Lesson 5 Rounding Decimals

Objective

Your student will learn to round decimals to the nearest whole, tenth, and hundredth.

You Will Need

- ☐ *Gallop into Math!* pages 31 and 32
- ☐ dry-erase board, pocket, and marker
- ☐ Decimal Number Lines, *Calina's Math Tools*
- ☐ Decimal Place Value Chart, *Calina's Math Tools*

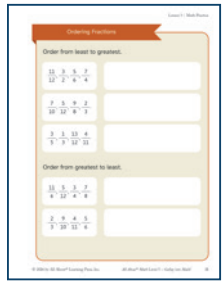
Before You Begin

Preview Rounding Decimals

In this lesson, your student will round decimals to the nearest whole number, tenth, and hundredth place. In the previous lesson, your student used place value charts and number lines to compare decimals to the thousandths place. She will continue to use these tools to round decimals. You can remind her that determining which number the decimal number is closer to will help with rounding. The rules for rounding decimal numbers are the same as for whole numbers; she is just working with new place values.

This lesson is important because sometimes we want to simplify a number by writing it with fewer decimal places than it initially contains. Learning to round decimals will allow her to practice this skill.

Review



Math Practice

Turn to page 31 in the *Gallop into Math!* activity book.

"Let's review ordering fractions. First, look over the fractions to determine if you can use benchmarks to easily compare what numbers are more than one, close to one, less than half, and so on. If needed, rewrite some fractions as equivalent fractions using the same denominator in order to compare them. Finally, you will order the fractions from least to greatest or greatest to least."

Review
(continued)

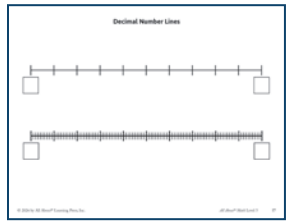
Answer Key

- $\frac{5}{6}, \frac{11}{12}, \frac{3}{2}, \frac{7}{4}$
- $\frac{5}{12}, \frac{2}{3}, \frac{7}{10}, \frac{9}{8}$
- $\frac{1}{3}, \frac{4}{11}, \frac{3}{5}, \frac{13}{12}$
- $\frac{11}{6}, \frac{7}{8}, \frac{3}{4}, \frac{5}{12}$
- $\frac{9}{10}, \frac{5}{6}, \frac{2}{3}, \frac{4}{11}$

Rounding Decimals with Hundredths

Write 12.87, 12.13, 12.51, and 12.08 in a list on the dry-erase board.

"In science class, Olivia recorded these numbers (point to the numbers) from an experiment. Read these numbers to me." *Twelve and 87 hundredths, 12 and 13 hundredths, 12 and 51 hundredths, 12 and 8 hundredths.*



Decimal Number Lines

Find the *Decimal Number Lines* from *Calina's Math Tools*. Place it in the dry-erase pocket.

"Good. Each of these decimals has hundredths. We will round these numbers to the nearest whole number. How can you use the hundredths number line (point to the bottom number line) to see which numbers are closer to 12 or 13?" *I can place each number on the number line. The numbers to the left are closer to 12, and the numbers to the right are closer to 13.*

"Yes. Use the hundredths number line to determine which numbers are closer to 12 and which are closer to 13. Which numbers round to 12, and which numbers round to 13?" *The numbers 12.08 and 12.13 are closer to 12, so they round down to 12. The numbers 12.87 and 12.51 are closer to 13, so they round up to 13.*

"Great. We will use the *Decimal Number Lines* to help us round more decimals."

New Teaching

Rounding to the Nearest Whole Number

"Mount Washington in New Hampshire is the highest mountain on the eastern coast of the United States. The top of Mount Washington is known for it's very high wind speeds. In this lesson, we will look at the wind speeds recorded throughout the year.

New Teaching
(continued)

Let's start with the average wind speed for April, 35.613 miles per hour. We write 'mph' as the abbreviation for miles per hour."

Write 35.613 on a dry-erase board.

"What do you notice about this number?" *There are three numbers to the right of the decimal point.*

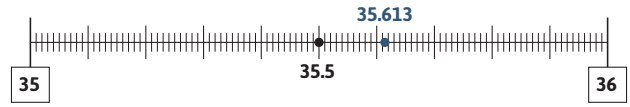
"Yes. This number has thousandths. In this lesson, you will work with numbers that may have a digit in the thousandth place."

"We will round this number to the nearest whole number using the number line. Rounding a number with thousandths to a whole number is just like rounding a number with hundredths to a whole number. What whole numbers is 35.613 between?" *35 and 36*

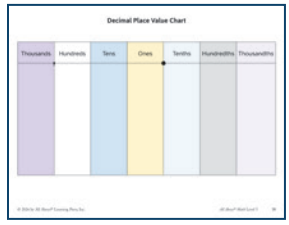
"Right. We will use the hundredths number line. Write 35 in the box on the left side of the number line and 36 in the box on the right side of the number line."

"Next, mark and label the halfway point between 35 and 36. How did you know?" *The halfway point is 35.5. I know this because one whole is equal to ten-tenths and half of that is five-tenths.*

"Now, plot the number 35.613 on the hundredths number line." *I found thirty-five and six-tenths. This number comes one hundredth and a little bit more after that, so I will plot it here.*



"Is this number closer to 35 or 36? How do you know?" *The number 35.613 is closer to 36. I know this because it's between 35.5 and 36.*



Decimal Place Value Chart

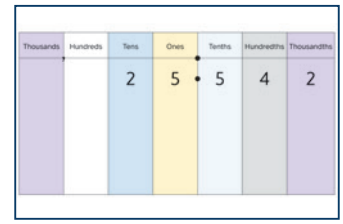
Find the *Decimal Place Value Chart* from *Calina's Math Tools*. Place it on the other side of the dry-erase pocket so that you can flip back and forth between the *Decimal Number Lines* and the *Decimal Place Value Chart*.

Place the *Decimal Place Value Chart* in front of your student.

"We can also use a place value chart to help us round to the nearest whole number." Write the number 25.542 on the dry-erase board.

New Teaching
(continued)

"Write this number on the place value chart."



"Use the place value chart to round the number to the nearest whole number. How did you round?" *I circled the 5 in the ones place and underlined the 5 in the tenths place. I can use the tenths place to determine how to round. Five is exactly in the middle, so we round up just like numbers that are closer to the higher number. So, 25.542 rounds to 26.*

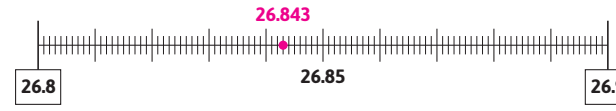
"Good. Let's keep rounding with more wind speeds." Clear the dry-erase board and both sides of the dry-erase pocket.

Rounding to the Nearest Tenth

Write 26.843 on a dry-erase board.

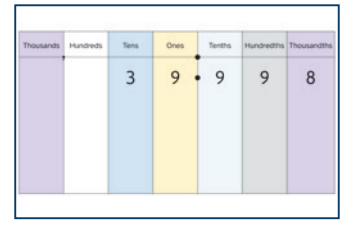
"In June, the wind speed for the month averaged 26.843 miles per hour. Round this number to the nearest tenth using a number line. Remember, rounding a number with thousandths to the nearest tenth is just like rounding a number with hundredths to to the nearest tenth.

"Plot the number 26.843 on the number line. What is 26.843 rounded to the nearest tenth? How do you know?" *It's 26.8. I know this because it is closer to 26.8 than 26.9 on the number line.*



Flip the dry-erase pocket over to the side with the *Decimal Place Value Chart*.

"Now, let's round another number to the nearest tenth using the place value chart. Write the number 39.998 on the place value chart."



New Teaching
(continued)

"Circle the digit in the tenths place and underline the digit in the hundredths place to help us round." (*Answer: The nine in the tenths place is circled, the nine in the hundredths place is underlined.*)

"Good. What does the nine in the hundredths place tell you about rounding to the nearest tenth?" *It is closer to the higher number, so we must round up to the next number.*

"Yes. But, we can't just turn a 9 into a 10 in the tenths place and leave everything else alone. Instead, we need to write a zero and write a 1 over to the ones place. Then, the 9 in the ones place becomes a 10, which makes the number 40. So the whole number goes up and rounds to 40.0. Write 40.0 on the dry-erase board."

"Even though rounding is about just one place value, it can sometimes change more than one digit. That's why place value is so important. Let's keep going."

Clear the dry-erase board and both sides of the dry-erase pocket.

Rounding to the Nearest Hundredth

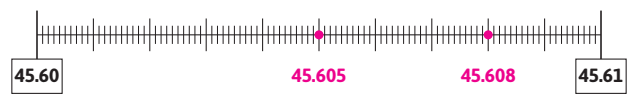
"In January, the average wind speed on Mount Washington was 45.608 miles per hour. Write 45.608 on the dry-erase board."

"We want to round 45.608 to the nearest hundredth. When we rounded to the nearest tenth, we used the place value of the hundredths to help us determine if we should round up or down. What place value do you think we will look at when we round to the nearest hundredth?" *Thousandths.*

"Nice thinking! We will use the number line to help us round. First, we need to write a number in each box. Since we are rounding to the nearest hundredth, what should we write in the left box?" *Well, since 45.608 has 60 hundredths, we should write 45.60 in the left box.*

"What will go in the right box then?" *One more hundredth, so 45.61.*

"Yes, write those numbers in the boxes. Then, plot the point on the number line. How did you know where to plot?" *First, I put the halfway point, which is 45.605. Then, I counted on to eight and marked 45.608 on the eighth tick mark.*

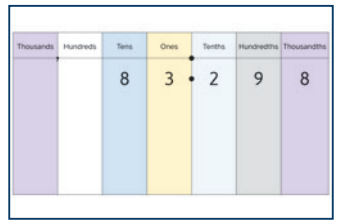


"Great. Using the number line, what is this number rounded to the nearest hundredth?" *The number 45.608 rounds to 45.61 because it is closer to it.*

New Teaching
(continued)

Flip the dry-erase pocket over to the side with the *Decimal Place Value Chart*.

"Now, let's use place value to round another number to the nearest hundredth. Write the number 83.298 on the *Decimal Place Value Chart*."



"Which digit in which place will you circle and which will you underline?" *I'll circle nine in the hundredths place, and I'll underline the eight in the thousandths place.*.

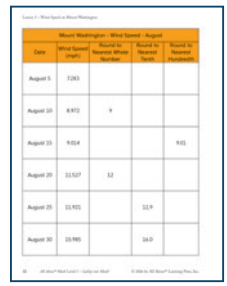
"Yes, do that. How do you round this number?" *I look at the thousandths place, and it's an 8, so I round the hundredths place up. The 9 in the hundredths place becomes 10, which makes the tenths place go up by 1. The rounded number is 83.30.*

"Good. Now, let's see how you can round more decimals." Have your student round each number to the nearest whole number, tenth, and hundredth using the *Decimal Number Lines* for one and the *Decimal Place Value Chart* for the other.

- Average wind speed in February: 44.983 (*Answer: nearest whole number: 45; nearest tenth: 45.0; nearest hundredth: 44.98*)
- Average wind speed in March: 39.812 (*Answer: nearest whole number: 40; nearest tenth: 39.8; nearest hundredth: 39.81*)

Complete Activity Sheet

"Let's practice rounding to the nearest whole numbers, tenths, and hundredths."



Wind Speed on Mount Washington

Turn to page 32 in the *Gallop into Math!* activity book.

"Now it's your turn to be a wind speed expert! Let's check out what the winds were like on Mount Washington in August and practice rounding."

Have your student round each number to the nearest whole number, tenth, and hundredth using the tool of her choice.

New Teaching
(continued)

Answer Key

- August 5: 7 7.3 7.28
- August 10: 9.0 8.97
- August 15: 9 9.0
- August 20: 11.5 11.53
- August 25: 12 11.92
- August 30: 16 15.99

Look For
Your student may have trouble rounding when more than one digit changes.

Here's How to Help: Have your student label a number line and determine the endpoints each time she rounds, and then plot the number to make sure it's between those endpoints. Then she can determine which way to round the number.

Math Reflection

"Let's Reflect!"

Ask some questions to guide your student's reflection:

- "How can you use a number line to round a number to the nearest hundredth?"
- "How does a halfway point help with rounding using a number line?"
- "What is something you want to practice more?"

Extended Practice (*optional*)

If your student is not able to round decimals, or she expressed the need for more practice, continue working on this skill.

Have your student round each number to the nearest whole number, tenth, and hundredth using the *Decimal Number Lines* for some of the numbers and the *Decimal Place Value Chart* for the other numbers.

- 12.068
- 5.324
- 4.267
- 8.431
- 5.653
- 7.002
- 3.298

New Teaching
(continued)

Answer Key

12	12.1	12.07
5	5.3	5.32
4	4.3	4.27
8	8.4	8.43
6	5.7	5.65
7	7.0	7.00
3	3.3	3.30

Your student will continue practicing rounding decimals in future lessons. You can proceed to the next lesson without full mastery of the skill.

Calina's Math Fun!

Wind Speed Rounding

Let's practice our math skills!

Materials

- Wind Speed Rounding cards, *Gallop into Math!* page 33
- Wind Speed Rounding spinner, *Gallop into Math!* page 35
- Connecting Cubes

(see Appendix B for Spinner Instructions)

Directions

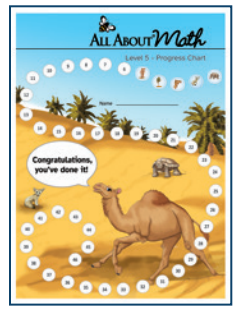
1. Cut out the *Wind Speed Rounding* cards and place them face down in a stack.
2. Player 1 will draw a card, read the decimal number out loud, and spin the spinner. She will round the number on her card based on what she spins. For example, if she has the number 81.034 and spins "nearest whole number," she would round 81.034 to 81.
3. If Player 1 rounds the number correctly, she earns one point, unless the card says "Double Points!" Then she earns two points. She will keep track of her points using connecting cubes. If she is not correct, her turn ends. The card returns to the bottom of the stack whether she was correct or not.
4. Player 2 repeats the steps for her turn.
5. The first player to reach five points wins the game.

Answer Key

A: 15	14.8	14.78	J: 25	24.5	24.51
B: 23	22.5	22.54	K: 52	52.4	52.44
C: 35	34.6	34.60	L: 12	12.0	11.98
D: 42	42.0	42.02	M: 56	56.3	56.30
E: 16	15.6	15.64	N: 75	75.5	75.47
F: 46	45.7	45.71	O: 81	81.0	81.03
G: 25	25.4	25.39	P: 30	30.0	29.99
H: 51	51.2	51.23	Q: 65	65.4	65.39
I: 31	31.1	31.14	R: 98	98.3	98.30

Track Your Progress

Mark the Progress Chart



Have your student mark Lesson 5 on the Progress Chart.


Wow!
You're learning faster than a desert wind!
I am so proud of you!
I guess now I'm going to have to just keep on galloping or risk getting lost in your sandstorm!

Lesson 15 Using the Distributive Property to Explain Scaling

Objective

Your student will use the distributive property to reason about how much larger or smaller the scaling is when multiplied by a fraction greater than or less than 1.

You Will Need

- ☐ *Gallop into Math!* pages 109 to 114
- ☐ dry-erase board, pocket, and marker

Math Vocabulary

scaling

Before You Begin

Preview Using the Distributive Property to Explain Scaling

In this lesson, your student is introduced to the idea of scaling in multiplication. **Scaling** means resizing a quantity in equal proportions. Scaling in multiplication is similar to resizing an object.

In the last lesson, your student learned how multiplying a whole number by a fraction can make the value larger or smaller. Today, she will apply this idea to multiplying two fractions and use the distributive property to explain how much larger or smaller the product will be. The distributive property helps her understand how much the product changes.

This lesson builds a strong foundation for understanding the size of products and will help her in future lessons when she multiplies two fractions to find exact answers.

Review

Daily Review

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose one or two skills, and take a few minutes to practice.

Review
(continued)

Math Practice

Turn to page 109 in the *Gallop into Math!* activity book.

"Let's review how to solve division situations. Draw a diagram or write an expression to represent each situation. Then, find the quotient and simplify your answer."

Answer Key

- $\frac{8}{12} = \frac{2}{3}$ of a jug of water
- $\frac{2}{4} = \frac{1}{2}$ of a carton of juice
- $\frac{17}{10} = 1\frac{7}{10}$ apples
- $\frac{128}{4}$ = 32 fl. oz. = 4 cups

Comparing Size Without Multiplying

Write $\frac{2}{5} \times 7$ on the dry-erase board. "What do you know about this expression and the size of this fraction?" *We are multiplying a fraction by a whole number. The fraction is less than a whole.*

"Right! Using this knowledge, what can we determine about the product?" *The product will be less than seven because seven is being multiplied by a value less than one.*

Clear the dry-erase board. Write $\frac{7}{a} \times 4 > 4$. "When you look at this expression, what does it tell you?" *It tells me that the value of a fraction, with an unknown denominator, multiplied by four is greater than four.*

"Right. What are two different numbers that the denominator could be?" Your student may suggest any two numbers from one through six.

"Nice job! Why could the denominator not be ten?" *Because then the fraction would have a value less than one. Multiplying $\frac{7}{10}$ by four will equal something less than four, not greater.*

Clear the dry-erase board.

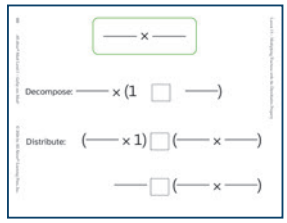
New Teaching

Using the Distributive Property to Explain Scaling Up

"In the last lesson, we noticed that multiplying by a fraction less than one makes the product smaller, multiplying by one keeps it the same, and multiplying by a fraction greater than one makes it bigger. This

New Teaching
(continued)

is called scaling. **Scaling** means changing the size of something by multiplying every part by the same number. If we multiply by 2, it becomes twice as big. If we multiply by $\frac{1}{2}$, it becomes half the size. Today, we will use the distributive property to help us figure out exactly how much larger or smaller something becomes when we scale it."



Multiplying Fractions with the Distributive Property

Remove page 110 from the *Gallop into Math!* activity book. Place it into the dry-erase pocket.

"We can use this tool to help us understand scaling."

"As we explore more about the distributive property, we will also pretend to attend a neighborhood meeting that will share plans for developing a new dog park in the community. By using scaled drawings and models, the meeting gives the neighbors an idea of what the park will look like when complete. Some items have been enlarged to show details, while others have been reduced in size to provide a better view of the entire project. The first display is a poster for proposed plants to use in the landscaping by the entrance sign." Write $\frac{3}{4} \times \frac{5}{3}$ in the top box of the *Multiplying Fractions with the Distributive Property* page.

$\frac{3}{4} \times \frac{5}{3}$

Decompose: $\_\_ \times (1 \square \_)$

Distribute: $(\_ \times 1) \square (\_ \times \_)$

$\_\_ \square (\_ \times \_)$

"The petals on the flowers that the project leaders have chosen are $\frac{3}{4}$ of an inch (point to $\frac{3}{4}$). This expression shows that the petals of the flower have been multiplied by $\frac{5}{3}$ to be displayed on the poster. Do you think that will make them larger or smaller than their actual size?" *Larger.*

"Right. We are multiplying by an improper fraction, which is greater than one, so the model is being scaled up. Let's use the distributive property to find out how much is added. First, we need to break apart or decompose $\frac{5}{3}$. How would we express $\frac{5}{3}$ as a mixed number?" *The mixed number is* $1\frac{2}{3}$.

"Right! $\frac{5}{3}$ is 1 plus $\frac{2}{3}$." Write $\frac{3}{4} \times (1 + \frac{2}{3})$ on the page.

$\frac{3}{4} \times \frac{5}{3}$

Decompose: $\frac{3}{4} \times (1 \boxplus \frac{2}{3})$

Distribute: $(\_ \times 1) \square (\_ \times \_)$

$\_ \square (\_ \times \_)$

New Teaching
(continued)

"The next step is to distribute the numbers and write our new expression. To do that, we need to multiply $\frac{3}{4}$ by 1 and $\frac{3}{4}$ by $\frac{2}{3}$. (Draw arcs to show the distribution.) When we rewrite the expression, what sign will stay between the terms?" *The plus sign.*

Fill in the expression next to *Distribute*.

$\frac{3}{4} \times \frac{5}{3}$

Decompose: $\frac{3}{4} \times (1 \boxplus \frac{2}{3})$

Distribute: $(\frac{3}{4} \times 1) \boxplus (\frac{3}{4} \times \frac{2}{3})$

$- \square (- \times -)$

"Now let's solve the first part. What is $\frac{3}{4} \times 1$?" *It is* $\frac{3}{4}$.

$\frac{3}{4} \times \frac{5}{3}$

Decompose: $\frac{3}{4} \times (1 \boxplus \frac{2}{3})$

Distribute: $(\frac{3}{4} \times 1) \boxplus (\frac{3}{4} \times \frac{2}{3})$

$\frac{3}{4} \boxplus (\frac{3}{4} \times \frac{2}{3})$

"Right. To determine how much the flowers have been enlarged on the poster, we can use the expression we have created after distributing. What do you notice about the fractions in this new expression?" *The first two fractions are the same; they are both* $\frac{3}{4}$.

"Yes. We know that the product of $\frac{3}{4}$ and $\frac{5}{3}$ has to be more than $\frac{3}{4}$. The final expression shows us that. We have $\frac{3}{4}$ and then we are adding more to it. How much more?" *It will be* $\frac{3}{4} \times \frac{2}{3}$ *more.*

"That's correct. The original flower petals were $\frac{3}{4}$ of an inch, and then they were scaled by $\frac{5}{3}$, so now they will be larger. $\frac{2}{3}$ of the original was added! The flowers have been enlarged from their actual size so we can see the details." Clear the dry-erase pocket.

Using the Distributive Property to Explain Scaling Down

"At the meeting, we also saw a model of a park map sign that will be placed in the new dog park." Write $\frac{4}{6} \times \frac{2}{5}$ in the top box on the *Multiplying Fractions with the Distributive Property* page.

"The sign is $\frac{4}{6}$ of a yard long. The creators multiplied its length by $\frac{2}{5}$ for the model. Do you think that will make the model larger or smaller than its actual size? Explain your thinking." *I think the model*

New Teaching
(continued)

will be smaller because when it was scaled up, we multiplied by a fraction larger than one. Here we are multiplying by a fraction smaller than one.

"Right. We are multiplying by a fraction that is less than one whole, so the model will be scaled down. Let's use the distributive property to find out how much will be removed. We will still use one, but our other measurement is less than one. Draw a model on the dry-erase board to represent $\frac{2}{5}$. That will help us determine how we can represent the value in the expression."

"We can use subtraction to think about your model. There is one whole, and if we subtract the unshaded parts, $\frac{3}{5}$, that leaves us with the fraction $\frac{2}{5}$. Let's represent this with an expression next to *Decompose*." Lead your student to write the expression $\frac{4}{6} \times (1 - \frac{3}{5})$."

$\frac{4}{6} \times \frac{2}{5}$

Decompose: $\frac{4}{6} \times (1 \square \frac{3}{5})$

Distribute: $(- \times 1) \square (- \times -)$

$- \square (- \times -)$

"Now, we need to distribute and write the new expression. Draw arcs to show the distribution of $\frac{4}{6}$ to the decomposed fraction, and fill in the new expression next to *Distribute*." *(Answer: $(\frac{4}{6} \times 1) - (\frac{4}{6} \times \frac{3}{5})$)*

"Good. Now find the product of the first parenthesis, $\frac{4}{6} \times 1$, and complete the expression at the bottom."

$\frac{4}{6} \times \frac{2}{5}$

Decompose: $\frac{4}{6} \times (1 \square \frac{3}{5})$

Distribute: $(\frac{4}{6} \times 1) \square (\frac{4}{6} \times \frac{3}{5})$

$\frac{4}{6} \square (\frac{4}{6} \times \frac{3}{5})$

"Let's look at our work. Again, I notice that the first two fractions are the same, $\frac{4}{6}$. What do you notice that is different?" *There's a minus sign. We're subtracting.*

"Right. Since we are subtracting an amount from $\frac{4}{6}$, the answer must be less than $\frac{4}{6}$. That tells us the sign was made smaller to create a model. The sign was scaled by $\frac{2}{5}$, and the $\frac{3}{5}$ shows how much of the original sign was removed." Clear the dry-erase pocket.

"How does breaking apart the second factor using one whole help us make a comparison?" *It helps you see if you're adding a value or taking it away from the first factor.*

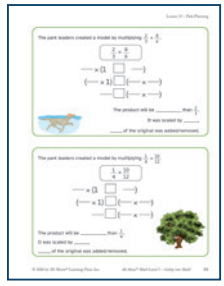
New Teaching
(continued)

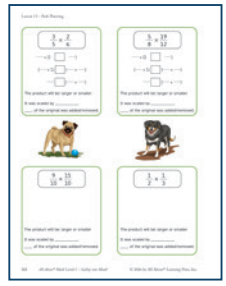
Write the following expressions on the dry-erase board one at a time to continue practicing using the distributive property to explain scaling. Allow your student to use the *Multiplying Fractions with the Distributive Property* page. Have her decide if the scaled model would be larger or smaller, state the scale, and then describe how much of the original amount is added or removed. Ask her to explain her thinking.

- $\frac{1}{2} \times \frac{6}{4}$ (*Answer: larger, scaled by* $\frac{6}{4}$, $\frac{2}{4}$ *of the original was added*)
- $\frac{2}{5} \times \frac{9}{5}$ (*Answer: larger, scaled by* $\frac{9}{5}$, $\frac{4}{5}$ *of the original was added*)
- $\frac{4}{12} \times \frac{3}{4}$ (*Answer: smaller, scaled by* $\frac{3}{4}$, $\frac{1}{4}$ *of the original was removed*)

Complete Activity Sheet

"Let's practice using the distributive property to explain scaling."



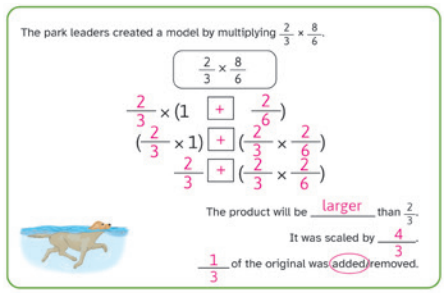


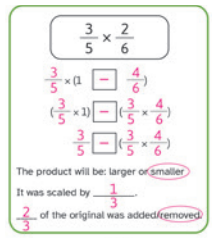
Park Planning

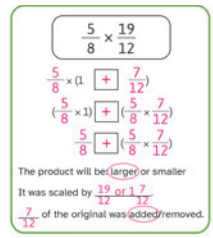
Remove pages 111 and 112 from the *Gallop into Math!* activity book.

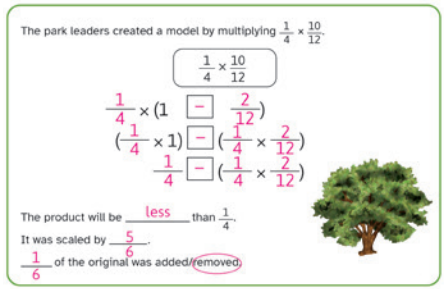
"Fill in the blanks and circle the correct answers. Use the distributive property to help you decide if the model is larger or smaller than the original, state the scale, and say how much of the original is added or removed. Choose one problem on front to share your reasoning. Try it without using the *Multiplying Fractions with the Distributive Property* page for the last two questions on the back."

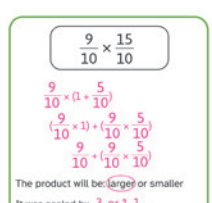
Answer Key

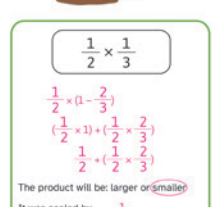


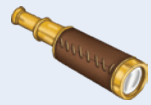












Look For
Your student might struggle to determine how to break the second factor apart using one whole.

Here's How to Help: Have your student make models to help determine the size of the second factor.

Math Reflection:

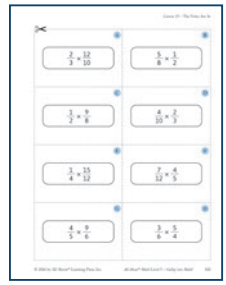
"Let's reflect!"

Ask some questions to guide your student's reflection:

- "How does the size of the second factor help you decide if the product is scaled up, scaled down, or stays the same?"
- "How did the distributive property help you explain scaling?"

Extended Practice: (*optional*)

If your student cannot use the distributive property to explain scaling, or if she expresses the need for more practice, continue working on this skill.



The Votes Are In

Remove page 113 from the *Gallop into Math!* activity book. Cut apart the cards, and place them in a stack face down.

"At the community meeting, members voted on whether to add a splash pad to the dog park. Flip each vote card and decide whether the expression would create a larger or smaller scaled model. Then use the *Multiplying Fractions with the Distributive Property* page to find the scale and describe how much of the original is added or removed."

"Cards where the scale is larger count as a *YES* vote. Cards where the scale is smaller count as a *NO* vote. Sort the cards to determine whether the splash pad will be included in the dog park plans."

If your student needs support, ask:

- "What does the second fraction in the expression tell you about the scaling of the model?"
- "How can you use the distributive property to write a different expression to determine the scaling?"
- "What does the addition or subtraction sign tell us about the size of the model?"

New Teaching
(continued)

Answer Key

- A: larger, scaled by $\frac{12}{10}$, $\frac{2}{10}$ was added
- B: smaller, scaled by $\frac{1}{2}$, $\frac{4}{8}$ was removed
- C: larger, scaled by $\frac{9}{8}$, $\frac{1}{8}$ was added
- D: smaller, scaled by $\frac{2}{3}$, $\frac{1}{3}$ was removed
- E: larger, scaled by $\frac{15}{12}$, $\frac{3}{12}$ was added
- F: smaller, scaled by $\frac{4}{5}$, $\frac{1}{5}$ was removed
- G: larger, scaled by $\frac{9}{6}$, $\frac{3}{6}$ was added
- H: larger, scaled by $\frac{5}{4}$, $\frac{1}{4}$ was added

This is the last lesson on scaling. Keep practicing this skill if it's difficult for your student. You may move on to the next lesson as you continue reviewing.

Calina's Math Fun!

Playing at the Dog Park

"Let's practice our math skills!"

Materials

- Playing at the Dog Park Scaling Cards, *Gallop into Math!* page 115
- Playing at the Dog Park Expression Cards, *Gallop into Math!* page 117
- Multiplying Fractions with the Distributive Property, *Gallop into Math!* page 110
- dry erase pocket and marker

Directions

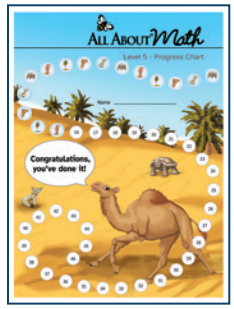
1. Cut apart the *Playing at the Dog Park* scaling cards. Mix up the cards, and then give each player two cards. Place the remaining cards in a stack face down. Cut out the *Playing at the Dog Park* expression cards. Mix up the cards and place them in a separate stack face down.
2. Players will take turns choosing a *Playing at the Dog Park* expression card. Players can use the *Multiplying Fractions with the Distributive Property* page to help determine if the scaling would be larger or smaller and how much of the original is added or removed.
3. If she gives the correct answer of how much of the original is added or removed and has a card with the correct scaling, she gets to keep the dog (the expression card). She will then place the scaling card at the bottom of the stack and draw another scaling card from the top (players will always have two scaling cards during the game).
4. If she does not answer correctly or does not have the scaling card needed, she'll place the expression statement card at the bottom of the stack.
5. If a player has a scaling card that says *Your Choice*!, she may choose either the larger or smaller word to play, and she does not have to find how much larger or smaller.
6. The first player to collect five dogs, or expression cards, is the winner.

Answer Key

A: larger, $\frac{1}{2}$
B: larger, $\frac{2}{5}$
C: larger, $\frac{3}{5}$
D: smaller, $\frac{1}{12}$
E: smaller, $\frac{5}{8}$
F: smaller, $\frac{2}{3}$
G: larger, $\frac{2}{3}$
H: larger, $\frac{3}{4}$
I: larger, $\frac{5}{12}$
J: smaller, $\frac{8}{10}$
K: smaller, $\frac{2}{5}$
L: smaller, $\frac{9}{10}$
M: larger, $\frac{1}{5}$
N: larger, $\frac{3}{6}$
O: larger, $\frac{1}{2}$
P: smaller, $\frac{7}{8}$
Q: smaller, $\frac{6}{10}$
R: smaller, $\frac{2}{4}$

Track Your Progress

Mark the Progress Chart



Have your student mark Lesson 15 on the Progress Chart..