this a good name for the goat? Explain. (*Yes, the goat brought good luck to the family. By selling the goat's milk, the family was able to save enough money to buy a uniform and books for Beatrice to go to school and to build a new house.*)
8. Distribute a copy of *Handout 1: Estimation* to each student. Read the instructions and allow time for students to complete the worksheet individually, with a partner, or as a class. Review student answers. (*Josh: No; Tina: Yes; Sam: Yes; Chantelle: No.*) Ask students to explain their procedures for estimating.

9. Remind students that there are several ways to solve math problems. On the handout they just completed, they used addition and estimation skills to determine if enough money had been saved. Explain that student will use subtraction on the next handout to determine how much more money must be saved to meet the savings goals noted.
10. Distribute a copy of *Handout 2: How Much More?* to each student. Read the instructions and allow time for students to complete the worksheet. Review student answers. (*Teddy bear: \$9.33; Yo-yo: \$8.43; Toy airplane: \$12.94.*) Ask students to explain their procedures for determining answers.
11. Explain that students will now have an opportunity to set their own savings goal for the class. List three activities on the board such as a popcorn party, watching a video, and an extra outdoor recess.
12. Explain that students will have to vote for the one activity they would most like to do. Remind students that they may vote only once. Allow students to vote. Circle the activity that receives the most votes.
13. Explain that this activity is the class's savings goal and that they will have an opportunity to earn and save in order to have the activity. Display a small jar. Explain that to earn the activity, the class must fill the jar. Students will be rewarded with beans (or other small tokens) for good behavior. Generate a list of good behaviors for which the students can be paid. These might include following class rules or receiving compliments for behavior from teachers in the hallways, lunchroom, or during special classes.
14. Explain that each time students complete one of the behaviors on the list, a small handful of beans will be added to the jar as payment. When the jar is full, the students will have saved enough beans to earn their chosen activity.
15. Review the following with the students:
 - What is the class's savings goal? (*The class's saving goal is to save enough beans to earn the activity they voted for as their first choice.*)
 - How will the class reach their savings goal? (*The class will earn a small handful of beans each time they practice agreed-upon behaviors.*)
16. Ask the students to determine what the class gave up when it selected the activity that received the most votes. (*They gave up their second choice.*) Point out that by choosing the activity that received the most votes, students lost the opportunity to do their second choice. The second choice was the cost of getting their first choice. Explain that what is given up to get the first choice is called the **opportunity cost**. Opportunity cost is the highest-valued alternative given up when a decision is made; it is your second choice.

17. Give students an example. Tell them that you had to decide how to use an hour of time. You could have read a book, gone shopping, or gone to the gym. You didn't have enough time to do all three because you had limited time. You decided to read a book. Your opportunity cost was going to the gym because that was your second choice; it was what you would have done had you not decided to read the book.
18. Ask students what they would choose to do if there were an extra 30 minutes of recess: Would they play soccer or run races? Ask a student to share his or her choice and his or her opportunity cost. Allow other students to share.
19. Ask students to share examples of choices they have made, tell why they had to make a choice, and identify the opportunity cost.
20. Remind the students that Beatrice and her family made choices. Discuss the following:
 - What was the opportunity cost for Beatrice's family of saving coins? (*The family didn't use the money to buy things they needed or wanted immediately.*)
 - What was the opportunity cost of using the savings for Beatrice's uniform and books? (*The family's opportunity cost was the blanket for the bed, a new shirt for Moses, and having to save longer for a new house.*)

Closure

21. Review the key concepts in the lesson by asking the following questions:
 - What is income? (*Income is payment people receive for work they do.*)
 - How do people earn income? (*People earn income by working.*)
 - What is saving? (*Saving is not spending money now and keeping that money to use in the future.*)
 - What is a savings goal? (*A savings goal is a good or service that you want to buy in the future.*)
 - What have you saved for? (*Answers will vary but may include games, toys, books, movies, or candy.*)
 - How are short- and long-term savings goals different? (*Usually short-term savings goals cost less and can be reached in a shorter time than long-term savings goals.*)
 - Give an example of a short-term savings goal for you. (*Answers will vary but may include candy, a movie ticket, or a small toy.*)
 - Give an example of a long-term savings goal for you. (*Answers will vary but may include a video game system, a movie on DVD, or money to spend on vacation.*)
 - What is opportunity cost? (*Opportunity cost is the highest-valued alternative given up when a decision is made; it is your second choice.*)

- What is the opportunity cost of saving? (*The opportunity cost of saving is the things that you don't buy now.*)
 - On Friday night, you could spend the night with a friend or go for pizza and a movie with your family. What would you choose to do? (*Answers will vary.*)
 - What would your opportunity cost be? (*If they choose to spend the night with a friend, the opportunity cost is pizza and a movie. If they choose pizza and a movie, their opportunity cost is spending the night with a friend.*)
-

Assessment

22. Distribute a copy of *Handout 3: Savings Goal Assessment* to each student. Allow time for students to complete the activity. Review student answers.

Handout 3: Savings Goal Assessment—Teacher Answer Key

1. *Students will circle either the book or movie DVD.*
 2. *The opportunity cost is the item not circled.*
 3. *\$18.95*
 4. *\$7.63*
 5. *4 weeks*
 6. *Answers will vary.*
23. **Optional activity:** Explain to students that the book *Beatrice's Goat* is based on a true story. Heifer International is a charitable organization that donates livestock to poor communities around the world. Have students determine an amount of money they would like to donate to Heifer International. This would be their savings goal. Help them determine a way they could earn and save enough money to reach this goal.

Handout 1: Estimation

Directions: Use estimation to determine if each student has enough saved to reach his or her savings goal.

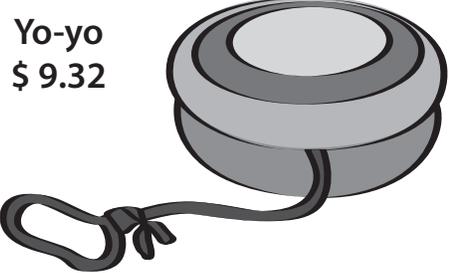
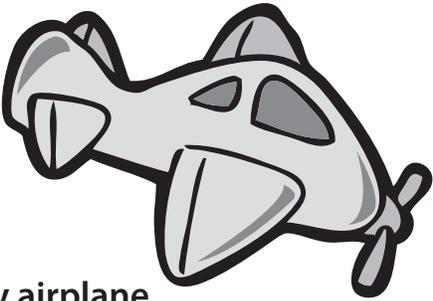
Student	Savings goal	Amount saved	Enough saved?
Josh	\$20.00	\$8.96 \$10.02	<input type="checkbox"/> Yes <input type="checkbox"/> No
Tina	\$15.00	\$0.79 \$3.00 \$11.51	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sam	\$10.00	\$4.25 \$5.50 \$0.75	<input type="checkbox"/> Yes <input type="checkbox"/> No
Chantelle	\$25.00	\$7.96 \$12.59 \$2.99	<input type="checkbox"/> Yes <input type="checkbox"/> No

Directions: Work with a partner. Create a similar estimation problem in the chart below. Exchange with your neighbors. Use estimation to solve your neighbor's problem.

Student	Savings goal	Amount saved	Enough saved?
			<input type="checkbox"/> Yes <input type="checkbox"/> No

Handout 2: How Much More?

Directions: Determine how much more must be saved to meet each savings goal.

Savings goal	Amount saved	Amount needed
 <p data-bbox="625 611 803 695">Teddy bear \$15.78</p>	\$6.45	
<p data-bbox="365 1024 462 1108">Yo-yo \$ 9.32</p> 	\$0.89	
 <p data-bbox="326 1654 527 1738">Toy airplane \$25.96</p>	\$13.02	

Handout 3: Savings Goal Assessment

Book
\$18.95



Movie DVD
\$18.95

1. Circle the item you would like to have.
2. What is the opportunity cost of your choice? _____
3. What is your savings goal? _____
4. If you have \$11.32, how much more do you need to reach your savings goal?
Show how you reached your answer.
5. If you save \$2.00 each week, how long will it take you to reach your savings goal?
Show how you reached your answer.
6. Write a sentence describing a long-term savings goal for you, and explain why this is a long-term savings goal.

Standards and Benchmarks

National Content Standards in Economics

Standard 1: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

- **Benchmark 1, Grade 4:** People make choices because they can't have everything they want.
- **Benchmark 5, Grade 4:** 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 10: Institutions evolve and are created to help individuals and groups accomplish their goals. Banks, labor unions, markets, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and enforced property rights, is essential to a market economy.

- **Benchmark 2, Grade 4:** Saving is the part of income not spent on taxes or consumption.

Standard 13: Income for most people is determined by the market value of the productive resources they sell. What workers earn primarily depends on the market value of what they produce.

- **Benchmark 2, Grade 4:** People can earn income by exchanging the use of their labor (physical or mental work) for wages or salaries.

National Standards in Personal Finance

Saving and Investing Overall Competency: Implement a diversified investment strategy that is compatible with personal goals.

- **Statement 1, Grade 4:** People save for future financial goals.
- **Statement 2, Grade 4:** Every saving decision has an opportunity cost.

Common Core State Standards, English Language Arts, Grades 2-4

Reading: Literature

- **Key Ideas and Details**
 - RL.2.1, RL.3.1, RL.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
 - RL.2.2, RL.3.2, RL.4.2: Determine a theme of a story, drama, or poem from details in the text; summarize the text.
 - RL.2.3, RL.3.3, RL.4.3: Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).

Speaking and Listening

- **Comprehension and Collaboration**

SL.2.1, SL.3.1, SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.

SL.2.2, SL.3.2, SL.4.2: Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Common Core State Standards, Mathematics, Grades 2

Operations & Algebraic Thinking

- **Represent and solve problems involving addition and subtraction.**

2.OA.1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

- **Add and subtract within 20.**

2.OA.2: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

Number & Operations in Base Ten

- **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

3.NBT.2, 4.NBT.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.

- **Use place value understanding and properties of operations to add and subtract.**

2.NBT.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.