

Solve Problems with Unit Rates

Lesson 4-7

Name: _____

Date: _____

Class: _____

Key Vocabulary Level 2 Standard

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



\$2.50 per pound means \$2.50 for every 1 pound

Unit Rate

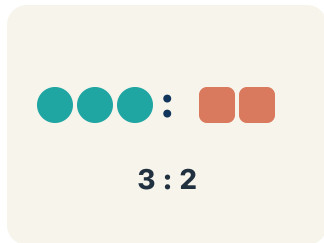
Write the definition:



\$0.10 each vs \$0.15 each — the \$0.10 option is the better buy

Better Buy

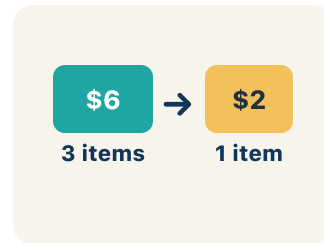
Write the definition:



\$3 per game < \$4 per game

Comparison

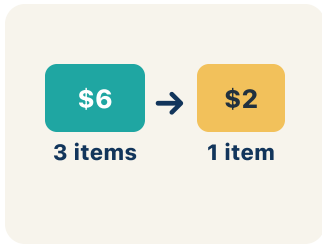
Write the definition:



\$0.50 per token means each token costs \$0.50

Per Unit

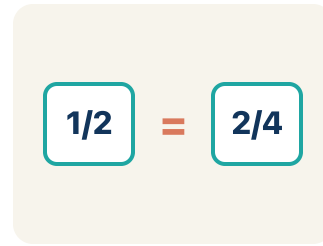
Write the definition:



120 miles in 3 hours is a rate (miles and hours are different units)

Rate

Write the definition:



$$5/3 = x/12 \rightarrow x = 20$$

Proportion

Write the definition:

Guided Notes Level 2 Standard



WHAT WE'RE LEARNING TODAY

I can solve real-world problems by using unit rates to compare options.



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



WORD BANK – FILL EACH BLANK WITH THE BEST WORD

Unit Rate

Better Buy

Comparison

Per Unit

Rate

Proportion



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

1 A rate that gives the amount for exactly one unit is a .

2 The option that costs less per item, found by comparing unit rates, is the

.

3 Showing how two amounts relate to each other is a .

4 The cost or amount for a single item is the cost .

5 A ratio comparing two quantities with different units is a

.

6 An equation stating that two ratios are equal is a .



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: Which is the better buy: 6 bouncy balls for \$4.50 or 10 bouncy balls for \$8.00?


- A. 6 for \$4.50 – \$0.75 each
- B. 10 for \$8.00 – \$0.80 each
- C. They cost the same per ball
- D. Not enough information

Step 1 $\$4.50 \div 6 = \0.75 each.

Step 2 $\$8.00 \div 10 = \0.80 each.

Step 3 $\$0.75 < \0.80 , so 6 for \$4.50 is the better buy.

Answer: A. 6 for \$4.50 – \$0.75 each


 **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**.

$\$0.75 < \0.80 , so 6 for \$4.50 is the better buy.

$\$4.50 \div 6 = \0.75 each.

$\$8.00 \div 10 = \0.80 each.

 **We do – together**

Solve this one with your class using the same steps.

Problem: A faucet drips 15 ounces of water in 5 minutes. What is the unit rate?


- A. 3 ounces per minute
- B. 5 ounces per minute
- C. 15 ounces per minute
- D. 0.33 ounces per minute

Step 1

Step 2

Step 3

Answer:

 **You do – your turn**

Now try one on your own. Show every step.

Problem: A printer prints 42 pages in 6 minutes. How many pages does it print in 15 minutes at the same rate?

- A. 105 pages
- B. 90 pages
- C. 70 pages
- D. 120 pages

Show your work:

Try It

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

1. The delivery van brings arcade supplies 150 miles in 3 hours. What is the unit rate in miles per hour?

- A. 50 miles per hour
- B. 45 miles per hour
- C. 153 miles per hour
- D. 30 miles per hour

Show your work:

2. The ticket counter sells redemption tickets two ways: 8 tickets for \$2.00 or 15 tickets for \$3.00. Which costs less per ticket?

- A. 15 tickets for \$3.00 — \$0.20 each
- B. 8 tickets for \$2.00 — \$0.25 each
- C. They cost the same per ticket
- D. Cannot determine

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

Two arcade supply companies offer token deals. Company X: 300 tokens for \$36. Company Y: 500 tokens for \$55. The arcade needs 1,000 tokens. Find the unit rate for each company, determine which is cheaper per token, and calculate the total cost of buying 1,000 tokens from the better deal.

Sentence starter: Company X charges \$___ per token and Company Y charges \$___ per token. The better deal is Company ___ because ___. Buying 1,000 tokens would cost \$___.

Show your work:

Reflect — Exit Ticket

A car travels 195 miles on 6 gallons of gas. What is the unit rate in miles per gallon?

- A. 32.5 miles per gallon
- B. 33 miles per gallon
- C. 30 miles per gallon
- D. 1,170 miles per gallon

Your answer:
