



GRADE 5 • MEASUREMENT & DATA

CONVERTING UNITS WITHIN A SYSTEM

Today's goal: I can convert among different-sized standard measurement units within a system.



Tan



Digit



Blaze



Pi



The length did not change

- 1 A table is a table.
- 2 Only what you COUNT it in changes.

TURN & TALK

So the number changes and the length does not.



Which way?

- 1 Metres are BIGGER than centimetres.
- 2 So there are FEWER metres than centimetres.

REMEMBER

250 cm → 2.5 m. Smaller number.



WATCH OUT!

The trap

1 “100 is the number, so multiply by 100.”

2 $250 \times 100 = 25000 \text{ m.}$

DON'T FALL FOR IT

That is 25 km. A walk, not a table.



BIG IDEA 3

Decimals

1 2.5 km $\rightarrow$ m. Digits move three places LEFT.

2 The 5 lands in the hundreds.

REMEMBER

2500 m. Not 2.5000 – that is still 2.5.



BIG IDEA 4

Two steps

1 1 km = 1000 m. Each metre = 100 cm.

REMEMBER

1 km = 100 000 cm.



WATCH OUT!

Never add different units

1 2 m + 30 cm is not 32.

2 Make them the same: 200 cm + 30 cm.

DON'T FALL FOR IT

230 cm = 2.3 m.



Something went wrong here...

THE PROBLEM

Convert to the bigger unit: 3000 m to km,
1500 g to kg, 250 ml to l, 6 mm to cm.

WHAT A STUDENT DID

Used 1000 for the millimetres-to-centimetres conversion, giving 0.006 cm. Ten millimetres make a centimetre; 1000 is for metres to millimetres.

YOUR MISSION

What went wrong? What's the right answer?



Convert to the bigger unit: 3000 m to km, 1500 g to kg, 250 ml to l, 6 mm to cm.

- 1 Each goes to a bigger unit, so each number gets smaller.
- 2 $3000 \div 1000 = 3$ km. $1500 \div 1000 = 1.5$ kg. $250 \div 1000 = 0.25$ l. $6 \div 10 = 0.6$ cm.
- 3 Note the last one uses 10, not 1000 — there are 10 mm in a cm.

Answer: 3 km, 1.5 kg, 0.25 l, 0.6 cm



Pick your pepper!

☹ **MILD**

Convert to the smaller unit: 3 km to m, 2 kg to g, 4 l to ml, 0.75 kg to g.

#1 on your practice sheet

☹☹ **MEDIUM**

Convert 2.5 km to metres, and then to centimetres.

#2 on your practice sheet

☹☹☹ **SPICY**

A child converts 2.5 km to metres by writing 2.5000. Explain why this converts nothing.

#5 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

