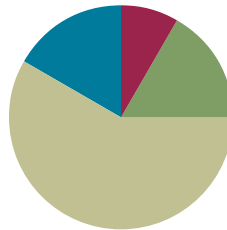


Lesson 2

Objective: Explore relationships between availability of resources and cost.

Suggested Lesson Structure

■ Fluency Practice	(5 minutes)
■ Application Problem	(10 minutes)
■ Concept Development	(35 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)



Fluency Practice (5 minutes)

- Name the Value **2.5B, 3.4C** (5 minutes)

Name the Value (5 minutes)

Materials: (T) Real or plastic U.S. bills and coins (S) Personal white board

Note: In this fluency students count collections of coins and bills, then write the value using the dollar sign and a decimal point.

Conduct the fluency as in Lesson 1, first displaying coins, then bills, then combining the coins and bills. Use the following amounts: \$4.27, \$1.14, \$6.79

Application Problem (10 minutes)

Bar Graphs (10 minutes)

Materials: (S) Application Problem Template

Note: In this activity, students organize data in a bar graph and answer one- and two-step problems.

Students create a bar graph by using the data table and grid on their student page. There should be equal space between bars. The bars should be labeled. The order of the bars does not matter. Students need to add a title to the graph. When the graphs are completed, help students analyze the data by asking questions such as the following:

- How many students are represented in this data set? How do you know?
- How many more students have brown hair than students with blonde hair and students with red hair combined?

- How many fewer students with blonde hair are there than students with brown hair? Give your answer in a number sentence.
- How many students do not have blonde hair? Which group is 2 times larger than the group with black hair?

Concept Development (35 minutes)

Materials: (S) Problem Set

Problem 1: Ben’s Video Game

- T: On the Problem Set, read the story about Ben in Problem 1.
- T: During which month did the similar game cost the most?
- S: September.
- T: What was the price in September of the similar game?
- S: \$60.
- T: What patterns do you notice in the price of the video game from September to December? Turn and talk. Record your ideas.
- S: The price kept going down. → The price decreased more and more each month. → The price in December is half of the price in September.
- T: Look at both graphs together. Why do you think the store kept lowering the price of the game over those months? Turn and talk. Record your ideas.
- S: Fewer people wanted the game, so the price went down. → All those people who bought it in September already had the game, so fewer people needed to buy it in the other months.
- T: It’s called high **demand** when a lot of people want to buy an item at the same time. When demand is high for an item, the store can sell that item for more money than it can when demand is low for that item. What happened in October?
- S: 200 games were sold. → Each game costs \$50. → Fewer people bought the game in October than in September. → The same game cost less in October than it did in September.
- T: When the store sees that an item is not selling as fast as before, they might lower the price. When a store has a lot of an item that is not selling, we say the item has high **supply** and low demand.
- T: When demand goes down for an item, a store will sometimes lower the price to encourage people to buy it. In other words, when an item has high supply and low demand, the store could lower the price. What are the advantages and disadvantages of Ben waiting until July or August to buy the new game he wants? Turn and talk. Record your ideas.
- S: If Ben waits, he might save money. → If he waits, he won’t have the game when everyone is playing it. → He’ll pay less, but he’ll have to wait. → If he waits, the store might run out of games.



NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Consider creating a graphic organizer, using the video game and baseball hat examples, to support English language learners and others with understanding high/low demand and supply.

Problem 2: Clothing Sales

- T: Let's think about another example of supply and demand. What time of year do you think the demand for summer clothes might be highest?
- S: At the beginning of summer.
- T: How will the demand for summer clothes affect the price of these clothes? Explain your thinking. Turn and talk.
- S: If a lot of people want summer clothes, the price will be high. → When the demand is high for summer clothes, the price for them is high.
- T: How will demand for summer clothes change at the end of the summer? How will this affect the price of summer clothes? Turn and talk.
- S: At the end of the summer, fewer people may want or need to buy summer clothes. → Summer clothes will cost less at the end of the summer than at the beginning of the summer. → If the demand goes down for summer clothes, the price for them will probably also go down.
- T: Finish my sentences. When the demand is high, the price can be ...
- S: High.
- T: As the demand gets lower, the price might get ...
- S: Lower.
- T: Let's pretend that there is a really special baseball cap that, for some reason, all third graders want. Am I describing high demand or low demand for the cap?
- S: High demand.
- T: Let's pretend that there are long lines at the stores where this cap is sold. There won't be enough baseball caps for everyone who wants one. How do you think this situation will affect the price of the caps? Turn and talk.
- S: The price of the baseball caps might go up. → The stores know that a lot of people want the caps, so they can make the price higher.
- T: Finish my sentence. In this story, the demand is high, and the supply is ...
- S: Low.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students should solve these problems by using the RDW approach used for Application Problems.

Student Debrief (10 minutes)

Lesson Objective: Explore relationships between availability of resources and cost.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner. Look for misconceptions or misunderstandings that can be addressed in the Student Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

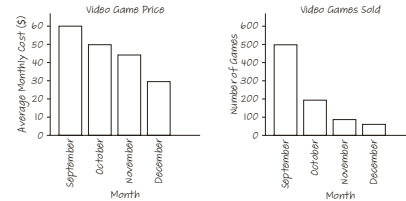
- What do we mean by *high demand* and *low demand*?
- What do we mean by *low supply* and *high supply*?
- How is the price of an item usually affected by high or low demand?
- How is the price of an item usually affected by high or low supply?
- Compare your strip diagram for Problem 3 with your partner's. Why did the situation cause the final price to go up?

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Name _____ Date _____

1. Ben Jones is excited about buying a new video game. Ben sees some bar graphs that compare the price of a similar video game from the time it was first released in September to the months following. The bar graphs show the price and how many games were sold over four months. Ben wants to use this information to plan when to buy the new video game.



- a. What patterns do you notice in the price of the video game from September to December?
The price is decreasing.
- b. Look at both graphs together. Why do you think stores kept lowering the price of the game?
The stores are lowering the price because they still have games to sell but people aren't buying as many.
- c. Think about the data on the similar game. What are the advantages and disadvantages of Ben waiting a month or two to buy the game he is planning to buy?
*The advantage of waiting is that the price might be lower. If Ben waits, he could hear from his friends whether the game is worth buying.
The disadvantages of waiting is that Ben would have to wait to play the game or there might not be any games left to buy.*

2. Fill in the blanks with *high* or *low*.

- a. A bakery makes delicious sourdough bread. Customers have to get there early or they might not get any.
This bread has high demand and low supply.
- b. The bakery made 50 spinach cakes that almost no one bought.
The cakes had low demand and high supply.
- c. The bakery makes lots of pumpkin pies that are always very popular.
The pies have high demand and high supply.
- d. The bakery sells pudding that they make only on request. Customers who want this pudding have to place a special order the day before. The bakery typically receives two orders a month for the pudding.
The pudding has low demand and low supply.
- e. The bread, cake, pie, and pudding each cost the about same amount of money to make. For which item could the bakery charge the highest price? Explain your thinking.
The bakery could probably charge the highest price for the bread. It has a high demand and a low supply. Some people will be willing to spend more than others. The bakery should try to charge as much as it can, but still sell all the bread they made.

3. Games For Kids made a game that costs \$35. One toy store increased the price by \$15.

- a. What is the price of the game now?



The price of the game is now \$50.

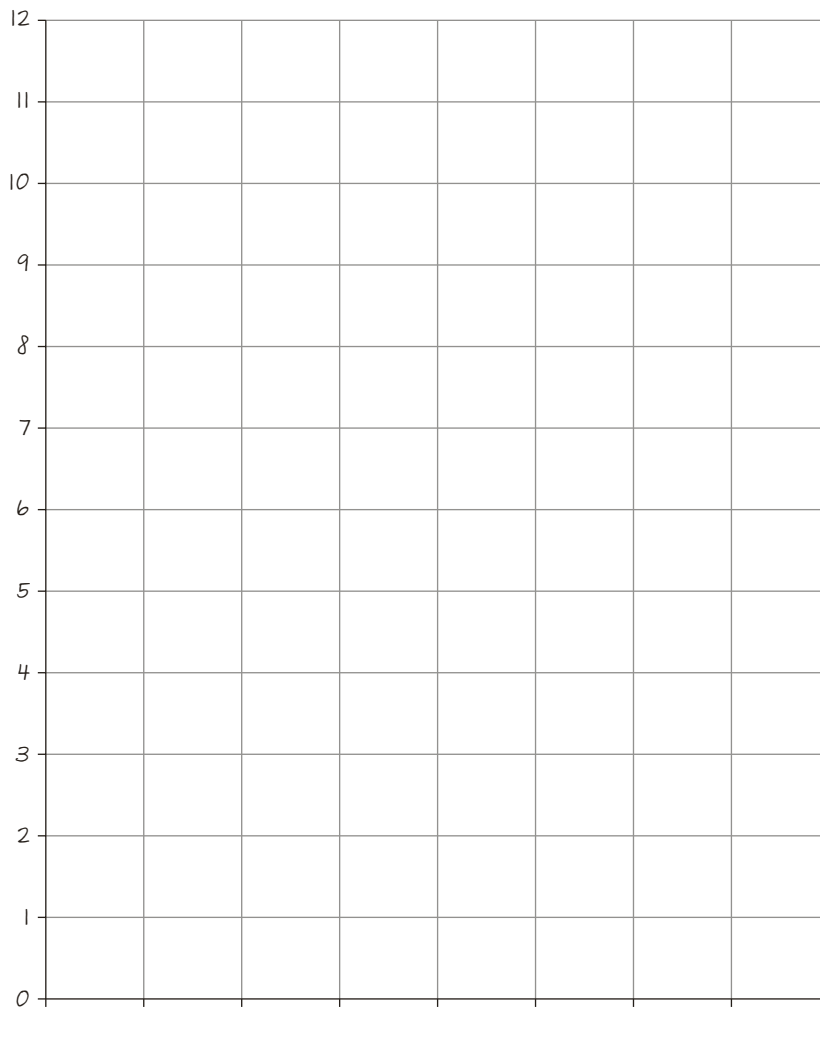
- b. Explain how a change in the supply of the game or the demand for the game could have prompted the store to raise the price.

A store will raise its price if they have a game where the demand is high and the supply is low.

Use the data in the table to create a bar graph.

Hair Colors of Grade 3 Students	
Color	Number of Students
Red	1
Blonde	5
Black	6
Brown	12

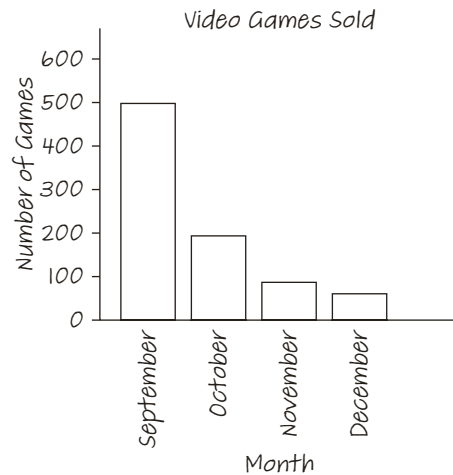
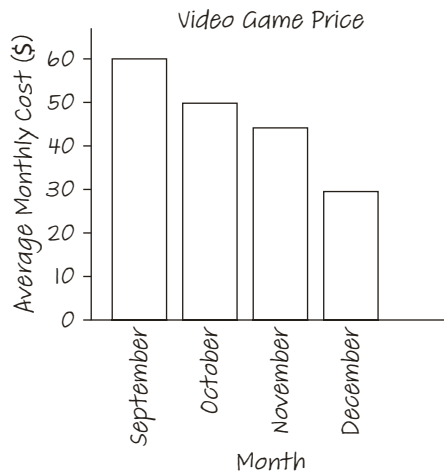
Title _____



Name _____

Date _____

1. Ben Jones is excited about buying a new video game. Ben sees some bar graphs that compare the price of a similar video game from the time it was first released in September to the months following. The bar graphs show the price and how many games were sold over four months. Ben wants to use this information to plan when to buy the new video game.



- a. What patterns do you notice in the price of the video game from September to December?
- b. Look at both graphs together. Why do you think stores kept lowering the price of the game?
- c. Think about the data on the similar game. What are the advantages and disadvantages of Ben waiting a month or two to buy the game he is planning to buy?

2. Fill in the blanks with **high** or **low**.

- a. A bakery makes delicious sourdough bread. Customers have to get there early or they might not get any.

This bread has _____ demand and _____ supply.

- b. The bakery made 50 spinach cakes that almost no one bought.

The cakes had _____ demand and _____ supply.

- c. The bakery makes lots of pumpkin pies that are always very popular.

The pies have _____ demand and _____ supply.

- d. The bakery sells pudding that they make only on request. Customers who want this pudding have to place a special order the day before. The bakery typically receives two orders a month for the pudding.

The pudding has _____ demand and _____ supply.

- e. The bread, cake, pie, and pudding each cost the about same amount of money to make. For which item could the bakery charge the highest price? Explain your thinking.

3. Games For Kids made a game that costs \$35. One toy store increased the price by \$15.

- a. What is the price of the game now?

- b. Explain how a change in the supply of the game or the demand for the game could have prompted the store to raise the price.

Name _____

Date _____

Use the words *supply* and *demand* in your answers.

1. Why might a baseball signed by a famous player cost more than an unsigned baseball? Explain your thinking by using the words supply and demand.

2. Why might the price of pool toys be lower in winter? Explain your thinking using the words supply and demand.

4. Fill in the blanks with **high** or **low**.

- a. A restaurant makes delicious vegetable soup. Lunch customers have to get there early or they might not get any.

This soup has _____ demand and _____ supply.

- b. The restaurant made 35 mushroom pies that almost no one bought.

The pies had _____ demand and _____ supply.

- c. The restaurant makes lots of fruit salads that are always very popular.

The fruit salads have _____ demand and _____ supply.

- d. The restaurant sells meatball sandwiches that they only make on request. If a customer wants this sandwich, they have to place a special order the day before. The restaurant typically receives 3 orders a week for meatball sandwiches.

This sandwich has _____ demand and _____ supply.

- e. The soup, pie, salad, and sandwich each costs the same amount to make. For which one could the restaurant charge the highest price? Explain your thinking.

5. An umbrella usually sells for \$10. Suddenly it started to rain. One store increased the price of each umbrella by \$5.

- a. What is the price of an umbrella at that store now?

- b. Explain why the store might have increased the price of the umbrellas using the words *supply* and *demand*.

