



MATH WITH MR DJ

GRADE 6 · RATIOS & PROPORTIONAL RELATIONSHIPS

EQUIVALENT RATIOS

Today's goal: I can use equivalent ratios to represent the relationship between two quantities.



Tan



Digit



Blaze



Pi



Two recipes – same taste?

1 Recipe A: 2 cups flour : 3 eggs

2 Recipe B: 4 cups flour : 6 eggs

TURN & TALK

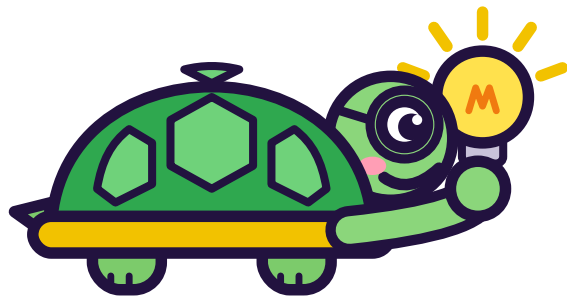
is B just A, scaled up?



Scale BOTH parts by the same number

1 $2:3 \rightarrow (\times 2) \rightarrow 4:6 \rightarrow (\times 3) \rightarrow 6:9$

2 They all describe the same relationship.



BIG IDEA 2

Scale up 3:4

1 $\times 2 \rightarrow 6:8$

2 $\times 5 \rightarrow 15:20$

REMEMBER

Both parts by the SAME number.



BIG IDEA 3

Ratio table

1 bikes : wheels = 1 : 2

2 1:2, 2:4, 3:6, 4:8 — each row scales both parts equally



WATCH OUT!

Watch out: adding is NOT scaling

- 1 4:6 and 6:8 are NOT equivalent — that's +2 to each part
- 2 Check by reducing: $4:6 = 2:3$, but $6:8 = 3:4$ — different!



SPOT THE SLIP!

Turn & talk

Digit found a slip...

THE PROBLEM

Is 3:5 equivalent to 9:15? Show how you know.

WHAT A STUDENT DID

Compared by addition (+6, +10).

YOUR MISSION

What went wrong? What's the right answer?



Is 3:5 equivalent to 9:15? Show how you know.

1 $3 \times 3 = 9$, $5 \times 3 = 15$.

Answer: Yes — $\times 3$ on both



Pick your pepper!



◀ MILD

Write a ratio equivalent to **2:3** by multiplying both parts by 4.

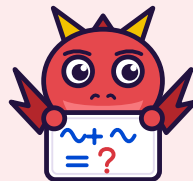
#1 on your practice sheet



◀◀ MEDIUM

Complete the ratio table for **cups : servings = 2 : 5** at 4 cups, 6 cups, and 10 cups.

#3 on your practice sheet

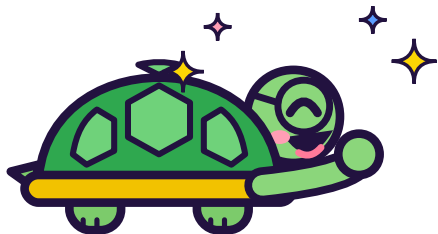


◀◀◀ SPICY

Are **6:9** and **8:12** equivalent? Show your reasoning.

#6 on your practice sheet

How's it going?



3 • Got it!

I could teach it



2 • Almost

One more example, please



1 • Not yet

I need some help



MATH WITH MR DJ

NOW YOU!

Practice sheet: everyone does Mild & Medium, then climb the peppers.

Stuck? Look back at Mr DJ's example at the top of the sheet.

Need it again? Step-by-step videos on YouTube @MathWithMrDJ

Brain break: 3 new daily puzzles at puzzles.mathwithmrdj.com

