



## GRADE 7 · RATIOS & PROPORTIONAL RELATIONSHIPS · PRACTICE

# UNIT RATES WITH FRACTIONS

**Today's goal:** I can given a rate relationship between two quantities in a mathematical problem, calculate the unit rate, compute unit rates associated with ratios of fractions and given a rate relationship between two quantities in a real-world problem, calculate the unit rate.



### Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



**Mild**

Tan the Turtle



**Medium**

Digit the Fox



**Spicy**

Blaze the Dragon

### WATCH MR DJ SOLVE

$\frac{1}{5}$  km in  $\frac{3}{10}$  hour. Km per hour?

1  $\frac{1}{5} \div \frac{3}{10} = \frac{1}{5} \times \frac{10}{3} = \frac{30}{15} = 2$ .

Answer: **2 km/h**



### REMEMBER

Unit rate = **amount ÷ number of units**. Dividing by a fraction less than 1 makes the answer **bigger**; dividing by a fraction bigger than 1 makes it **smaller**. Use that as your check before you write anything down.



**MILD**

**Tan the Turtle:** Slow and steady. Warm up!

1  $\frac{1}{3}$  mile in  $\frac{1}{9}$  hour. Miles per hour?

Answer

2  $\frac{1}{2}$  cup per  $\frac{1}{8}$  serving. Cups per serving?

Answer



### OOPS ALERT

**Careful on #1!** The slip Mr DJ sees most: Answered  $\frac{1}{27}$  by multiplying.



**MEDIUM**

**Digit the Fox:** Stretch your brain.

**3**  $\frac{5}{6}$  litre in  $\frac{1}{3}$  minute. Litres per minute?

Answer

**4**  $\frac{5}{8}$  mile in  $\frac{7}{16}$  hour. Miles per hour?

Answer

**5**  $\frac{2}{9}$  kg per  $\frac{2}{3}$  box. Kilograms per box?

Answer

**6**  $\frac{1}{4}$  mile in  $\frac{1}{2}$  hour. Miles per hour?

Answer



🔥🔥🔥 **SPICY**

**Blaze the Dragon:** Bring the heat!

- 7** Look at your answer to question 5. Why is it less than 1, when questions 1–5 gave answers of 2 or more?

Answer

- 8** Compare question 1 ( $\frac{1}{3}$  mile in  $\frac{1}{9}$  hour) with question 6 ( $\frac{1}{4}$  mile in  $\frac{1}{2}$  hour). Which is faster, and how could you tell before dividing?

Answer



**How did this sheet feel?**

☐

Easy for me

☐

Just right

☐

Made me think

**Stuck? Watch Mr DJ explain it**

Step-by-step video lessons on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

**Brain break: daily puzzles**

Three new math puzzles every day, free: [puzzles.mathwithmrdj.com](https://puzzles.mathwithmrdj.com)