



# Key Vocabulary Level 2 Standard

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


$$\frac{1}{2} = \frac{2}{4}$$

$$\frac{2}{3} = \frac{8}{12}$$

## Proportion

Write the definition:

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$$\frac{1}{2} = \frac{2}{4}$$

$$\frac{2}{3} = \frac{8}{12} \rightarrow 2 \times 12 = 24 \text{ and } 3 \times 8 = 24 \checkmark$$

## Cross-multiply

Write the definition:

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$$\times 2$$

$$5:8 \times 3 \rightarrow 15:24$$

## Scale

Write the definition:

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$\frac{1}{2}$  and  $\frac{3}{6}$  and  $\frac{5}{10}$  all equal the same amount – half

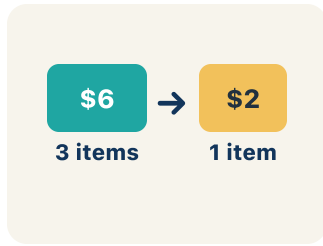
## Equivalent

Write the definition:

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*60 miles in 3 hours → 20 miles per 1 hour*

**Unit rate**

**Write the definition:**

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## Guided Notes Level 2 Standard



### WHAT WE'RE LEARNING TODAY

I can use ratio reasoning to solve problems with proportions and scaling.



Fill in each blank as we go. Use the Word Bank to help you.



### WORD BANK – FILL EACH BLANK WITH THE BEST WORD

Proportion

Cross-multiply

Scale

Equivalent

Unit rate



Tap any word to see what it means and a picture.

1 An equation that states two ratios are equal is a .

2 Multiplying the numerator of one ratio by the denominator of the other to check a proportion is to .

3 To multiply a ratio up or down by the same factor is to  it.

4 Two ratios that show the same comparison are .

5 The amount for exactly one unit is the .



### Watch & Try – Worked Examples

See the notes in action: watch one worked all the way through, then try the next with the same steps.

 **I do – watch**

Follow each step as your teacher solves it.


**Problem:** A recipe uses 4 cups of broth for every 10 servings. How many cups of broth are needed for 30 servings?

- A. 12
- B. 8
- C. 14
- D. 40

**Step 1** Scale factor:  $30 \div 10 = 3$ .

**Step 2** Multiply broth by 3:  $4 \times 3 = 12$  cups.


 **Answer:** A. 12

 **Try – put the steps in order**

Drag the cards (or use the ▲ ▼ buttons) to put the solution steps in the right order, then press **Check**.

Multiply broth by 3:  $4 \times 3 = 12$  cups.

Scale factor:  $30 \div 10 = 3$ .

 **We do – together**

Solve this one with your class using the same steps.

**Problem:** Are the ratios 6:9 and 2:3 equivalent?

- A. Yes, both simplify to 2:3
- B. No,  $6 \neq 2$
- C. Yes, because  $6 + 9 = 15$
- D. No, because  $9 - 6 \neq 3 - 2$

**Step 1** \_\_\_\_\_

**Step 2** \_\_\_\_\_

**Answer:** \_\_\_\_\_

 **You do — your turn**

Now try one on your own. Show every step.

**Problem:** If 3 pounds of apples cost \$6, how much do 7 pounds cost?

- A. \$14
- B. \$13
- C. \$10
- D. \$21

Show your work:

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## Try It

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

**1. A marinara recipe uses 4 cups of tomatoes for every 6 servings. The chef needs 18 servings. How many cups of tomatoes should she use?**

- A. 12 cups
- B. 10 cups
- C. 16 cups
- D. 9 cups

Show your work:

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**2. During a cooking-team relay, a chef plates 3 finished dishes for every 5 minutes she works. At the same rate, how many dishes will she plate in 20 minutes?**

- A. 12 dishes
- B. 10 dishes
- C. 15 dishes
- D. 8 dishes

Show your work:

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## Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

**A recipe serves 6 people and uses 4 cups of rice. You need to serve 15 people. Show two different methods to find how much rice you need: (1) using a scale factor and (2) using a unit rate.**

Show your work:

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## Reflect — Exit Ticket

**A recipe calls for 6 cups of flour for every 15 cookies. How many cups of flour are needed to make 45 cookies?**

- A. 18
- B. 12
- C. 24
- D. 21

Your answer:

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