Lesson 3

Recipes

Goals

- Draw and label a discrete diagram with circled groups to represent multiple batches of a recipe.
- Explain equivalent ratios (orally and in writing) in terms of different-sized batches of the same recipe having the same taste.
- Understand that doubling or tripling a recipe involves multiplying the amount of each ingredient by the same number, yielding something that tastes the same.

Learning Targets

- I can explain what it means for two ratios to be equivalent using a recipe as an example.
- I can use a diagram to represent a recipe and to represent a double batch and a triple batch of the recipe.
- I know what it means to double or triple a recipe.

Lesson Narrative

This is the first of two lessons that develop the idea of equivalent ratios through physical experiences. A key understanding is that if we scale a recipe up (or down) to make multiple batches (or a fraction of a batch), the result will still be "the same" in some meaningful way. In this lesson, students see this idea in the context of taste.

Here, a mixture containing two batches of a recipe *tastes the same* as a mixture containing one batch. For example, 2 cups of water mixed thoroughly with 8 teaspoons of a powdered drink mix tastes the same as 1 cup of water mixed with 4 teaspoons of the powdered drink mix.

The fact that two equivalent ratios yield the same taste or produce the same color is a physical manifestation of the equivalence of the ratios.

Students notice structure when they see that scaling a recipe up (or down) requires multiplying the amount of each ingredient by the same factor. For instance, doubling a recipe means doubling the amount of each ingredient. They also gain more experience using a discrete diagram as a tool to represent a situation.

Student Learning Goals

Let's explore how ratios affect the way a recipe tastes.

Lesson Timeline

Warm-up	Activity 1	Activity 2	Lesson Synthesis	Cool-down
5 min	15 min	15 min	10 min	5 min

Assessment

Access for Students with Diverse Abilities

- Engagement (Activity 2)

Access for Multilingual Learners

- MLR8: Discussion Supports (Activity 1)

Required Materials

Materials to Gather

- Drink mix: Activity 1
- Empty containers: Activity 1
- Markers: Activity 1
- Paper cups: Activity 1
- Teaspoon: Activity 1
- Water: Activity 1

Required Preparation

Activity 1:

For the taste test:

- Create two separate drink mixtures:
  - Mixture A: 1 cup of water, 1 teaspoon of powdered drink mix
  - Mixture B: 1 cup of water, 4 teaspoons of powdered drink mix
- Stir the mixtures vigorously for a minute or more to ensure all the powder dissolves.
- Prepare six small paper cups. Do not mark the cups. Put a small amount of Mixture A in three of the cups and a small amount of Mixture B in the other three cups. (Keep track of which set contains which mixture. Later, three volunteers will each receive one cup of A and one cup of B.)
- Discard the rest of the mixtures for now.

For the mixing demonstration:

- Prepare three empty mixing containers, each with at least a 2-cup capacity. Label one container A, another B, and the last one C.
- Prepare a supply of water, a supply of drink mix, a measuring cup, and a teaspoon.

Warm-up

Flower Pattern

15 min

Activity Narrative

The purpose of this *Warm-up* is to quickly remind students of different ways to write ratios. They also have an opportunity to multiply the number of each type of shape by 2 to make two copies of the flower, which previews the process introduced in this lesson for making a double batch of a recipe.

Launch

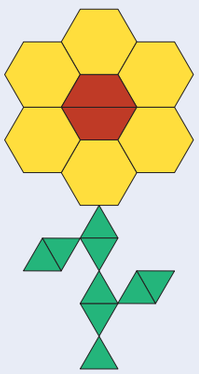
Arrange students in groups of 2. Ensure that students understand that there are 6 hexagons, 2 trapezoids, and 9 triangles in the picture, and that their job is to write ratios about the numbers of shapes.

Give 2 minutes of quiet work time and then invite students to share their sentences with their partner.

Follow up with a whole-class discussion.

Student Task Statement

This flower is made up of yellow hexagons, red trapezoids, and green triangles.



1. Write sentences to describe the ratios of the shapes that make up this pattern.

   Sample responses:

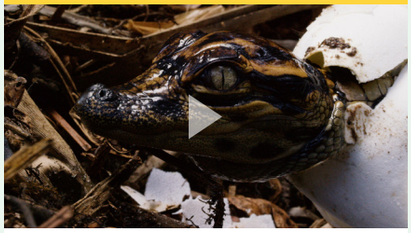
   - For every 2 hexagons there are 3 triangles.
   - There are 3 hexagons for every trapezoid.
   - The ratio of trapezoids to triangles is 2 to 9.
   - The ratio of hexagons to trapezoids to triangles is 6:2:9.

2. How many of each shape would be in two copies of this flower pattern?

   There would be 12 yellow hexagons, 4 red trapezoids, and 18 green triangles.

Inspire Math

Alligators video



Go Online

Before the lesson, show this video to introduce the real-world connection.

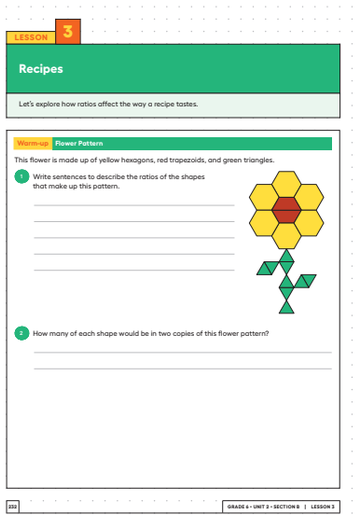
ilclass.com/l/614128

Please log in to the site before using the QR code or URL.

Building on Student Thinking

Students might get off track by attending to the area that each shape covers. Clarify that this task is concerned only with the number of each shape and not with the area covered.

Student Workbook


LESSON 3

Recipes

Let's explore how ratios affect the way a recipe tastes.

Warm-up Flower Pattern

This flower is made up of yellow hexagons, red trapezoids, and green triangles.

1. Write sentences to describe the ratios of the shapes that make up this pattern.

2. How many of each shape would be in two copies of this flower pattern?

Access for Multilingual Learners (Activity 1, Launch)

MLR8: Discussion Supports. To support a whole-class discussion, ask: "What if I add a half cup of water to Container C?" or "What if I add a teaspoon of drink mix to Container B?" To help students justify their reasoning, display a sentence frame such as: "Mixtures B and C will taste _____ because ..."

Advances: Conversing, Speaking

Activity Synthesis

Invite a student to share a sentence that describes the ratio of two shapes in the picture. Ask if any students described the same relationship in a different way. For example, three ways to describe the same ratio are: The ratio of hexagons to trapezoids is 6:2. The ratio of trapezoids to hexagons is 2 to 6. There are 3 hexagons for every trapezoid.

Ask a student to describe why two copies of the picture would have 12 hexagons, 4 trapezoids, and 18 triangles. If no student brings it up, be sure to point out that each number in one copy of the picture can be multiplied by 2 to find the number of each shape in two copies.

Activity 1

Powdered Drink Mix

15 min

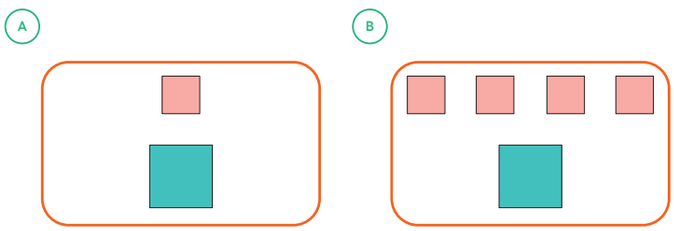
Activity Narrative

This is the first of several activities that help students develop an intuition for equivalent ratios. First, a few volunteers taste two drink mixtures and consider diagrams that could represent the ratios of ingredients. Next, the class observes a demonstration of the creation of the two mixtures, a change to one mixture, and the creation of a third mixture. Students then consider how the three mixtures would taste and whether multiple batches of a recipe would taste the same as one batch.

Students see that combining two things that taste the same will produce a mixture that tastes the same. They should also note that each ingredient was doubled in the mixture.

Launch

Display the diagram for all to see:



Taste test: Recruit three volunteers for a taste test. Give each volunteer two unmarked cups—one each of a small amount of Mixture A and Mixture B. Explain that their job is to take a tiny sip of each sample, match the diagrams to the samples, and explain their matches.

Demonstration: Conduct a dramatic demonstration of mixing powdered drink mix and water. Start with two empty containers labeled A and B. To Container A, add 1 cup of water and 1 teaspoon of drink mix. To Container B, add 1 cup of water and 4 teaspoons of drink mix. Mix them both thoroughly. The first diagram should still be displayed.

Discuss:

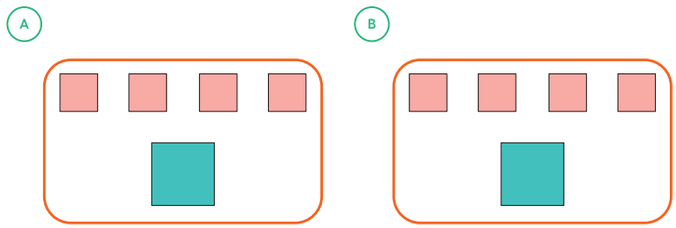
- Which mixture has a stronger flavor?

  B has more drink mix in the same quantity of water.

- How can we make Mixture A taste like Mixture B?

  Put 3 more teaspoons of drink mix into Container A.

- Add 3 more teaspoons of drink mix to Container A. Display a new diagram to represent the situation:



Discuss:

- Describe the ratio of ingredients that is now in Container A.

  The ratio of cups of water to teaspoons of drink mix is 1 to 4.

- Describe the ratio of ingredients that is in Container B.

  The ratio of cups of water to teaspoons of drink mix is also 1 to 4.

- How do you think they compare in taste?

  They taste the same.

If desired, invite volunteers to verify that they taste the same, but this might not be necessary.

Pour the contents of both Container A and Container B into a larger container labeled Container C and mix them thoroughly.

Discuss:

- How would the taste of Mixture C compare to the taste of Mixture A and Mixture B?

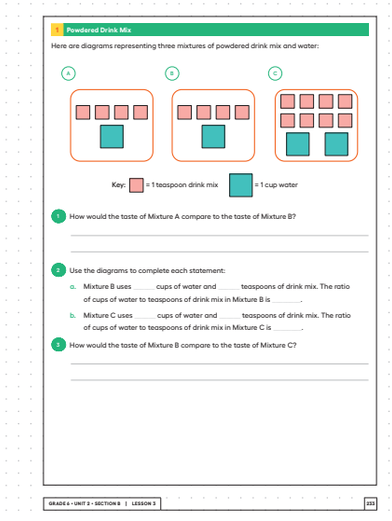
  The new mixture would taste the same as each component mixture.

Following this demonstration, students individually interpret the drink mixture diagrams. The work in the task will reiterate what happened in the demonstration.

Building on Student Thinking

Students may not initially realize that Mixtures C and B taste the same. Consider asking them to imagine ordering a smoothie from a takeout window. Would a small size smoothie taste the same as a size that is double that amount? If we double the amount of each ingredient, the mixture tastes the same.

Student Workbook


1 Powdered Drink Mix

Here are diagrams representing three mixtures of powdered drink mix and water:

A B C

Key: = 1 teaspoon drink mix = 1 cup water

1. How would the taste of Mixture A compare to the taste of Mixture B?

2. Use the diagrams to complete each statement:

   a. Mixture B uses _____ cups of water and _____ teaspoons of drink mix. The ratio of cups of water to teaspoons of drink mix in Mixture B is _____.

   b. Mixture C uses _____ cups of water and _____ teaspoons of drink mix. The ratio of cups of water to teaspoons of drink mix in Mixture C is _____.

3. How would the taste of Mixture B compare to the taste of Mixture C?

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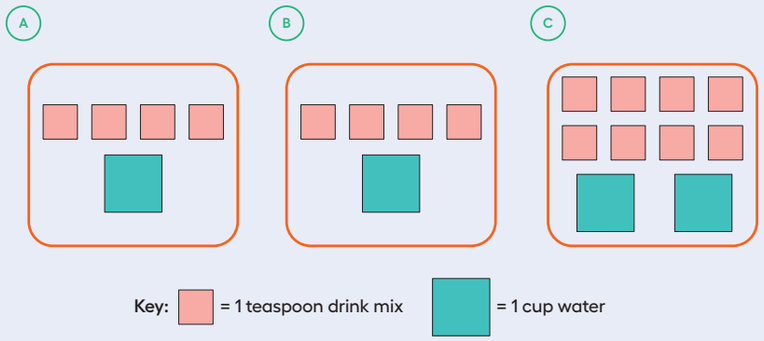
Student Task Statement

Here are diagrams representing three mixtures of powdered drink mix and water:



1. How would the taste of Mixture A compare to the taste of Mixture B?

   Mixtures A and B will taste the same because they have the same amount of water and drink mix.

2. Use the diagrams to complete each statement:

   a. Mixture B uses 1 cup of water and 4 teaspoons of drink mix. The ratio of cups of water to teaspoons of drink mix in Mixture B is 1 : 4.

   b. Mixture C uses 2 cups of water and 8 teaspoons of drink mix. The ratio of cups of water to teaspoons of drink mix in Mixture C is 2 : 8.

3. How would the taste of Mixture B compare to the taste of Mixture C?

   Mixtures B and C will taste the same.

   This is because Mixture C was made by doubling Mixture B or by mixing A and B together, which taste the same, so the mixture would still taste the same.

Are You Ready for More?

Sports drinks use sodium (better known as salt) to help people replenish electrolytes. Here are the nutrition labels of two sports drinks.

A

Nutrition Facts	
Serving Size 8 fl oz (240 mL)	
Serving Per Container 4	
Amount Per Serving	
Calories 50	
	% Daily Value*
Total Fat 0 g	0%
Sodium 110 mg	5%
Potassium 30 mg	1%
Total Carbohydrate 14 g	5%
Sugars 14 g	
Protein 0 g	
% Daily Value are based on a 2,000 calorie diet.	

B

Nutrition Facts	
Serving Size 12 fl oz (355 mL)	
Serving Per Container about 2.5	
Amount Per Serving	
Calories 80	
	% Daily Value*
Total Fat 0 g	0%
Sodium 150 mg	6%
Potassium 35 mg	1%
Total Carbohydrate 21 g	7%
Sugars 20 g	
Protein 0 g	
% Daily Value are based on a 2,000 calorie diet.	

1. Which of these drinks is saltier? Explain how you know.

   drink A

   Sample reasoning: Drink A has 110 mg of sodium in an 8-ounce serving. Drink B has 150 mg of sodium in a 12-ounce serving. If we had 24 ounces of each drink, drink A would have 330 mg of sodium and drink B would have 300 mg of sodium. Therefore, drink A is saltier.

2. If you wanted to make sure a sports drink was less salty than both of the ones given, what ratio of sodium to water would you use?

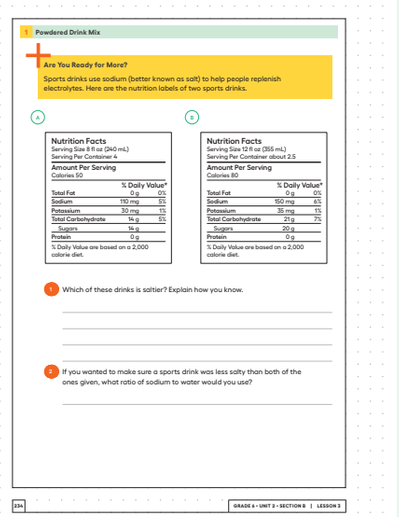
   Sample response: To be less salty than both drinks, the new drink would have to be less salty than drink B. So, for a 12-ounce serving, we would have to use less than 150 mg of sodium. For example, the ratio of ounces of drink to milligrams of sodium could be 12 to 100.

Activity Synthesis

Mixing 1 cup of water with 4 teaspoons of powdered drink mix makes a mixture that tastes exactly the same as mixing 2 cups of water with 8 teaspoons of powdered drink mix. We say that the ratios 1:4 and 2:8 are *equivalent*. Ask students to discuss what they think it means for the ratios to be "equivalent." Students might say:

- The ratios make the mixtures taste the same.
- If there is twice as much of one ingredient, there is also twice as much of another ingredient, so the result still tastes the same.

Student Workbook


1 Powdered Drink Mix

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Sugars 14 g	
Protein 0 g	

% Daily Value are based on a 2,000 calorie diet.

B

Nutrition Facts
Serving Size 12 fl oz (355 mL)
Serving Per Container about 2.5
Amount Per Serving
Calories 80

	% Daily Value*
Total Fat 0 g	0%
Sodium 150 mg	6%
Potassium 35 mg	1%
Total Carbohydrate 21 g	7%
Sugars 20 g	
Protein 0 g	

% Daily Value are based on a 2,000 calorie diet.

1. Which of these drinks is saltier? Explain how you know.

2. If you wanted to make sure a sports drink was less salty than both of the ones given, what ratio of sodium to water would you use?

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Access for Students with Diverse Abilities (Activity 2, Student Task)

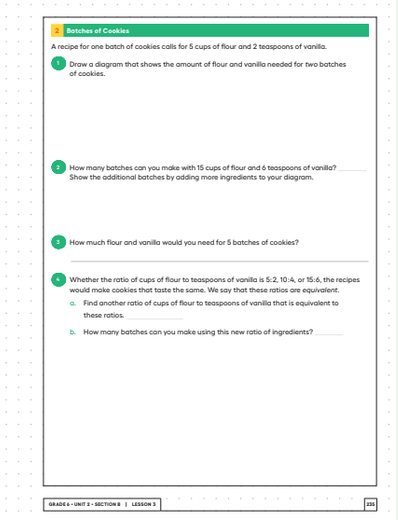
Engagement: Develop Effort and Persistence.
Encourage and support opportunities for peer interactions. Invite students to talk about their ideas with a partner before writing them down. Display sentence frames to support students when they explain their strategy. For example: "I noticed _____, so I ..." "In my diagram, _____ represents ..." "To find a ratio that is equivalent, first I _____ because ..."

Supports accessibility for: Language, Social-Emotional Functioning

Building on Student Thinking

For the fourth question, students may not multiply both the amount of flour and the amount of vanilla by the same number. If this happens, refer students to the previous questions in noting that the amount of each ingredient was changed in the same way.

Student Workbook



2 Batches of Cookies

A recipe for one batch of cookies calls for 5 cups of flour and 2 teaspoons of vanilla.

1. Draw a diagram that shows the amount of flour and vanilla needed for *two* batches of cookies.

2. How many batches can you make with 15 cups of flour and 6 teaspoons of vanilla? _____ Show the additional batches by adding more ingredients to your diagram.

3. How much flour and vanilla would you need for 5 batches of cookies?

4. Whether the ratio of cups of flour to teaspoons of vanilla is 5:2, 10:4, or 15:6, the recipes would make cookies that taste the same. We say that these ratios are *equivalent*.
   a. Find another ratio of cups of flour to teaspoons of vanilla that is equivalent to these ratios. _____
   b. How many batches can you make using this new ratio of ingredients? _____

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Activity 2

Batches of Cookies

15 min

Activity Narrative

Students continue to use diagrams to represent the ratio of ingredients in a recipe as well as mixtures that contain multiple batches. They come to understand that a change in the number of batches changes the quantities of the ingredients, but the end product tastes the same. They then use this observation to come up with a working definition for equivalent ratio.

Launch

Ask students if they have ever cooked something by following a recipe. If so, ask them what they made and what some of the ingredients were.

Then, follow with these questions:

- *"How might we use ratios to describe the ingredients in your recipe?"*

  The ratios could associate the quantities of each ingredient being used.

- *"Let's say you are planning to make cookies using your favorite recipe, and you're going to 'double the recipe.' What does it mean to double a recipe?"*

There are a few things to draw out in this conversation:

- If we double a recipe, we need to double the amount of *every ingredient*. If the recipe calls for 3 eggs, doubling it means using 6 eggs. If the recipe calls for $\frac{1}{3}$ teaspoon of baking soda, we use $\frac{2}{3}$ teaspoon of baking soda, and so on.
- We expect to end up with twice as many cookies when we double the recipe as we would when making a single batch.
- However, we expect the cookies from 2 batches of a recipe to taste *exactly the same* as those from a single batch.

Tell students they will now think about making different numbers of batches of a cookie recipe.

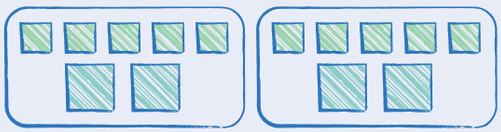
Student Task Statement

A recipe for one batch of cookies calls for 5 cups of flour and 2 teaspoons of vanilla.

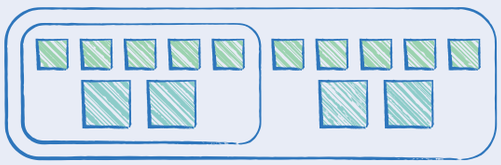
1. Draw a diagram that shows the amount of flour and vanilla needed for *two* batches of cookies.

Diagrams may look different, but should clearly show two groups of 5 and 2.
Sample responses:

- If students see each batch individually, they might draw something like this:



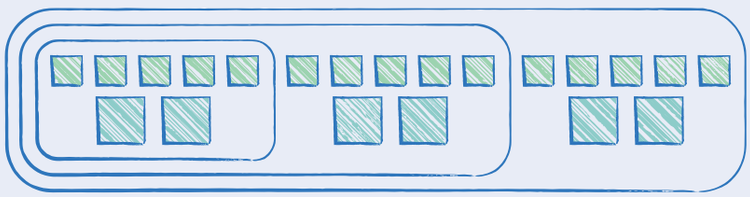
- If students think of a "double batch" as a single thing, they might circle it like this:



2. How many batches can you make with 15 cups of flour and 6 teaspoons of vanilla? Show the additional batches by adding more ingredients to your diagram.

You can make 3 batches.

Sample diagram:



3. How much flour and vanilla would you need for 5 batches of cookies?

25 cups of flour and 10 teaspoons of vanilla

(The diagram may be expanded to reflect this.)

4. Whether the ratio of cups of flour to teaspoons of vanilla is 5:2, 10:4, or 15:6, the recipes would make cookies that taste the same. We say that these ratios are *equivalent*.

a. Find another ratio of cups of flour to teaspoons of vanilla that is equivalent to these ratios.

Sample response:

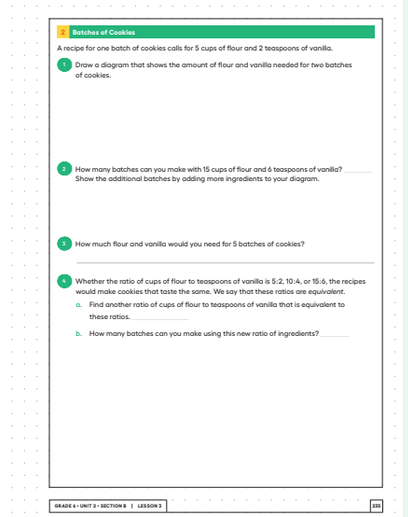
20:8

b. How many batches can you make using this new ratio of ingredients?

Sample response:

4 batches

Student Workbook



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1. Draw a diagram that shows the amount of flour and vanilla needed for two batches of cookies.
2. How many batches can you make with 15 cups of flour and 6 teaspoons of vanilla? _____ Show the additional batches by adding more ingredients to your diagram.
3. How much flour and vanilla would you need for 5 batches of cookies? _____
4. Whether the ratio of cups of flour to teaspoons of vanilla is 5:2, 10:4, or 15:6, the recipes would make cookies that taste the same. We say that these ratios are *equivalent*.
   a. Find another ratio of cups of flour to teaspoons of vanilla that is equivalent to these ratios. _____
   b. How many batches can you make using this new ratio of ingredients? _____

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Activity Synthesis

Invite a few students to share their responses and diagrams with the class. A key point to emphasize during discussion is that when we double (or triple) a recipe, we also have to double (or triple) each ingredient. Record a working (but not final) definition for equivalent ratio that can be displayed for at least the next several lessons. Here is an example:

- *"Cups of flour and teaspoons of vanilla in the ratio 5:2, 10:4, or 15:6 are equivalent ratios because they describe different numbers of batches of the same recipe."*

Include a diagram in this display.

Lesson Synthesis

To highlight the key ideas from the lesson, consider asking students:

- *"When doubling a recipe, how does the amount of each individual ingredient change?"*

  Each ingredient is doubled.

- *"When tripling a recipe, how does the amount of each individual ingredient change?"*

  Each ingredient is tripled.

- *"How do different numbers of batches of the same recipe taste?"*

  They taste exactly the same.

- *"When doubling or tripling a recipe, the ratio of the ingredients is equivalent to the ratio in the original recipe. What do you think that means?"*

  The ratio creates a result that tastes the same.

The main takeaways are:

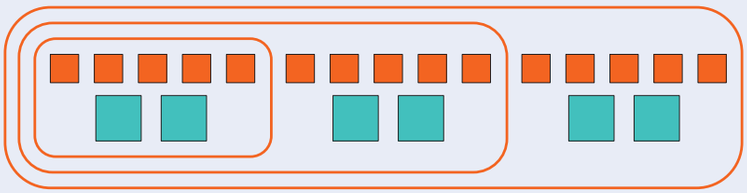
- To scale a recipe generally, we need to multiply each ingredient by the same number.
- Scaling a recipe results in a substance that tastes the same as the original recipe.
- We say that a ratio that represents a recipe is *equivalent* to a ratio that represents multiple batches of the same recipe.

Lesson Summary

A recipe for fizzy juice says, "Mix 5 cups of cranberry juice with 2 cups of soda water."

To double this recipe, we would use 10 cups of cranberry juice with 4 cups of soda water. To triple this recipe, we would use 15 cups of cranberry juice with 6 cups of soda water.

This diagram shows a single batch of the recipe, a double batch, and a triple batch:



We say that the ratios 5:2, 10:4, and 15:6 are *equivalent*. Even though the amounts of each ingredient within a single, double, or triple batch are not the same, they would make fizzy juice that tastes the same.

Cool-down

A Smaller Batch of Lemonade

5 min

Student Task Statement

When Elena makes lemonade, she usually mixes 9 scoops of lemonade powder with 6 cups of water. Today, she doesn't have enough ingredients.

Think of a recipe that would give a smaller batch of lemonade but still taste the same. Explain or show your reasoning.

Sample responses:

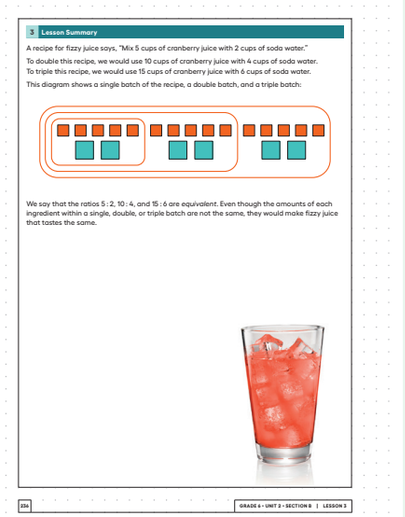
- 3 scoops of lemonade powder and 2 cups of water
- 6 scoops of lemonade powder and 4 cups of water

Sample reasoning:

- 3:2 represents the scoops of lemonade powder to the cups of water.
- 3:2 is equivalent to 9:6.

- scoops of lemonade powder
  cups of water

Student Workbook



3 Lesson Summary

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To double this recipe, we would use 10 cups of cranberry juice with 4 cups of soda water.
To triple this recipe, we would use 15 cups of cranberry juice with 6 cups of soda water.
This diagram shows a single batch of the recipe, a double batch, and a triple batch:

We say that the ratios 5 : 2, 10 : 4, and 15 : 6 are *equivalent*. Even though the amounts of each ingredient within a single, double, or triple batch are not the same, they would make fizzy juice that tastes the same.

Responding To Student Thinking

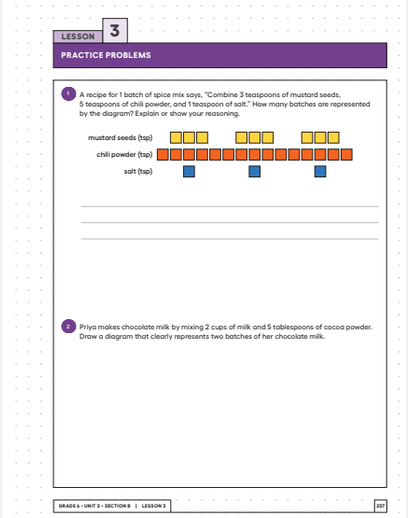
More Chances
Students will have more opportunities to understand the mathematical ideas addressed here. There is no need to slow down or add additional work to the next lessons.

Lesson 3

Practice Problems

7 Problems

Student Workbook



LESSON 3

PRACTICE PROBLEMS

1 A recipe for 1 batch of spice mix says, "Combine 3 teaspoons of mustard seeds, 5 teaspoons of chili powder, and 1 teaspoon of salt." How many batches are represented by the diagram? Explain or show your reasoning.

mustard seeds (tsp)

chili powder (tsp)

salt (tsp)

2 Priya makes chocolate milk by mixing 2 cups of milk and 5 tablespoons of cocoa powder. Draw a diagram that clearly represents two batches of her chocolate milk.

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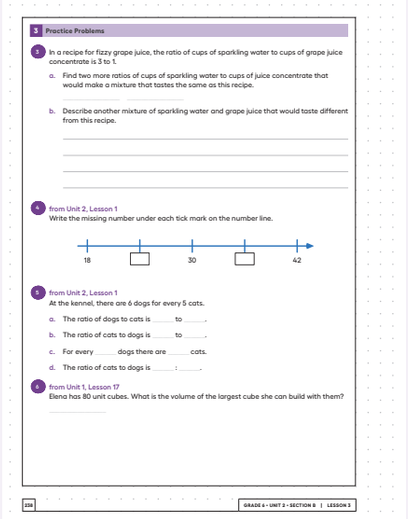
Student Workbook



3 Practice Problems

3 In a recipe for fizzy grape juice, the ratio of cups of sparkling water to cups of grape juice concentrate is 3 to 1.

a. Find two more ratios of cups of sparkling water to cups of juice concentrate that would make a mixture that tastes the same as this recipe.

b. Describe another mixture of sparkling water and grape juice that would taste different from this recipe.

4 from Unit 2, Lesson 1
Write the missing number under each tick mark on the number line.

18 30 42

5 from Unit 2, Lesson 1
At the kennel, there are 6 dogs for every 5 cats.

a. The ratio of dogs to cats is _____ to _____.

b. The ratio of cats to dogs is _____ to _____.

c. For every _____ dogs there are _____ cats.

d. The ratio of cats to dogs is _____ : _____.

6 from Unit 1, Lesson 17
Elena has 80 unit cubes. What is the volume of the largest cube she can build with them?

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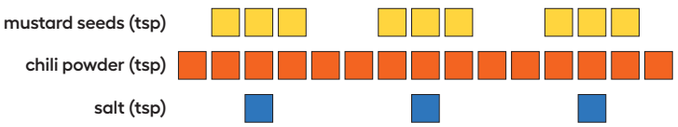
Problem 1

A recipe for 1 batch of spice mix says, "Combine 3 teaspoons of mustard seeds, 5 teaspoons of chili powder, and 1 teaspoon of salt." How many batches are represented by the diagram? Explain or show your reasoning.



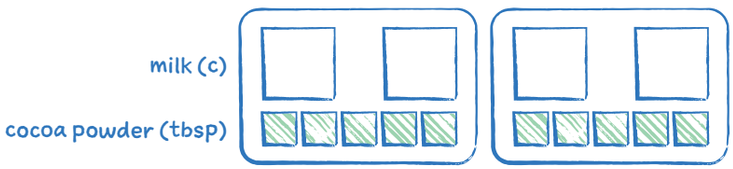
3 batches

Sample reasoning: It shows 3 times the amount of each ingredient in the recipe: 9 teaspoons of mustard (3 · 3), 15 teaspoons of chili powder (3 · 5), and 3 teaspoons of salt (3 · 1).

Problem 2

Priya makes chocolate milk by mixing 2 cups of milk and 5 tablespoons of cocoa powder. Draw a diagram that clearly represents two batches of her chocolate milk.

Sample response:



Problem 3

In a recipe for fizzy grape juice, the ratio of cups of sparkling water to cups of grape juice concentrate is 3 to 1.

a. Find two more ratios of cups of sparkling water to cups of juice concentrate that would make a mixture that tastes the same as this recipe.

Sample response:

6 to 2 and 12 to 4

b. Describe another mixture of sparkling water and grape juice that would taste different from this recipe.

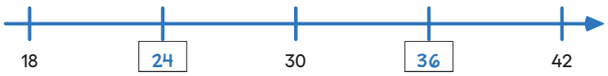
Sample response:

6 to 3

Problem 4

from Unit 2, Lesson 1

Write the missing number under each tick mark on the number line.



intervals of 6

Problem 5

from Unit 2, Lesson 1

At the kennel, there are 6 dogs for every 5 cats.

a. The ratio of dogs to cats is 6 to 5.

b. The ratio of cats to dogs is 5 to 6.

c. For every 6 dogs there are 5 cats.

d. The ratio of cats to dogs is 5 : 6.

Problem 6

from Unit 1, Lesson 17

Elena has 80 unit cubes. What is the volume of the largest cube she can build with them?

64 cubic units (from a 4 by 4 by 4 cube)

Problem 7

from Unit 2, Lesson 1

Fill in the blanks to make each equation true.

a. $3 \cdot \frac{1}{3} =$ _____

1 (or equivalent)

b. $10 \cdot \frac{1}{10} =$ _____

1 (or equivalent)

c. $19 \cdot \frac{1}{19} =$ _____

1 (or equivalent)

d. $a \cdot \frac{1}{a} =$ _____ (As long as a does not equal 0.)

1 (or equivalent)

e. $5 \cdot$ _____ $= 1$

$\frac{1}{5}$ (or equivalent)

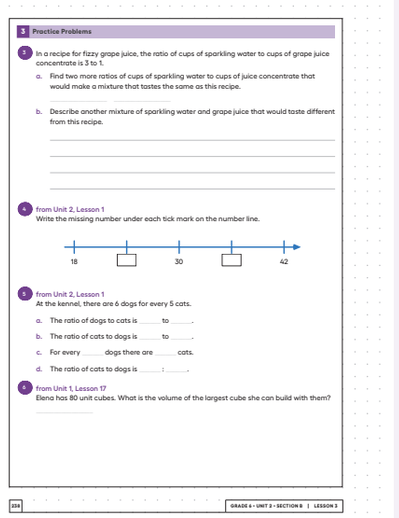
f. $17 \cdot$ _____ $= 1$

$\frac{1}{17}$ (or equivalent)

g. $b \cdot$ _____ $= 1$

$\frac{1}{b}$ (or equivalent)

Student Workbook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6 from Unit 1, Lesson 17
Elena has 80 unit cubes. What is the volume of the largest cube she can build with them?

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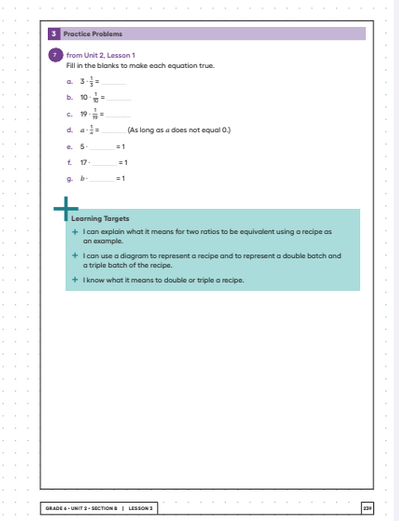
Student Workbook


3 Practice Problems

7 from Unit 2, Lesson 1
Fill in the blanks to make each equation true.

a. $3 \cdot \frac{1}{3} =$ _____

b. $10 \cdot \frac{1}{10} =$ _____

c. $19 \cdot \frac{1}{19} =$ _____

d. $a \cdot \frac{1}{a} =$ _____ (As long as a does not equal 0.)

e. $5 \cdot$ _____ $= 1$

f. $17 \cdot$ _____ $= 1$

g. $b \cdot$ _____ $= 1$

Learning Targets

+ I can explain what it means for two ratios to be equivalent using a recipe as an example.
+ I can use a diagram to represent a recipe and to represent a double batch and a triple batch of the recipe.
+ I know what it means to double or triple a recipe.

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