GRADE 4 VOLUME 2

enVision® Mathematics

SAVVAS

Hi, we're here to help you.
Let's have a great year!
I'm Daniel.
I'm Marta.
I'm Emily.
I'm Jackson.
I'm Zeke.
I'm Carlos.
I'm Jada.
I'm Alex.

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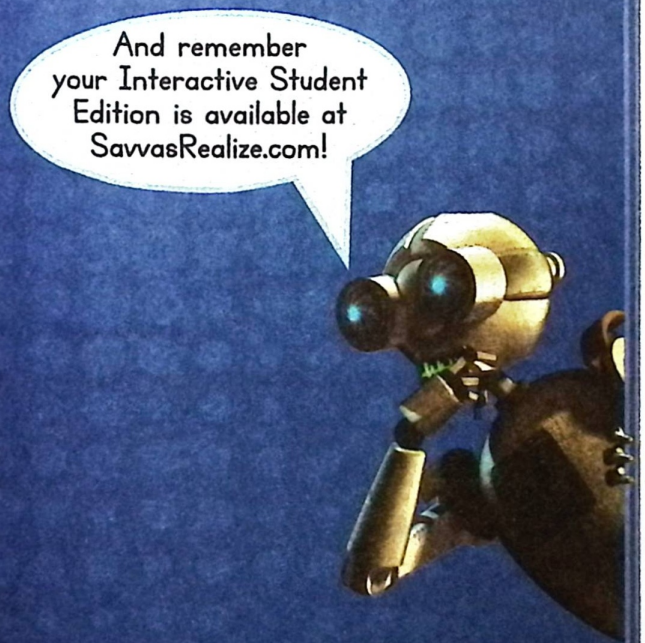
Digital Resources at SavvasRealize.com



TOPICS

1. Generalize Place Value Understanding
2. Fluently Add and Subtract Multi-Digit Whole Numbers
3. Use Strategies and Properties to Multiply by 1-Digit Numbers
4. Use Strategies and Properties to Multiply by 2-Digit Numbers
5. Use Strategies and Properties to Divide by 1-Digit Numbers
6. Use Operations with Whole Numbers to Solve Problems
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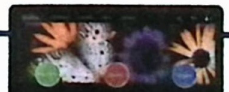
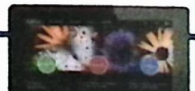

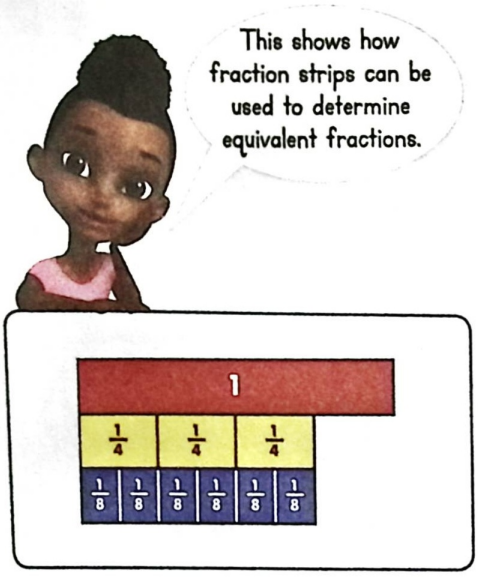

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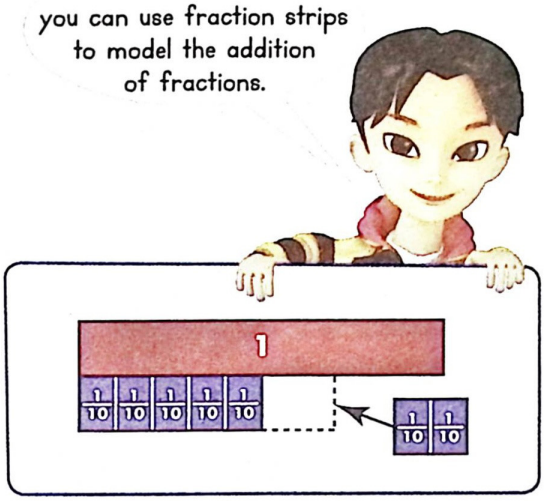
This shows how you can use fraction strips to model the addition of fractions.



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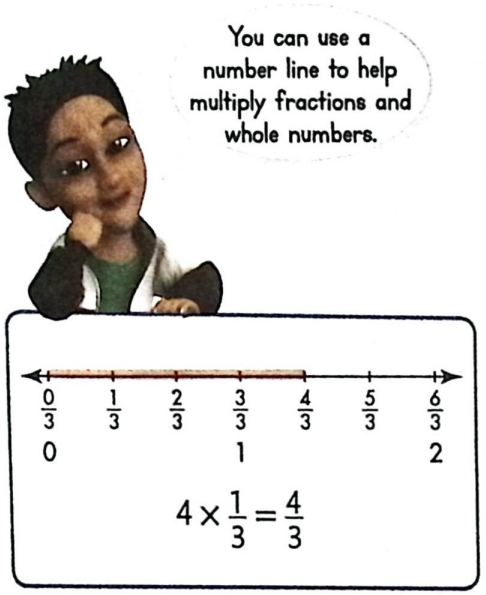

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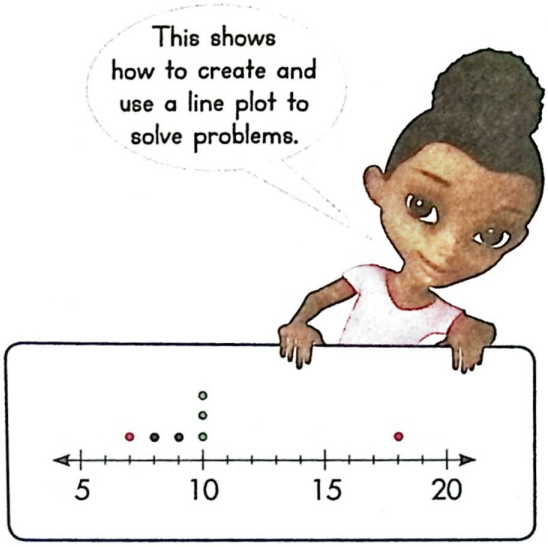

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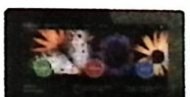

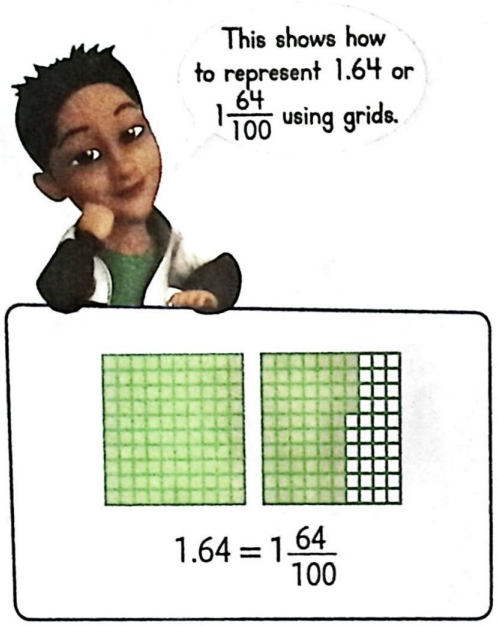

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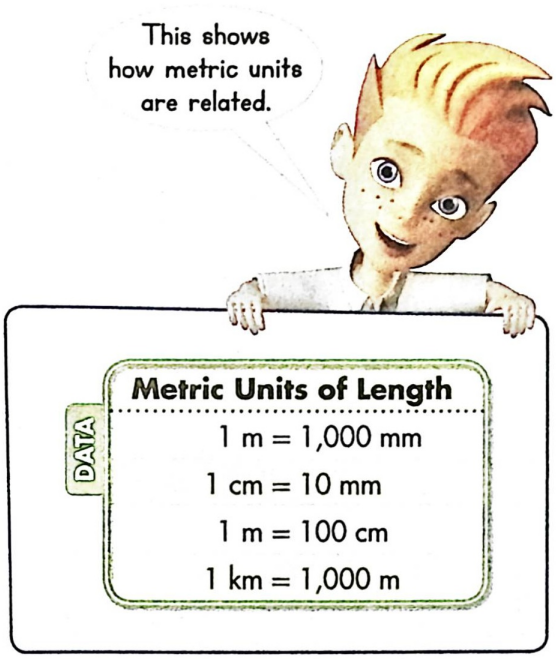

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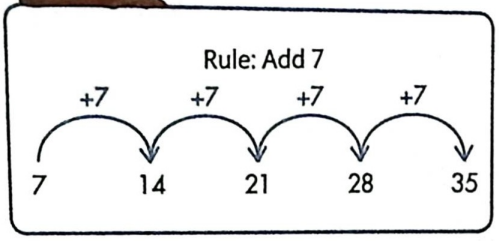

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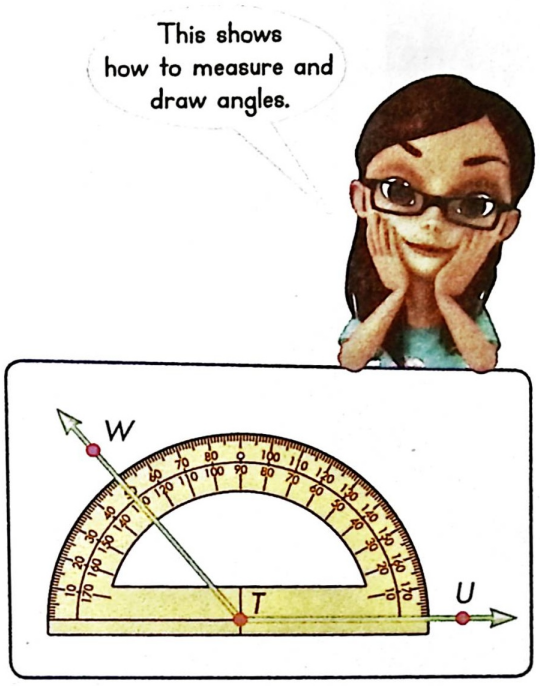

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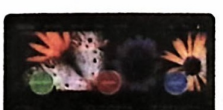

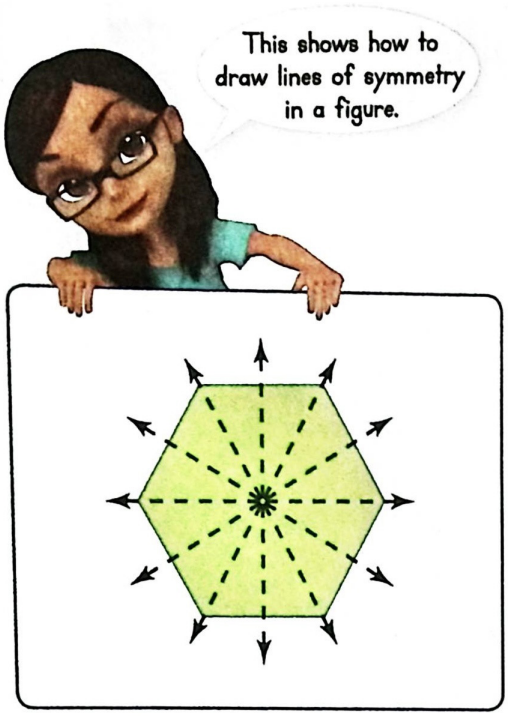

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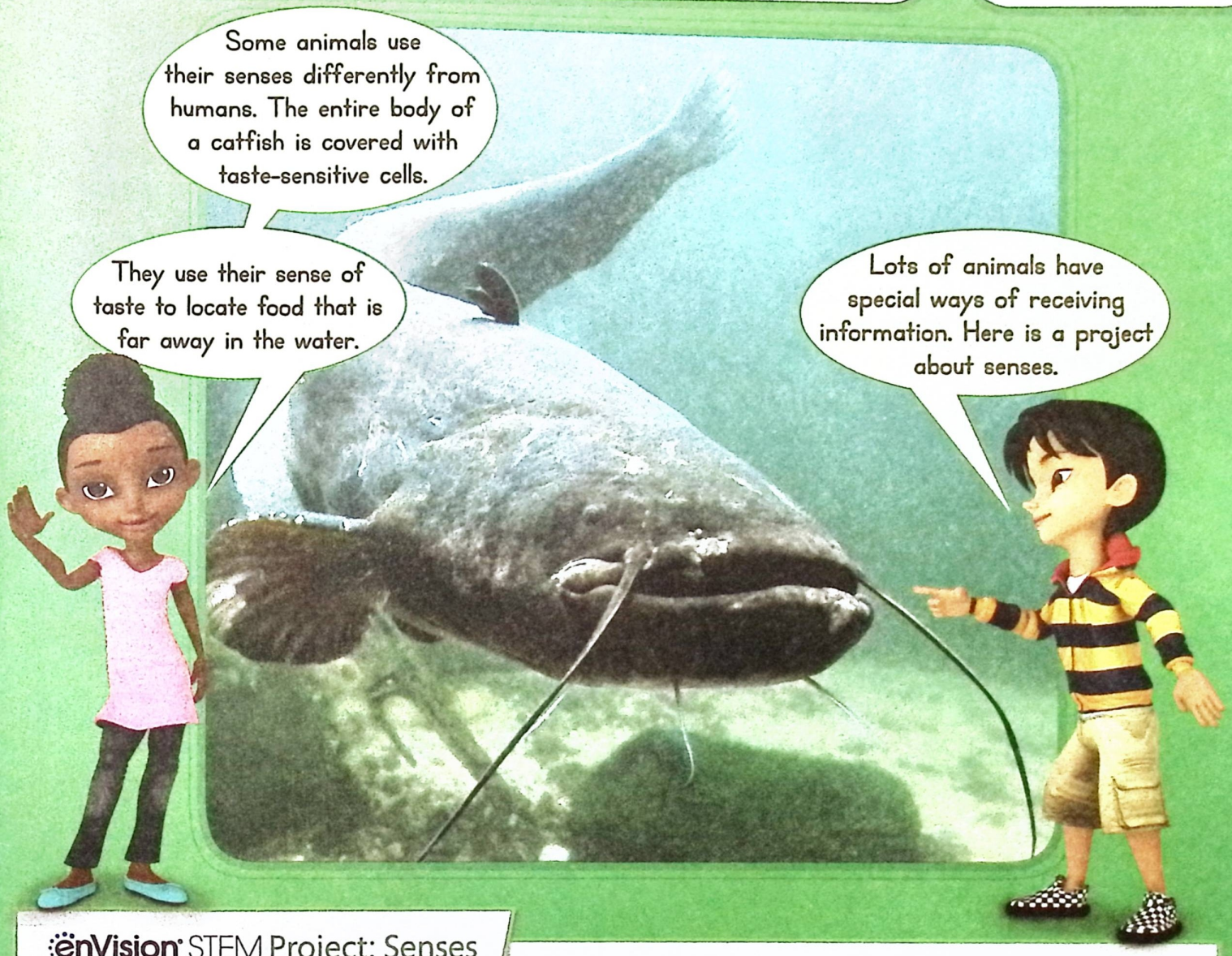
TOPIC 8

Extend Understanding of Fraction Equivalence and Ordering

Essential Questions: What are some ways to name the same part of a whole? How can you compare fractions with unlike numerators and denominators?

Digital Resources

Interactive Student Edition · Activity · Visual Learning · Video · Practice · Assessment · Games · Tools · Glossary



enVision STEM Project: Senses

Do Research Use the Internet or other resources to find information about how animals use special senses, such as echolocation, electricity, or magnetism. Include information about where the animal lives and how the special sense is used.

Journal: Write a Report Include what you found. Also in your report:

- Some spiders rely on sight to receive information about food. Most spiders have 8 eyes. Draw a picture of a spider with many eyes, using some shaded circles as eyes and some empty circles as eyes.
- Write a fraction that names shaded spider eyes to total spider eyes. Write three equivalent fractions.

Name _____

Review What You Know

Vocabulary

Choose the best term from the box.
Write it on the blank.

- denominator
- numerator
- fraction
- unit fraction

1. A symbol, such as $\frac{2}{3}$ or $\frac{1}{2}$, used to name part of a whole, part of a set, or a location on a number line is called a _____.

2. The number above the fraction bar in a fraction is called the _____.

3. A fraction with a numerator of 1 is called a _____.

Unit Fractions

Write a fraction for each statement.

4. 2 copies of $\frac{1}{6}$ is _____.

5. 3 copies of $\frac{1}{3}$ is _____.

6. 4 copies of $\frac{1}{5}$ is _____.

7. 2 copies of $\frac{1}{10}$ is _____.

8. 7 copies of $\frac{1}{12}$ is _____.

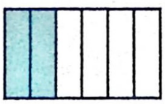
9. 3 copies of $\frac{1}{8}$ is _____.

Fraction Concepts

Write the fraction shown by each figure.

10.

11.

12. 

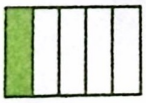
13.

14.

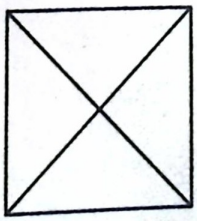
15.

Parts of Wholes

16. **Construct Arguments** Is $\frac{1}{4}$ of the figure below green? Explain.



17. This picture shows a square. Shade in $\frac{3}{4}$ of the square.



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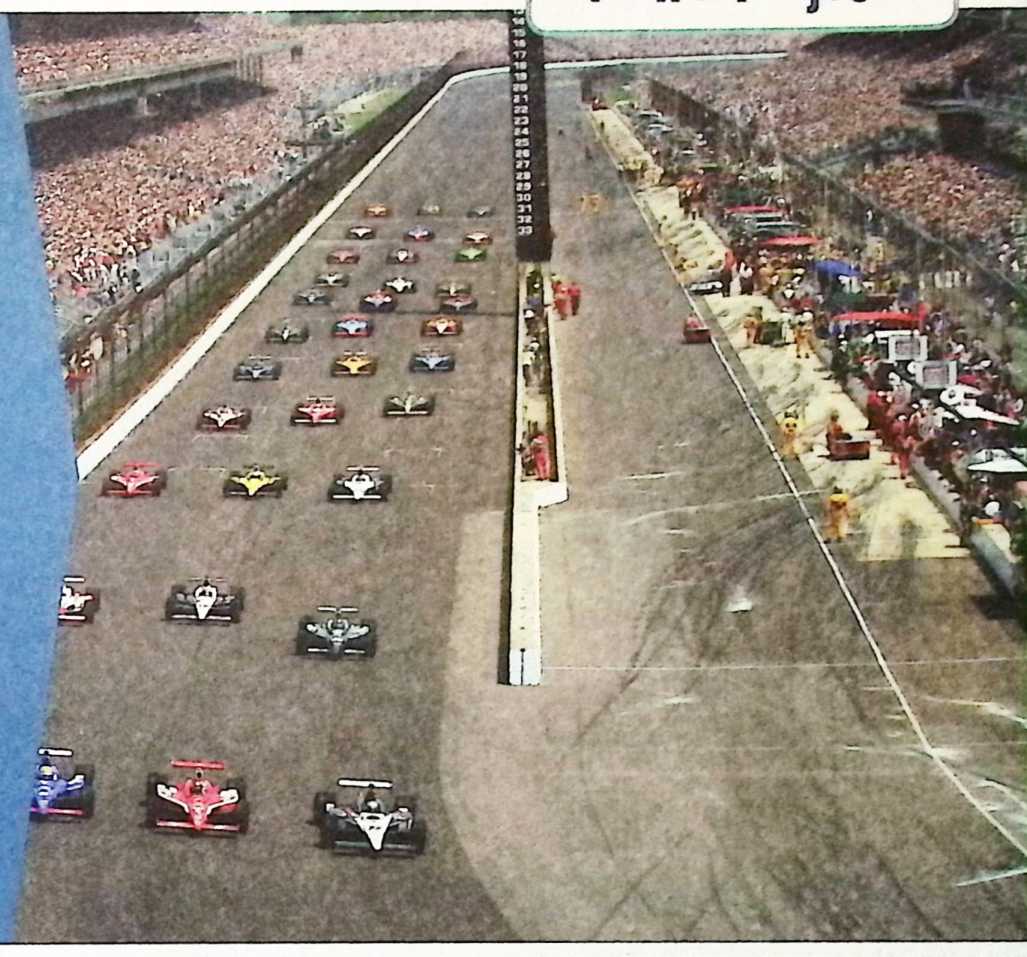
Name _____

Pick a Project

PROJECT
8A

How much do you know about the Indianapolis Motor Speedway?

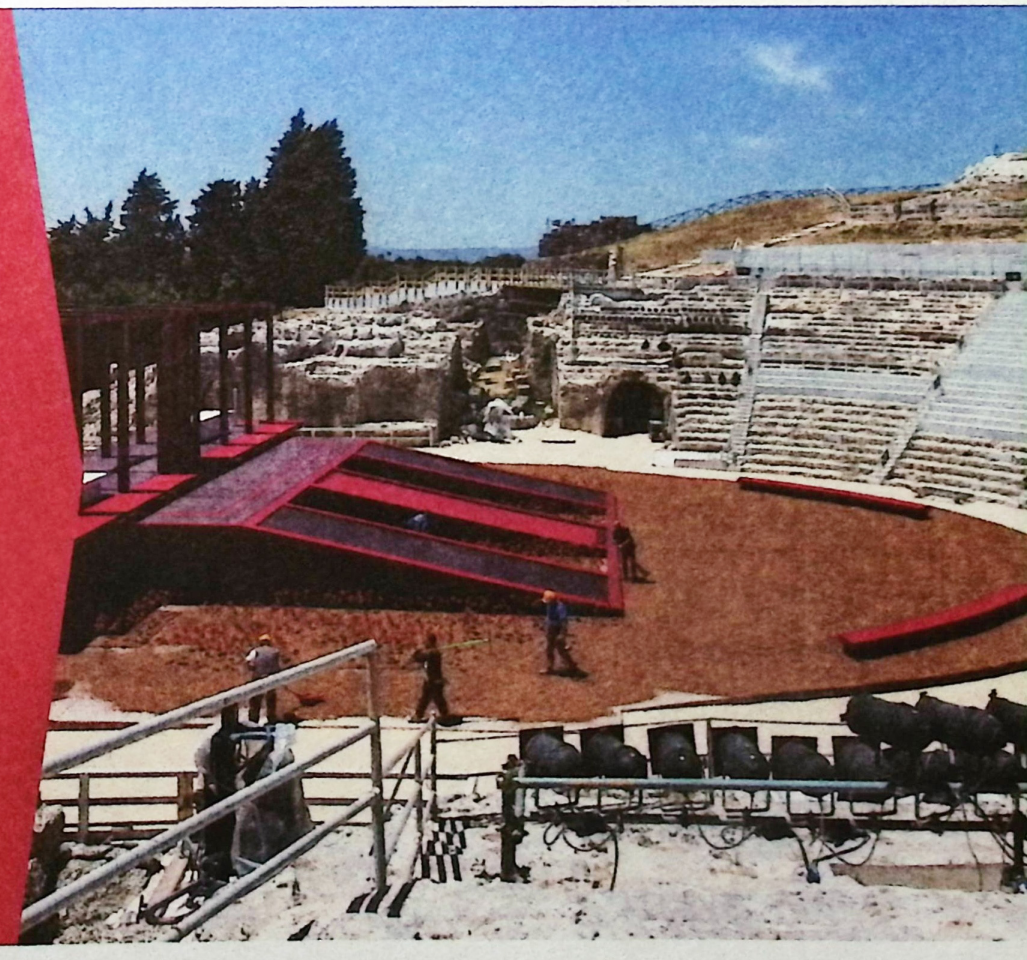
Project: Create a Fraction Game



PROJECT
8B

Who does all the stage work for a play or musical?

Project: Build a Model



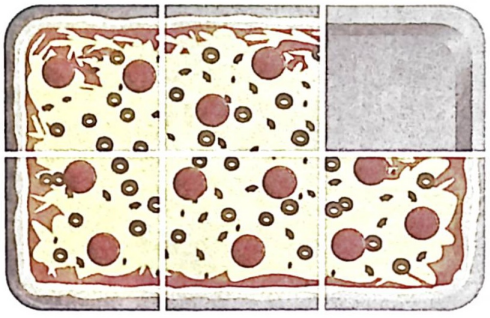
Essential Question

What Are Some Ways to Name the Same Part of a Whole?

Visual Learning Bridge

A

James ate part of the pizza shown in the picture at the right. He said $\frac{5}{6}$ of the pizza is left. Cardell said $\frac{10}{12}$ of the pizza is left. Who is correct?

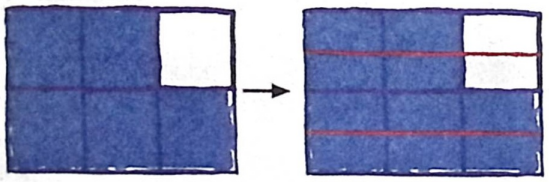


Equivalent fractions name the same part of the same whole.

fraction $\begin{cases} 5 \leftarrow \text{numerator} \\ 6 \leftarrow \text{denominator} \end{cases}$

B One Way

Use an area model. Draw a rectangle and divide it into sixths. Shade $\frac{5}{6}$. Then divide the rectangle into twelfths.

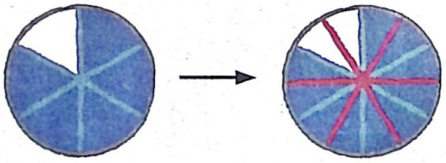


$\frac{5}{6}$ $\frac{10}{12}$

The number and size of parts differ, but the shaded part of each rectangle is the same. $\frac{5}{6}$ and $\frac{10}{12}$ are equivalent fractions.

C Another Way

Use a different area model. Draw a circle and divide it into sixths. Shade $\frac{5}{6}$. Then divide the circle into twelfths.



$\frac{5}{6}$ $\frac{10}{12}$

The number and size of parts differ, but the shaded part of each circle is the same. $\frac{5}{6}$ and $\frac{10}{12}$ are equivalent fractions.

Both James and Cardell are correct because $\frac{5}{6} = \frac{10}{12}$.

Convince Me! **Reasoning** Mia ate $\frac{1}{4}$ of a pizza. Matt ate $\frac{2}{8}$ of another pizza. Did Mia and Matt eat the same amount of pizza? Explain.

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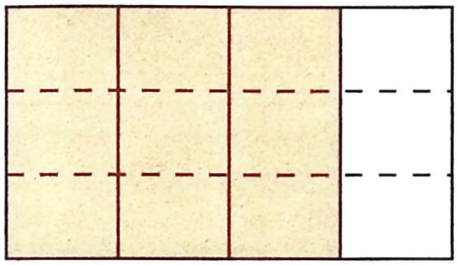
Name _____

Guided Practice

Do You Understand?

1. Use the area model to explain why $\frac{3}{4}$ and $\frac{9}{12}$ are equivalent.

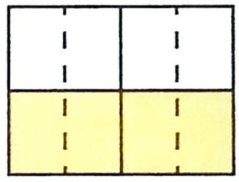


Do You Know How?

For **2–3**, use the area model to solve each problem.

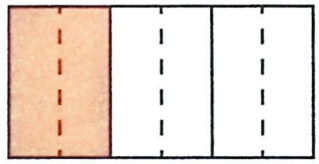
2. Find the missing numerator.

$\frac{2}{4} = \frac{\square}{8}$



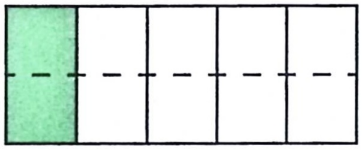
3. Find the missing numerator.

$\frac{1}{3} = \frac{\square}{6}$

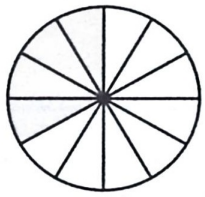


Independent Practice

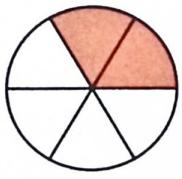
4. Write a fraction equivalent to $\frac{1}{5}$.



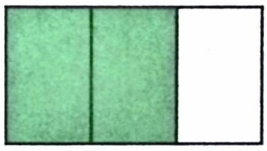
5. Write two fractions equivalent to $\frac{4}{12}$.



6. Write a fraction equivalent to $\frac{2}{6}$.



7. Write two fractions equivalent to $\frac{2}{3}$.



For **8–15**, draw an area model or use fraction strips to solve each problem.

8. $\frac{2}{8} = \frac{\square}{4}$

9. $\frac{2}{4} = \frac{\square}{8}$

10. $\frac{1}{2} = \frac{\square}{6}$

11. $\frac{3}{3} = \frac{6}{\square}$

12. $\frac{1}{5} = \frac{\square}{10}$

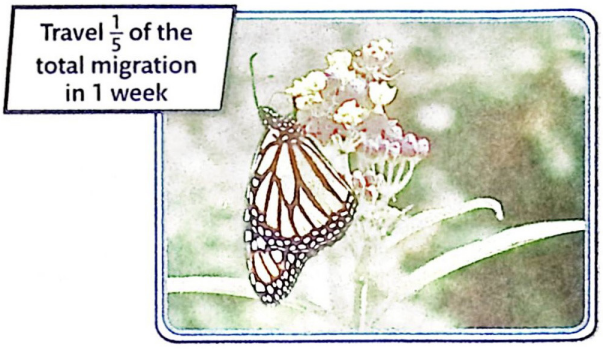
13. $\frac{5}{6} = \frac{10}{\square}$

14. $\frac{8}{12} = \frac{2}{\square}$

15. $\frac{4}{5} = \frac{8}{\square}$

Problem Solving

16. **enVision®** STEM Monarch butterflies migrate when they sense daylight hours are shorter and temperatures get colder. Write two equivalent fractions for the part of the migration a monarch butterfly can complete in 1 week.



17. **Make Sense and Persevere** Garrett buys lunch for himself and his friend. He buys 2 sandwiches, 2 fries, and 2 malts. How much did Garrett spend on lunch?

DATA

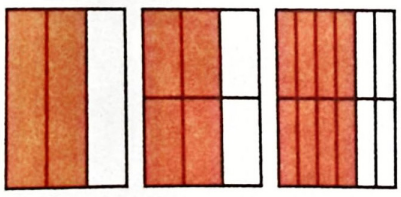
Menu	
Sandwich	$8
Hot Dog	$2
Fries	$3
Soda	$2
Shake/Malt	$4

18. Connor said, "To the nearest hundred, I've attended school for 800 days of my life!" Write three numbers that could be the actual number of days Connor has attended school.

19. **Higher Order Thinking** Josh, Lisa, and Vicki each ate $\frac{1}{4}$ of their own pizza. Each pizza was the same size, but Josh ate 1 slice, Lisa ate 2 slices, and Vicki ate 3 slices. How is this possible?

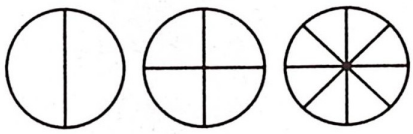
Assessment Practice

20. Select all the fractions that are equivalent to $\frac{2}{3}$. Use the area models to help.



- ☐ $\frac{3}{6}$
- ☐ $\frac{8}{12}$
- ☐ $\frac{4}{8}$
- ☐ $\frac{4}{6}$
- ☐ $\frac{1}{2}$

21. Select all the pairs that are equivalent fractions. Use the area models to help.



- ☐ $\frac{1}{4}, \frac{2}{8}$
- ☐ $\frac{3}{4}, \frac{6}{8}$
- ☐ $\frac{7}{8}, \frac{3}{4}$
- ☐ $\frac{8}{8}, \frac{4}{4}$
- ☐ $\frac{1}{2}, \frac{2}{2}$

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Name _____ Activity

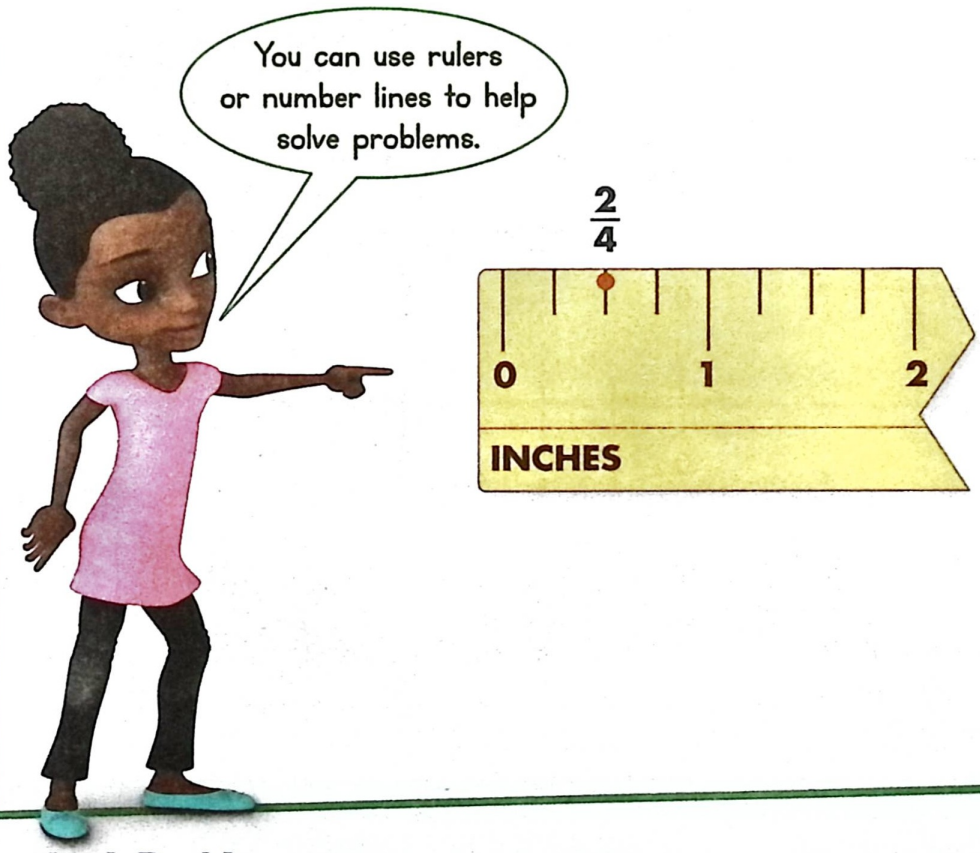
Lesson 8-2
Equivalent Fractions: Number Lines

I can ...
name the same point on a number line using equivalent fractions.

I can also choose and use a math tool to help solve problems.

Solve & Share

Suppose you have a ruler showing fourths. Use your ruler to name a fraction that is equivalent to $\frac{2}{4}$. Tell how you know the fraction is equivalent.



Look Back! **Model with Math** Do you think there is more than one fraction equivalent to $\frac{2}{4}$? Draw a picture to explain.

Essential Question

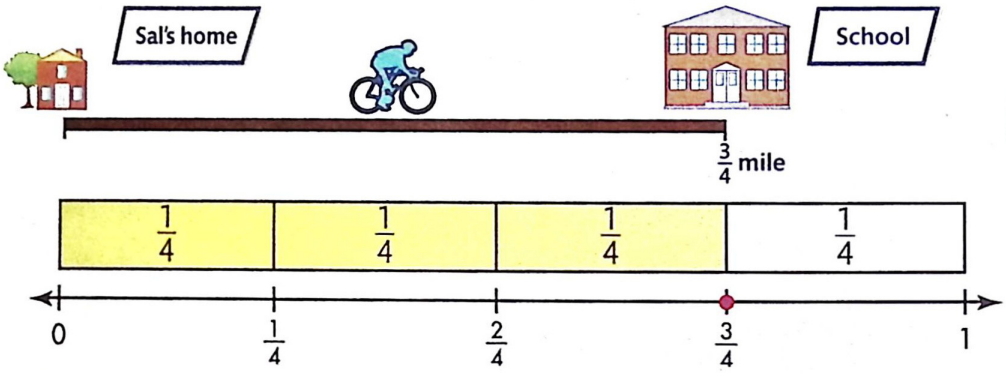
How Can You Use a Number Line to Explain Why Fractions Are Equivalent?

Visual Learning Bridge

A

Sal rode his bike $\frac{3}{4}$ mile to school. Name two fractions that are equivalent to $\frac{3}{4}$.

A number line is another appropriate tool for finding equivalent fractions.

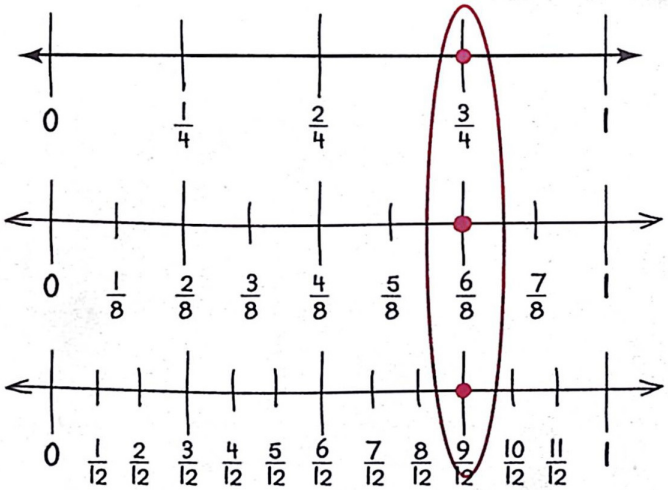


B Show $\frac{3}{4}$ on the number line.

Divide each fourth into two equal parts to show eighths.

Divide each fourth into three equal parts to show twelfths.

$\frac{3}{4}$, $\frac{6}{8}$, and $\frac{9}{12}$ are at the same point on the number lines that are all the same length. $\frac{6}{8}$ and $\frac{9}{12}$ are equivalent to $\frac{3}{4}$.



$\frac{3}{4} = \frac{6}{8} = \frac{9}{12}$

Convince Me! The number and size of each part on two number lines are different. Can the number lines show equivalent fractions? Use the number lines above to explain.

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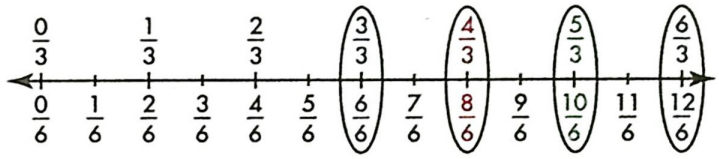
Name _____

Practice Tools Assessment

Another Example!

You can use a number line to find equivalent fractions that are greater than or equal to 1.



Guided Practice

Do You Understand?

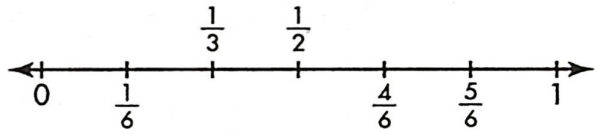
1. Use the number line above to write a fraction equivalent to $\frac{9}{6}$. Why are the fractions equivalent? Explain.

Do You Know How?

For **2–3**, use the number line below.

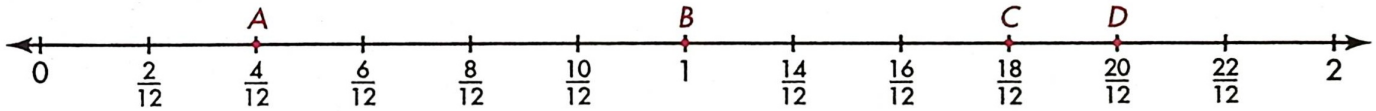
2. Write an equivalent fraction for $\frac{1}{3}$.

3. Write an equivalent fraction for $\frac{1}{2}$.



Independent Practice

For **4–7**, use the number line to find equivalent fractions. Circle the correct answers.



4. Which of the following fractions is an equivalent fraction for point *A*?

$\frac{1}{4}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{1}{6}$ $\frac{2}{6}$

5. Which of the following fractions is an equivalent fraction for point *B*?

$\frac{11}{12}$ $\frac{12}{12}$ $\frac{13}{12}$ $\frac{7}{6}$ $\frac{6}{6}$

6. Which of the following fractions is an equivalent fraction for point *C*?

$\frac{8}{6}$ $\frac{2}{3}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{6}{4}$

7. Which of the following fractions is an equivalent fraction for point *D*?

$\frac{6}{5}$ $\frac{10}{6}$ $\frac{3}{2}$ $\frac{6}{10}$ $\frac{5}{3}$

Name _____ Activity

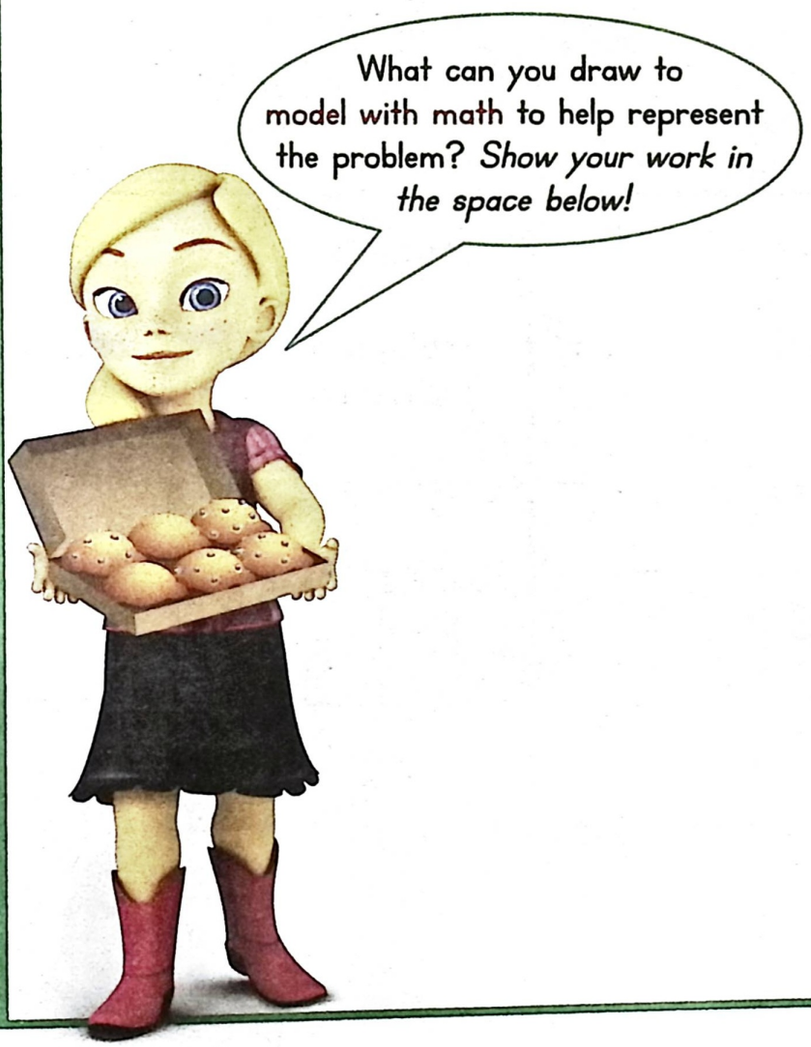
Lesson 8-3
Generate Equivalent Fractions: Multiplication

I can ...
use multiplication to find equivalent fractions.

I can also model with math to solve problems.

Solve & Share

Wayne bought a box of muffins. Four sixths of the muffins are blueberry. Write a fraction equivalent to $\frac{4}{6}$. ***Solve this problem any way you choose.***



Look Back! How are the numerator and denominator of your fraction related to the numerator and denominator of $\frac{4}{6}$?