

Kilometres and distance; estimating longer lengths

CURRICULUM ALIGNMENT

MEA.MSR.3b

identify the relationship between equivalent units of measurement, and rename measures using equivalent units.

MEA.MSR.3a

compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately.

INTERACTIVES Unit Converter · challenge, display Word Problem · challenge

WHAT THIS LESSON TEACHES

A kilometre (km) is a long unit of length equal to 1,000 metres, used for distances too far to pace out. To change km to m, multiply by 1,000; to change m to km, divide by 1,000.

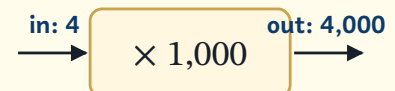
→ A sign 'Gaillimh 8 km' means Galway is $8 \times 1,000 = 8,000$ m away.

→ 3,000 m is 3,000 divided by 1,000 = 3 km.

MODEL THIS ON THE BOARD

CHANGE 4 KM TO METRES

- 1 A signpost shows **4 km**. Remember **1 km = 1,000 m**.
- 2 Multiply the kilometres by 1,000: **$4 \times 1,000$** .
- 3 **$4 \times 1,000 = 4,000$** , so 4 km = **4,000 m**.



DISCUSSION STARTER

REFLECT How do you decide whether centimetres, metres or kilometres fit a length best?

ANSWER KEY

a) 4,000 m

b) 7,000 m

c) 5 km

Q1: 7,000 m

Q2: 2,000 m

Q3: 6,000 m

Q4: 9 km

a) Always : 1 m equals 100 cm by the renaming relationship taught.

b) Always : 1 cm equals 10 mm by the renaming relationship taught.

c) Sometimes : Number increases only when renaming to a smaller unit; it decreases when renaming to a larger unit.

d) Never : Rename 100 cm as 1 m; the lengths are equal, so one is not longer.

EXTENSION SHEET · STRETCH ANSWERS

S1: 26000 m

S2: 20 cm

S3: 19 cm

S4: 29000 m

S5: 33000 m

Investigation: Irish road-sign distances — open-ended; scan pupils' working for valid solution paths rather than a single answer.