UNIT 3 · STANDARD 6.RP.3A

Ratio Tables

Lesson 3-2

Name: _____ Date: _____ Class: _____

Key Vocabulary

Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

Cups of juice: 2, 4, 6 | Cups of water: 3, 6, 9

Ratio table

A table of equal ratios that shows a pattern.

2:3 = 4:6 = 6:9

Equivalent ratio

Two ratios that mean the same thing, like 1:2 and 2:4.

2:3 × 2 → 4:6 (scale factor is 2)

Scale factor

The number you multiply both parts of a ratio by to get an equal ratio.

Each row adds 2 cups juice and 3 cups water

Pattern

A rule that numbers follow again and again.

2:3 → 4:6 → 6:9 (add 2 and 3 each time)

Additive pattern

Adding the same amount to both parts of a ratio table to make new rows.

Key Ideas & Notes

- Chef Academy is hosting a pancake breakfast for the whole school!
- Chef Reyes's famous pancake batter uses 2 cups of mix for every 3 cups of milk.
- The team needs to scale the recipe to feed 4 times as many people.
- Can you help them build a ratio table to figure out how much of each ingredient they need?
- Chef Reyes's pancake recipe uses 2 cups of mix for every 3 cups of milk. Complete the ratio table to scale the recipe for more students.

Think About It

- What two quantities are being compared in the recipe?
- What happens to both quantities when you double the recipe?
- How could a table help you organize the scaling?

My Notes

Guided Examples

Example 1

A recipe uses 3 eggs for every 5 cups of flour. How many eggs are needed for 15 cups of flour?

Solution: The scale factor is 15 ÷ 5 = 3. Multiply the eggs by 3: 3 × 3 = 9 eggs.

Answer: A. 9

Example 2

Which row does NOT belong in a ratio table for 4:5?

Solution: 6:10 simplifies to 3:5, not 4:5. The other ratios (8:10, 12:15, 16:20) all simplify to 4:5.

Answer: A. 6:10

Example 3

A ratio table shows 3:7, 6:14, and 9:21. What is the next row?

Solution: The pattern adds 3 to the first value and 7 to the second each time. After 9:21: 9+3=12 and 21+7=28. The next row is 12:28.

Answer: A. 12:28

Write About the Math

The Writing Revolution

I can explain my table using the words ratio table, equivalent ratio, scale factor, and pattern.

1. Kernel Sentence

subject + verb

Model: Ratio table is a table of equal ratios that shows a pattern.
Tabla de razones es una tabla de razones iguales que muestra un patrón.

Write a kernel sentence about ratio table. Use a subject and a verb.
Escribe una oración base sobre tabla de razones. Usa un sujeto y un verbo.

2. Sentence Expansion

because · but · so

Kernel: Ratio table matters in math
Tabla de razones importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because / ***porque***

Ratio table matters in math because ____.
Tabla de razones importa en matemáticas porque ____.

but / ***pero***

Ratio table matters in math, but ____.
Tabla de razones importa en matemáticas, pero ____.

so / ***entonces***

Ratio table matters in math, so ____.
Tabla de razones importa en matemáticas, entonces ____.

3. Sentence Types

4 ways to write a math idea

Statement
Afirmación

Tell one true fact about ratio table.
Di un hecho verdadero sobre ratio table.

Ratio table ____.

Question
Pregunta

Ask a question about ratio table.
Haz una pregunta sobre ratio table.

How does ____ ?
¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about ratio table.
Muestra entusiasmo sobre ratio table.

Wow, ____ !
¡Guau, ____ !

Command
Mandato

Tell a partner what to do with ratio table.
Dile a un compañero qué hacer con ratio table.

First, ____ .
Primero, ____ .

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4. Explain Your Reasoning

use a sentence starter

I multiplied both numbers by ____.
Multipliqué ambos números por ____.

The ratios are equal because ____.
Las razones son iguales porque ____.

A table helps when ____.
Una tabla ayuda cuando ____.

Try It

Solve on your own. Check the answer key when you are done.

1. A ratio table shows 5:8, 10:16, 15:24. What scale factor was used from the first row to the third row?

A. 3

B. 2

C. 5

D. 8

Show your work:

2. A recipe uses 4 cups of flour for every 3 cups of sugar. A student filled in a ratio table: 4:3, 8:6, 12:9, 14:12. Find and fix the error in the last row. Explain what went wrong.

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

Find Devon's Mistake — find the error, then write the correct reasoning.

Show your work:

Reflect — Exit Ticket

A salad dressing recipe uses 2 tablespoons of oil for every 5 tablespoons of vinegar. How many tablespoons of oil are needed for 20 tablespoons of vinegar?

A. 8

B. 10

C. 7

D. 12

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. 3 — *From 5 to 15: 15 ÷ 5 = 3. From 8 to 24: 24 ÷ 8 = 3. The scale factor is 3.*
2. **Try It 2:** The last row is wrong. The pattern multiplies by the same scale factor. 4×1=4, 4×2=8, 4×3=12, so the 4th row should be 4×4=16 cups of flour and 3×4=12 cups of sugar → 16:12. The student added 2 to 12 instead of adding 4. Or: 12+4=16, not 12+2=14.
3. **Exit Ticket:** A. 8 — *Scale factor: 20 ÷ 5 = 4. Multiply oil by 4: 2 × 4 = 8 tablespoons of oil.*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Ratio table is a table of equal ratios that shows a pattern.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).