

Reasoning and Problem Solving

Step 1: Kilograms and Kilometres

National Curriculum Objectives:

Mathematics Year 5: (5M5) [Convert between different units of metric measure \(for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre\)](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Calculating missing numbers. Calculations involve converting kilometres and metres; kilograms and grams; using multiples of 10,000 or 1,000.

Expected Calculating missing numbers. Calculations involve converting kilometres and metres; kilograms and grams; including numbers to 1 decimal place and some use of fractions.

Greater Depth Calculating missing numbers. Calculations involve converting kilometres and metres; kilograms and grams; including numbers up to 2 decimal places, fractions and use of zero as a place holder.

Questions 2, 5 and 8 (Problem Solving)

Developing Writing comparison statements involving converting and comparing kilometres and metres; kilograms and grams; using multiples of 10,000 or 1,000.

Expected Writing comparison statements involving converting and comparing kilometres and metres; kilograms and grams; including numbers to 1 decimal place and some use of fractions.

Greater Depth Writing comparison statements involving converting and comparing kilometres and metres; kilograms and grams; including numbers up to 2 decimal places, fractions and use of zero as a place holder.

Questions 3, 6 and 9 (Reasoning)

Developing Explaining whether a statement is correct. Statement requires converting and comparing kilometres and metres; kilograms and grams; using multiples of 10,000 or 1,000 and explaining reasoning.

Expected Explaining whether a statement is correct. Statement requires converting and comparing kilometres and metres; kilograms and grams; including numbers to 1 decimal place and some use of fractions.

Greater Depth Explaining whether a statement is correct. Statement requires converting and comparing kilometres and metres; kilograms and grams; including numbers up to 2 decimal places, fractions and use of zero as a place holder.

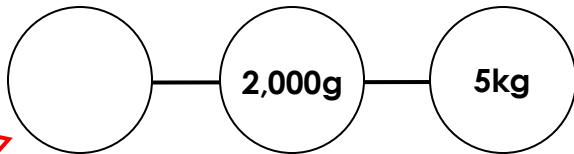
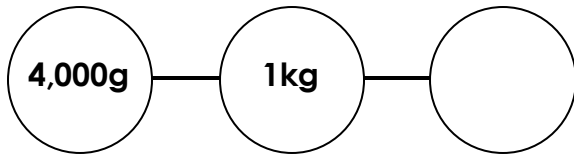
More [Year 5 and Year 6 Converting Units](#) resources

Did you like this resource? Don't forget to [review](#) it on our website.

Kilograms and Kilometres

1a. Complete so that each line adds up to 8kg.

Give your answers in grams.

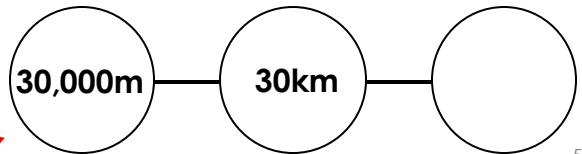
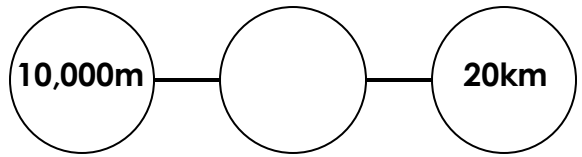


5 PS

Kilograms and Kilometres

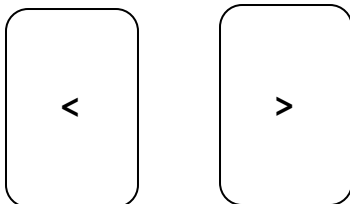
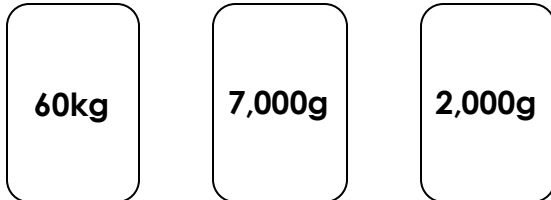
1b. Complete so that each line adds up to 70km.

Give your answers in metres.



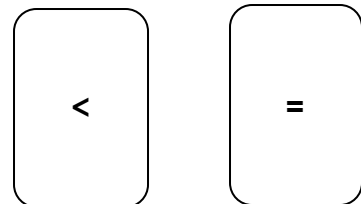
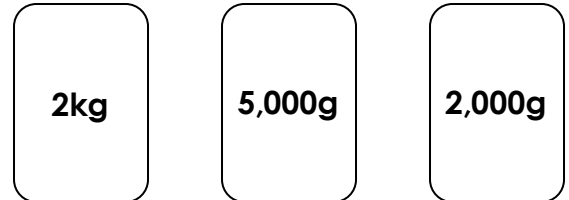
5 PS

2a. Using the cards below, create 3 different comparison statements.



5 PS

2b. Using the cards below, create 3 different comparison statements.



5 PS

3a. A pack of strawberries weighs 500g.

2 packs of strawberries will cost £4.00



£4.00
per kg

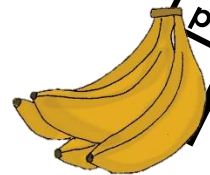
Is Beth correct?
Explain how you know.



5 R

3b. A bunch of banana weighs 500g.

4 bunches of bananas will cost £5.00



£3.00
per kg

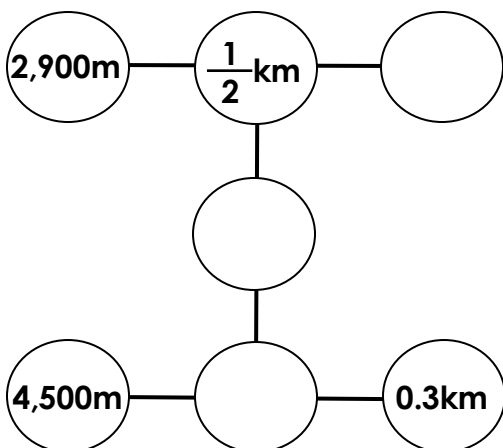
Is Jack correct ?
Explain how you know.



5 R

Kilograms and Kilometres

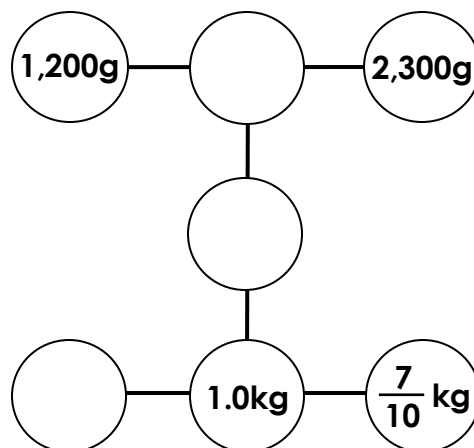
4a. Complete the circles so that each line adds up to 5,000m in every direction. Give your answer in kilometres.



5 PS

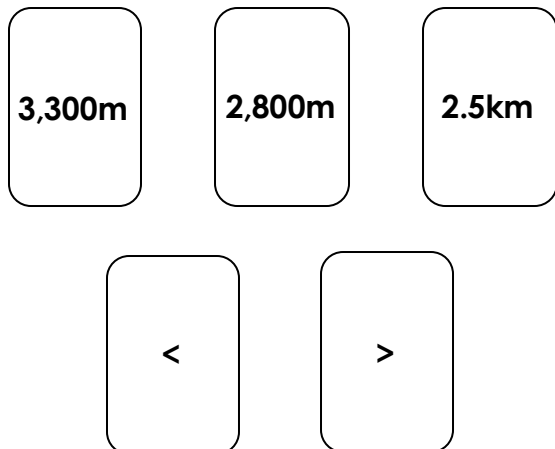
Kilograms and Kilometres

4b. Complete the circles so that each line adds up to 4,000g in every direction. Give your answer in kilograms.



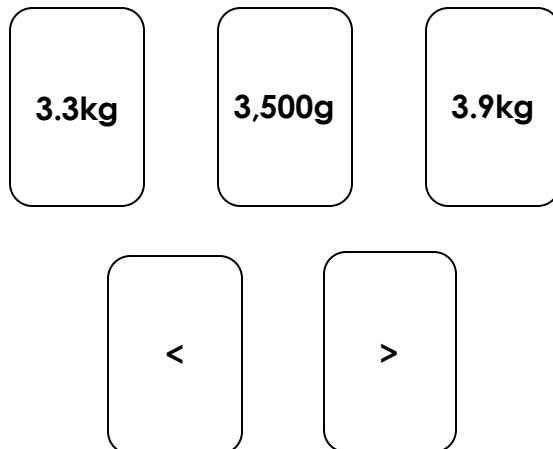
5 PS

5a. Using the cards below, create 3 different comparison statements.



5 PS

5b. Using the cards below, create 3 different comparison statements.



5 PS

6a. A bag of oranges weighs 1,500g.

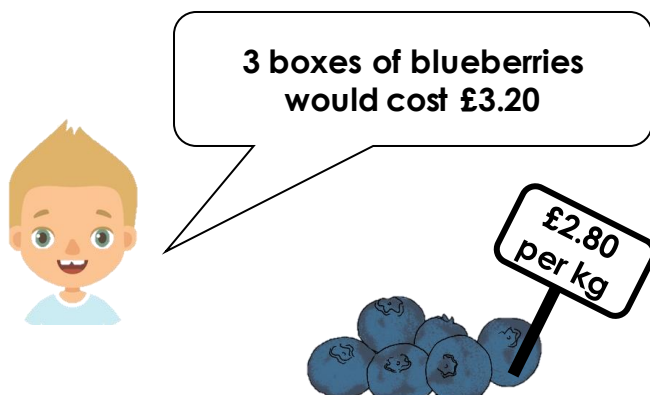


Is Nadia correct?
Explain how you know.



5 R

6b. A box of blueberries weighs 500g.



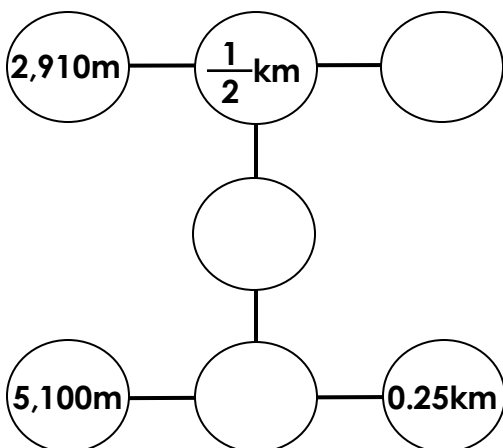
Is Ewan correct?
Explain how you know.



5 R

Kilograms and Kilometres

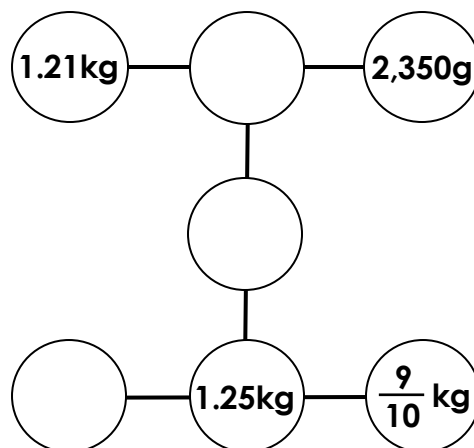
7a. Complete the circles so that each line adds up to 6.5km in every direction. Give your answer in kilometres.



5 PS

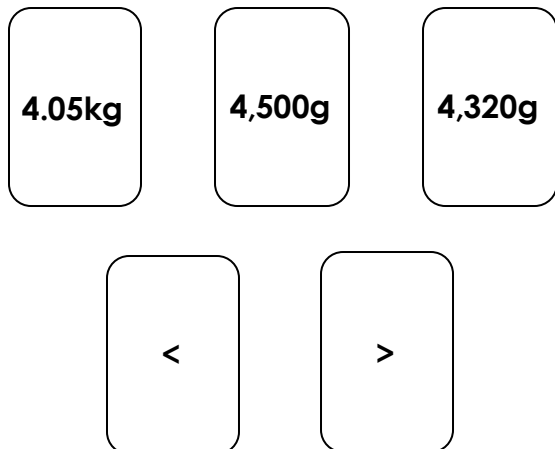
Kilograms and Kilometres

7b. Complete the circles so that each line adds up to 8.3kg in every direction. Give your answer in kilograms.



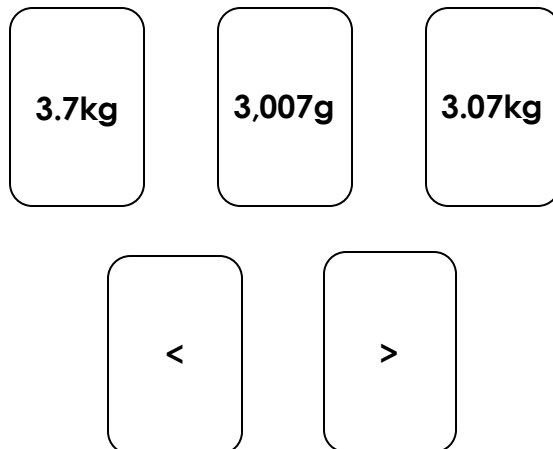
5 PS

8a. Using the cards below, create 3 different comparison statements.



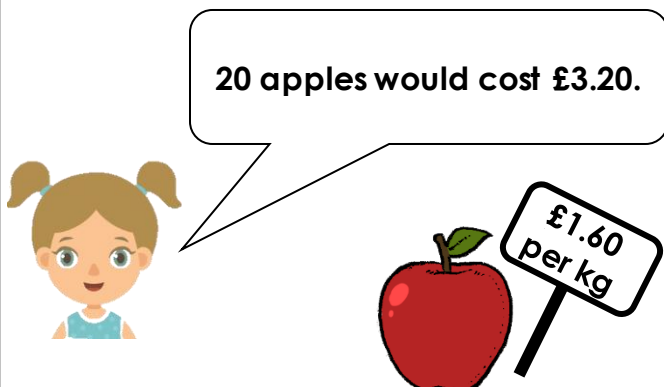
5 PS

8b. Using the cards below, create 3 different comparison statements.



5 PS

9a. Each apple weighs 105g.



Is Ruby correct?
Explain how you know.



5 R

9b. A pear weighs 252g.



Is Harrison correct?
Explain how you know.



5 R

Reasoning and Problem Solving

Kilograms and Kilometres

Developing

- 1a. 3,000g, 1,000g
2a. Various possible answers, for example:
60kg > 7,000g, 7,000g > 2,000g,
2,000g < 60kg
3a. Beth is correct. 2 packs of strawberries
weigh 1,000g. 1,000g is equivalent to 1kg.
1kg of strawberries cost £4.00.

Expected

- 4a. First row: 1.6km
Second row: 4.3km
Third row: 0.2km
5a. Various possible answers, for example:
3,300m > 2,800m, 2,800m > 2.5km,
2.5km < 3,300m
6a. Nadia is correct. 1,500g is equivalent
to 1.5kg. 1 kg costs £2.60 so 0.5kg would
cost £1.30. £2.60 + £1.30 = £3.90.

Greater Depth

- 7a. First row: 3.09km
Second row: 4.85km
Third row: 1.15km
8a. Various possible answers, for example:
4,500g > 4.05kg, 4,500g > 4,320g,
4,320g > 4.05kg
9a. Ruby is not correct.
20 apples would weigh $20 \times 105\text{g} =$
2,100g, which is equivalent to 2.1kg. 2kg
of apples would cost $2 \times £1.60 = £3.20$ so
2.1kg would cost more than £3.20.

Reasoning and Problem Solving

Kilograms and Kilometres

Developing

- 1b. 40,000m, 10,000m
2b. 2kg = 2,000g, 5,000g > 2kg,
5,000g > 2,000g
3b. Jack is not correct. $4 \times 500\text{g} = 2,000\text{g}$.
2,000g is equivalent to 2kg. $2 \times £3 = £6$ so
4 bunches of bananas would cost £6.00

Expected

- 4b. First row: 0.5kg
Second row: 2.5kg
Third row: 2.3kg
5b. Various possible answers, for example:
3.9kg > 3.3kg, 3.3kg < 3,500g,
3,500 < 3.9kg.
6b. Ewan is not correct.
 $3 \times 500\text{g} = 1,500\text{g}$, which is equivalent to
1.5kg. $1.5 \times £2.80 = £4.20$.

Greater Depth

- 7b. First row: 4.74kg
Second row: 2.31kg
Third row: 6.15kg
8b. Various possible answers, for example:
3.7kg > 3.07kg, 3.7kg > 3,007g, 3.07kg >
3,007g
9b. Harrison is not correct.
10 pears would weigh $10 \times 252\text{g} = 2,520\text{g}$,
which is equivalent to 2.52kg. 2.5kg would
cost $2.5 \times £1.90 = £4.75$ so 2.52kg would
cost more than £4.75.