Rates and Percents

Lesson 1 Unit Rates with Labels

Standards 6.RP.A.2, 6.RP.A.3b

Learning target I can find a unit rate and explain its units.

Materials Ratio tables, price labels, pencils, optional double number lines.

Lesson Flow 50 Minutes

0–5 Activate prior knowledge. Read the learning target. Ask students what they already know about unit rates with labels. Use a quick model or estimate to make their starting ideas visible.

5–17 Teach and model. A unit rate compares an amount with one unit of another quantity. Divide the first quantity by the second. Write the units, such as dollars per notebook, so you know what the quotient means. Work through the two examples on the attached instruction page. Have students name the first step before showing it.

17–22 Guided practice. Revisit worked Example 2 with its solution covered. Students propose the next step and explain why it is valid; uncover and compare with the worked solution.

22–45 Independent classwork. Assign the attached 10 questions in order. Check items 1–3 for entry-level understanding, 4–6 for connected procedures, 7–8 for representation and explanation, and 9–10 for application or justification. Ask students to use the instruction-page notes area or extra grids for longer work.

45–50 Check understanding. Use classwork question 10 as an exit discussion: 4 identical notebooks cost $16. Find the cost per notebook and the cost of 7 notebooks at this rate. Compare the result with the answer key and ask a student to defend the method.

Support and Extension

Support Model item 1 together with the listed tools, then have students attempt item 2 independently. Watch rate units, reference wholes, and confusing percent with its decimal form.

Extension Ask students to solve a final item another way, draw a second representation, or create a related problem with a checked answer.

Next step Record which students can explain the target independently. Begin the next teaching session with a brief correction for any recurring error.

Name _____ Date _____

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Learning target I can find a unit rate and explain its units.

Learn and Discuss

A unit rate compares an amount with one unit of another quantity. Divide the first quantity by the second. Write the units, such as dollars per notebook, so you know what the quotient means.

Example 1 7 identical notebooks cost $28. Find the cost per notebook.
Solution $4 per notebook. Unit rate = 28 ÷ 7 = 4 dollars per notebook.
Example 2 3 identical notebooks cost $10.5. Find the cost per notebook and the cost of 6 notebooks at this rate.
Solution $3.5 per notebook; $21. Unit rate = 10.5 ÷ 3 = 3.5 dollars per notebook.

Classwork Show Your Work

Complete the 10 problems on the following page. Refer to the examples, draw models, and check your results.

My Notes or Second Method

Lesson 1 Unit Rates with Labels

Name _____ Show calculations, models, and units.

1. 4 identical notebooks cost $28. Find the cost per notebook.

2. 5 identical notebooks cost $10. Find the cost per notebook.

3. 5 identical notebooks cost $40. Find the cost per notebook.

4. 4 identical notebooks cost $24. Find the cost per notebook.

5. 7 identical notebooks cost $28. Find the cost per notebook.

6. 3 identical notebooks cost $12. Find the cost per notebook.

7. 5 identical notebooks cost $5. Find the cost per notebook and the cost of 8 notebooks at this rate.

8. 2 identical notebooks cost $8. Find the cost per notebook and the cost of 5 notebooks at this rate.

9. 4 identical notebooks cost $14. Find the cost per notebook and the cost of 7 notebooks at this rate.

10. 4 identical notebooks cost $16. Find the cost per notebook and the cost of 7 notebooks at this rate.

Unit Rates with Labels

Rates and Percents

1. $7 per notebook
Reasoning Unit rate = 28 ÷ 4 = 7 dollars per notebook.

2. $2 per notebook
Reasoning Unit rate = 10 ÷ 5 = 2 dollars per notebook.

3. $8 per notebook
Reasoning Unit rate = 40 ÷ 5 = 8 dollars per notebook.

4. $6 per notebook
Reasoning Unit rate = 24 ÷ 4 = 6 dollars per notebook.

5. $4 per notebook
Reasoning Unit rate = 28 ÷ 7 = 4 dollars per notebook.

6. $4 per notebook
Reasoning Unit rate = 12 ÷ 3 = 4 dollars per notebook.

7. $1 per notebook; $8
Reasoning Unit rate = 5 ÷ 5 = 1 dollars per notebook.

8. $4 per notebook; $20
Reasoning Unit rate = 8 ÷ 2 = 4 dollars per notebook.

9. $3.5 per notebook; $24.5
Reasoning Unit rate = 14 ÷ 4 = 3.5 dollars per notebook.

10. $4 per notebook; $28
Reasoning Unit rate = 16 ÷ 4 = 4 dollars per notebook.