Four Feet, Two Sandals

By Karen Lynn Williams and Khadra Mohammed / ISBN: 978-0-8028-5296-0

Lesson Author

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Standards and Benchmarks (see page 17)

Lesson Description

This lesson requires two class periods. In the first class period, students are asked to think of a way to decide who gets 100 pennies and how many each person gets. They learn about the concept of allocation and about different resource allocation methods. They evaluate the different methods using a graphic organizer. Next they listen to different scenarios and try to determine which allocation method was used. Then, after listening to the story *Four Feet, Two Sandals* about two girls who face some resource allocation issues, they identify the methods used in the story. In the second class period, the students are placed into groups to act out skits illustrating a resource allocation method that their classmates then try to guess. Finally, they read a news article about a resource and write letters to a city council outlining the ways the city could allocate the resource.

Students should have basic knowledge of the following economic concepts prior this lesson: scarcity, choices, opportunity cost, resources, goods, and services.

Grade Level

3-5

Concepts

Allocation

Allocation methods: price, command, majority rule, contest, force, first-come/first-served, sharing equally, lottery, and personal characteristics

Objectives

Students will be able to

- define allocation,
- describe different methods of allocation,
- identify some advantages and disadvantages associated with different allocation methods, and
- explain why no distribution method satisfies all wants.

Essential Question

Why isn't there a distribution method to satisfy everyone's wants?

Time

Approximately 90 minutes / two 45-minute periods

Materials

- *Four Feet, Two Sandals* by Karen Lynn Williams and Khadra Mohammed (ISBN: 978-0-8028-5296-0)
- Visual 1, one copy for the teacher
- Handout 1, one copy for each student
- Handout 1 Answer Key, one copy for the teacher
- Handout 2, copied and cut apart, one card for every four students
- Handout 3, one copy for each student
- Handout 4, one copy for each student
- 100 pennies
- A sheet of paper for each student to write a letter

Procedure

DAY ONE

1. To begin the lesson, tell the students that you have 100 pennies to give away. Discuss the following:
   - How many of you would like a penny?
   - How many of you would like 10 pennies?
   - How many of you would like all 100 pennies?

2. Explain that while you do have enough pennies for everyone to have at least one, you don't have enough for everyone to have 10 pennies. At most, 10 students could have 10 pennies. Also, you don't have enough for everyone to have 100 pennies. Only one student could have all 100 pennies.

3. Tell the students you are going to give away the pennies. You want them to think about a way you could decide who gets the pennies and how many they get. Ask them to come up with a way with their elbow buddy. Give the students a few minutes to think about their answers. Call on several students to tell you how you should distribute the pennies. Write their answers on the board.

4. Tell the students that all the ways they came up with are different ways to allocate the pennies. **Allocation** is the distribution of goods, services, or resources. Because all resources are scarce, we must make decisions about using them. People acting individually or collectively choose a way to allocate different kinds of goods, services, and resources. For example, space in this school is a scarce resource, so we have to decide how to allocate it. One way to allocate the space is to limit the number of students who can attend the school. There are criteria for who can attend this school and one of them is age. You have to be a certain age to enter Kindergarten. This means that space is allocated only to those students who are in Kindergarten or higher grades.

5. In general, there are nine **allocation methods**—that is, nine ways to allocate goods, services, and resources. Display *Visual 1: Descriptions*. Give the students time to read each description. Ask the students to compare the list on the visual with the list they generated on the board. Which ones did they think of? Which ones did they not think of?

6. Tell the students that they are going to complete a graphic organizer to help them think about the advantages and disadvantages of each allocation method. Distribute a copy of *Handout 1: Graphic Organizer* to each student. Allow time for them to copy the short descriptions from Visual 1 into the left-most column of the graphic organizer.

7. Now explain that they are going to complete the rest of the handout thinking about how to distribute the 100 pennies. They will use four criteria to evaluate each method:

   - Fair—Is it a fair way to decide who gets what?
   - Easy—Is it easy to organize and to do?
   - Costly—Does it cost a lot of time or money?
   - Harmful—Could people get physically or mentally hurt or discriminated against with this method?

   The fifth column is blank in case you decide as a class that there is another important criterion you want to use to evaluate the method.

8. Explain to the students that if they think the method meets a criterion, they should write a "Y" in the box for yes; if it does not meet a criterion, they should write an "N" for no; and if it depends on the situation, they should write an "M" for maybe. Allow students time to complete Handout 1 and then review the answers as provided in *Handout 1: Answer Key*.

9. Explain that we allocate goods, services, and resources differently. Although the most commonly used method of allocation is price, it is not best in every single case. What is best depends on the situation and the opinions of those deciding how to allocate the goods, services, or resources.

10. Tell the students you are going to read scenarios aloud and that they are to determine the allocation method used. They may use their completed Handout 1 as a reference. Read each scenario in turn:

    - You want new shoes. The shoes cost $100. If you are willing and able to pay $100 for the shoes, you will get them. If you are not, you will not. (*Price*)
    - It is your class's turn to go to the library. Instead of being able to pick what book you want to read quietly, the librarian hands out a book to each person. You must read the book you are given even if you do not like it. (*Command*)
    - The teacher has bonus points to give out. As a class, you vote on who should get the points. The two students with the most votes get the bonus points. (*Majority rule*)
    - The Parent Teacher Association (PTA) is holding a poster contest. The student with the best poster depicting school pride will win a homework pass for a week. (*Contest*)
    - You notice that one of your classmates has a new book of stickers. A friend told you that it's the same book of stickers they wanted for their birthday but didn't get. When your classmate goes to the bathroom before lunch, you see your friend take the book of stickers. (*Force*)
    - Your teacher has an extra copy of a book she would like to give away. She asks each student to write his or her name on a slip of paper. She puts the slips of paper in a cup and pulls one slip out. The person whose name is on that slip gets the book. (*Lottery*)
    - A new afterschool club is starting to encourage girls' interest in STEM fields. Only girls are able to join the club. (*Personal characteristics [gender]*)
    - There is a block party in your neighborhood this weekend. The first 10 children to arrive will get a T-shirt. Every child who arrives after the first 10 will still be able to attend the party but won't get a T-shirt. (*First-come/first-served*)
    - At recess there is only one ball to play with on the playground. All of the kids want to play with the ball, so everyone takes turns. (*Sharing equally*)

11. Now tell the students they are going to hear a story called *Four Feet, Two Sandals* about two girls who face some allocation issues. Ask them to listen carefully to the story for some examples of the allocation methods they have discussed.

12. Read *Four Feet, Two Sandals* and then discuss the following:
    - At the beginning of the story it says, "Everyone pushed and fought for the best clothes" (page 2). Why were people doing this? (*Not enough clothes to go around; scarcity*)
    - What allocation method were the relief workers using to give out the clothes? (*First-come/first-served*)
    - What problems occurred based on this method? (*Not everyone got what they wanted; both Lina and Feroza each only got one sandal.*)
    - How else could the relief workers have given out the supplies? (*Answers will vary, but students should answer with one of the allocation methods discussed previously.*)
    - Is there any allocation method they could have chosen that would have resulted in everyone in the camp being satisfied? (*No*) Why? (*Because it is unlikely that the relief workers had every single thing every person in the camp would want; people will always want more; and the goods in the camp were scarce.*)

13. Explain that Lina and Feroza had a scarcity problem. They both wanted the sandals, but there were not enough sandals to satisfy both of their wants. Hence, the title of the book: *Four Feet, Two Sandals*. Discuss the following:
    - How did Lina and Feroza decide to allocate the goods (the sandals)? (*They decided to alternate wearing the sandals—one wearing the complete pair every other day.*)
    - Is there any allocation method they could have chosen where both of their wants, to wear sandals, could be satisfied? (*No*) Why? (*No matter what they chose, there would always be more feet—four—than sandals—two—available.*)
    - Space in the school was also scarce. There wasn't enough room for all the children to go to school. Who was allowed to go to school? (*Only the boys*)
    - What method was used to allocate space in the school? (*Personal characteristics, in this case gender*)
    - Does this seem like a fair way to decide who gets to go to school? (*No*) Why? (*The girls deserve an education too.*)
    - Is there another way the people at the camp could have decided who got to go to school that would be fairer?—Think about what Lina and Feroza did. (*Yes, they could share the space. For example, boys could go one day and girls another, or girls could go in the morning and boys in the afternoon.*)
    - Even if they allocated the space this way, would everyone's wants be satisfied? (*No*) Why? (*There are probably girls and boys who would want to go to school every day, not every other or half a day.*)
    - Although the book does not say, how do you think the people at the camp decided who got to go to America? (*Answers will vary, but the students should answer with one of the allocation methods discussed previously.*)

DAY TWO

14. Remind the students that they have been learning about allocation methods. Ask them to name the allocation methods.

15. Divide the students into groups of four. Distribute one card from *Handout 2: Skit Cards* to each group. Tell the students they are to create a skit that illustrates the allocation method assigned to them. The rest of the students will try to guess the method used. Display Visual 1 again so that the students can reference the descriptions while creating their skits. Allow time for the students to create and execute their skits.

Closure

16. Review the important parts of the lesson by discussing the following:
    - What is the distribution of goods, services, or resources called? (*Allocation*)
    - What are the different methods that people acting individually or collectively use to allocate goods, services, and resources? (*Price, command, majority rule, contest, force, first-come/first-served, sharing equally, lottery, and personal characteristics*)
    - What are some of the advantages and disadvantages associated with different allocation methods? (*Answers will vary, but students should answer with the reasons listed on Handout 1: Answer Key.*)
    - Why is it impossible to satisfy everyone's wants, regardless of the distribution method we use? (*Because of scarcity, people's wants are greater than the goods, services, and resources available to satisfy those wants. People will always want more or might be unhappy with the method chosen.*)

Assessment

17. Distribute copies of *Handout 3: Assessment* and *Handout 4: News Article*[1] to each student. Tell the students to read the news article first. Then they can read the prompt and each write a letter that includes the three items mentioned.

18. Answer to the assessment will vary, but each should contain the following points:
    - *The distribution of goods, services, or resources is called allocation. People acting individually or collectively must choose which methods to use to allocate different kinds of goods and services.*
    - *See Handout 1: Answer Key. Five possible resource allocation methods and their specifics to the story should be included.*
    - *No allocation method satisfies everyone's wants because of scarcity.*

[1] By setting up a free account on website newsela.com, teachers can download this article at different Lexile levels. The version included is Word Count: 539, Grade: 4, Lexile: 680.

Visual 1: Descriptions

Price: Those who are willing and able to pay the price for a good, service, or resource will get it.

Command: A person or group (e.g., a government) decides who gets what goods, services, or resources, usually without any input from the people who want the goods, services, or resources.

Majority rule: People vote to decide who gets a good, service, or resource.

Contest: A type of activity where the winner receives a good, service, or resource.

Force: A good, service, or resource is taken through physical damage or intimidation.

First-come/first-served: A good, service, or resource is given to the first person who wants it and takes it.

Lottery: A good, service, or resource is given to one person who is randomly selected.

Personal characteristics: People are selected (or excluded) to receive the good, service, or resource based on certain traits (e.g., gender, race, age).

Sharing equally: A good, service, or resource is distributed equally to all or shared equally among people who want it.

Handout 1: Graphic Organizer

Resource to allocate	Description	Fair	Easy	Time consuming	Potential for harm
Command					
Contest					
First-come/ first-served					
Force					
Lottery					
Majority rule					
Personal characteristics					
Price					
Sharing equally					

Handout 1: Answer Key

Resource to allocate	Description	Fair	Easy	Time consuming	Potential for harm
Command	A person or group (e.g., a government) decides who gets what goods, services, or resources, usually without any input from the people who want the goods, services, or resources.	*N*	*Y*	*N*	*Y*
Contest	A type of activity where the winner receives a good, service, or resource.	*Y*	*M*	*M*	*Y*
First-come/ first-served	A good, service, or resource is given to the first person who wants it and takes it.	*Y*	*Y*	*Y*	*M*
Force	A good, service, or resource is taken through physical damage or intimidation.	*N*	*N*	*N*	*Y*
Lottery	A good, service, or resource is given to one person who is randomly selected.	*Y*	*Y*	*N*	*N*
Majority rule	People vote to decide who gets a good, service, or resource.	*Y*	*Y*	*M*	*M*
Personal characteristics	People are selected (or excluded) to receive the good, service, or resource based on certain traits (e.g., gender, race, age).	*Y*	*M*	*M*	*Y*
Price	Those who are willing and able to pay the price for a good, service, or resource will get it.	*Y*	*Y*	*N*	*M*
Sharing equally	A good, service, or resource is distributed equally to all or shared equally among people who want it.	*Y*	*Y*	*N*	*N*

Handout 2: Skit Cards (page 1 of 3)

PRICE

The school store has new notebooks for sale. They are really cool and only $3. You and your best friends want one. You go to the store. Both of your friends have $3 with them today, and you don't. They are able to buy the notebook. You are not able to buy the notebook.

Parts: Three friends going to the school store; one clerk at the school store who allows only the two students with the $3 to buy notebooks.

COMMAND

Your mom made chicken noodle soup for dinner. You had soup for lunch and would not have picked that for dinner, but your mom made the choice, so you have to eat it.

Parts: Three students acting as siblings at the dinner table; one student acting as the mom. Two of the siblings are happy with the dinner choice; one is not.

MAJORITY RULE

You and two other people from your class are running for student council. Only one person can represent your class. The students in your class vote. The student with the most votes will be the student council representative for your class.

Parts: Three students running for student council; one teacher who counts the votes and announces the winner.

Handout 2: Skit Cards (page 2 of 3)

CONTEST

You are selling magazine subscriptions for your school fundraiser. The student who sells the most magazine subscriptions gets two tickets to the State Fair.

Parts: Three students selling magazines; one teacher who announces who the top seller is and gives him or her the tickets.

FORCE

It's a cold day outside today. You forgot your hat at home. During recess, you see another kid on the playground who has a warm hat. While that kid is playing on the jungle gym, her hat falls to the ground. You decide to grab the hat when she isn't looking.

Parts: Three kids playing on the playground nicely; one kid who forgot her hat and takes someone else's.

LOTTERY

You have an extra piece of candy in your lunch box. All of your friends want it, but you only have one. To decide, you ask them to stand in a circle. You go in the middle, close your eyes, spin around several times, and then point at someone in the circle. The student you point out gets the candy.

Parts: Three students who want candy; one student with the candy deciding who gets it.

Handout 2: Skit Cards (page 3 of 3)

PERSONAL CHARACTERISTICS

A nearby amusement park just opened a new ride. You are going there on a field trip and cannot wait to try out the ride. When you get to the ride, there is a sign that says you must be 48 inches tall to be allowed on it. You are only 46 inches tall. You don't get to ride.

Parts: Three students who want to ride—the tallest two students will get to ride, the shorter student will not (Don't worry about being 48 inches really!); one person acting as the ride attendant measuring people as they enter the ride.

FIRST-COME/FIRST-SERVED

You and your family like to volunteer at a soup kitchen on Sunday afternoons. You help set up the tables, set the places, and serve the soup. The kitchen has enough food to serve 100 people, but this Sunday, you notice the line is much longer than usual. It is wrapped around the block. You realize there probably isn't going to be enough soup for everyone. Only the first 100 people will be fed.

Parts: Two family members volunteering at the soup kitchen; two people waiting in line to be served lunched. Pretend that a person behind the two people in your line is the 101st person who will not be served lunch.

SHARING EQUALLY

At recess there is only one long jump rope to play with. You and your best friend want to play with it. Just as you go to get it, two more kids show up and also want it. There is only one rope, so both sets of friends can't have it. You decide to play together and share.

Parts: Two sets of friends who want the same jump rope. When you share, two people will turn the jump rope, and two people will jump rope in the middle.

Handout 3: Assessment

Directions: Read the article "New tsunami pod offers an alternative escape option." Then write a letter including the three items listed below based on the prompt in the box below.

> Survival Capsule LLC donated 50 tsunami survival pods to the town of Yachats, Oregon. Yachats (pronounced YAH-hots) is a quiet seaside town located directly on the Pacific Coast of Oregon. The town only has 742 full-time residents, but during tourist season it attracts plenty of travelers looking for a peaceful Oceanside retreat. The city council is meeting in two weeks to decide how to distribute the tsunami survival pods. They would like feedback from the public prior to the meeting.

Write a letter to the Yachats City Council and include the following:

1. Explain what it means to allocate a good, service, or resource.
2. List five possible allocation methods they could use to distribute the pods and some possible advantages and disadvantages of using each method.
3. Explain why no allocation method can satisfy everyone's wants.

Handout 4: News Article (page 1 of 3)

NEWSELA

New tsunami pod offers an alternative escape option

By Seattle Times, adapted by Newsela staff on 02.24.17
Word Count **671**

In Ocean Park, on Long Beach Peninsula in Washington state, Jeanne Johnson, with her dog, Trixie, peers out of her two-person tsunami survival pod. The sphere has a hatch with a waterproof seal, and two small windows and two air vents that also can be made watertight. Photo by: Greg Gilbert/Seattle Times/TNS

OCEAN PARK, Wash. — Jeanne Johnson figured out how to survive a hurricane when she lived in New Orleans. When the family moved to Kansas City, she taught her kids to take cover from tornadoes. When Johnson bought a house near the ocean in Washington state, she started worrying about tsunamis. They are huge waves caused by earthquakes in the ocean.

Now, Johnson is betting her life on a new, high-tech solution: a tsunami survival capsule.

The bright orange sphere is meant to protect people from drowning or being crushed by debris. It's made of aluminum, with a watertight door and tiny porthole windows. There is also a GPS beacon that will send out a signal to rescuers, and it even has its own air supply.

Johnson is the company's first customer, and she has been working on the best way to climb and close the hatch.The pod will be terrible to spend any time in, said Johnson, who works for the computer software company Microsoft. "But it's better than the alternative."

Handout 4: News Article (page 2 of 3)

NEWSELA

Inspiration From Tragedies

The pod is the brainchild of engineer Julian Sharpe, who started Survival Capsule LLC. He got the idea after a 2004 tsunami in the Indian Ocean, which killed more than 200,000 people. Sharpe was on vacation near the ocean and wondered how his family could get to safety if a tsunami struck the Pacific Northwest.

“Our kids were very little. We had two huskies. How could we evacuate in time?” he said.

In 2011, an earthquake and tsunami killed 16,000 people in Japan. At that point, Sharpe and coworkers started to work seriously on their escape pod.

Sharpe runs a small company that analyzes and tests airplane parts. He used the same methods to design capsules strong enough to withstand a tsunami wave.

“I would use this for my family,” Sharpe said.

Not Everyone Likes It

Chuck Wallace is an emergency management director for Grays Harbor County in Washington. He doubted the escape pod will really work in an actual tsunami.

Wallace asked what would happen if it got stuck under debris or the pod began to leak. “You’re just not going to convince me they’re safe,” he said.

The best way to escape a tsunami is to find high ground. However, escape pods are good for those who would never be able to make it, like the elderly or disabled, said Eddie Bernard. He is a former director of the National Oceanic and Atmospheric Administration’s Pacific Marine Environmental Laboratory in Seattle.

“We need to be thinking about all the tools available to save lives,” he said.

"A Very Viable Option"

Johnson took out a loan to buy her 4.5-foot-diameter, two-person pod for $13,500. When a four-person version is available, she intends to buy that. “I want to have room, in case my kids come to visit,” she said.

She is stocking the capsule with water, a 40-day supply of food, warm clothing and an emergency radio.

Sharpe says he’s got a list of about 400 potential customers around the world. He is focusing mainly on Japan where it's important to be prepared. One community along Japan's coast is thinking about helping residents buy survival pods.

“What we’re trying to do is increase people’s chances of survival,” Sharpe said. “If you have no other means of escape this is a very viable option.”

Handout 4: News Article (page 3 of 3)

NEWSELA

Preparing For The Unexpected

Johnson says having the pod lets her enjoy her new home without being afraid.

“I can hear the ocean in my windows,” she said. “I can walk on the beach with my dog.”

Johnson lives off the Cascadia Subduction Zone, an earthquake zone in the Pacific Ocean, which has caused at least 40 major quakes and tsunamis over the past 10,000 years. The most recent one was in 1700. It’s impossible to know when the next one will strike, but Johnson says she doesn’t think too much about it.

“I bought that capsule to give me peace of mind, so I can sleep at night and not worry," she said.

Standards and Benchmarks

Voluntary National Content Standards in Economics

Standard 3: Allocation. Different methods can be used to allocate goods and services. People acting individually or collectively must choose which methods to use to allocate different kinds of goods and services.

- **Benchmark 1, Grade 4:** No method of distributing goods and services can satisfy all wants.
- **Benchmark 2, Grade 4:** There are different ways to distribute goods and services (by prices, command, majority rule, contests, force, first-come/first-served, sharing equally, lottery, personal characteristics, and others), and there are advantages and disadvantages to each.

Common Core State Standards: English Language Arts Grades 3-5

Reading: Literature

- **Key Ideas and Details**

  CCSS.ELA.Literacy.RL.3.1: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

  CCSS.ELA.Literacy.RL.3.3: Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

  CCSS.ELA.Literacy.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.

  CCSS.ELA.Literacy.RL.5.3: Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

Reading: Informational Text

- **Key Ideas and Details**

  CCSS.ELA.Literacy.RI.3.1: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

Speaking and Listening

- **Comprehension and Collaboration**

  CCSS.ELA.Literacy.SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.

Writing

- **Text Types and Purposes**

  CCSS.ELA.Literacy.W.3.1; CCSS.ELA.Literacy.W.4.1; CCSS.ELA.Literacy.W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons.