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 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.

4,000g — 1kg — ( )

( ) — 2,000g — 5kg

D PS

Kilograms and Kilometres

1b. Complete so that each line adds up to 70km.
Give your answers in metres.

10,000m — ( ) — 20km

30,000m — 30km — ( )

D PS

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

60kg | 7,000g | 2,000g

< | >

D PS

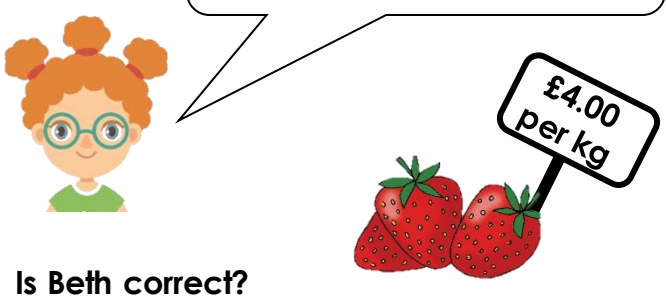
2b. Using the cards below, create 3 different comparison statements.

2kg | 5,000g | 2,000g

< | =

D PS

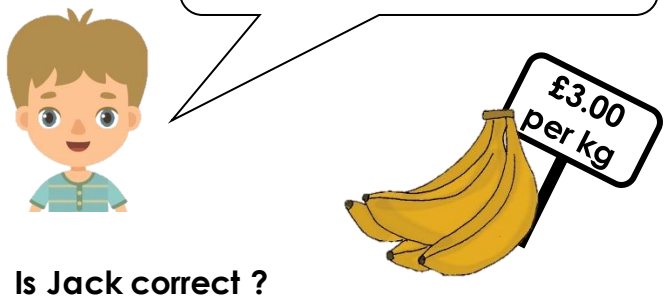
3a. A pack of strawberries weighs 500g.



Is Beth correct?
Explain how you know.

D R

3b. A bunch of banana weighs 500g.

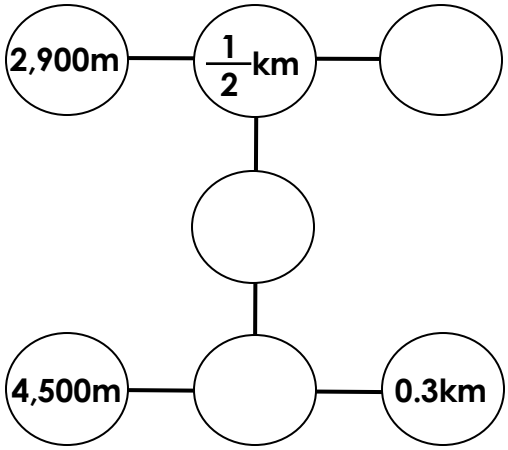


Is Jack correct ?
Explain how you know.

D R

Kilograms and Kilometres

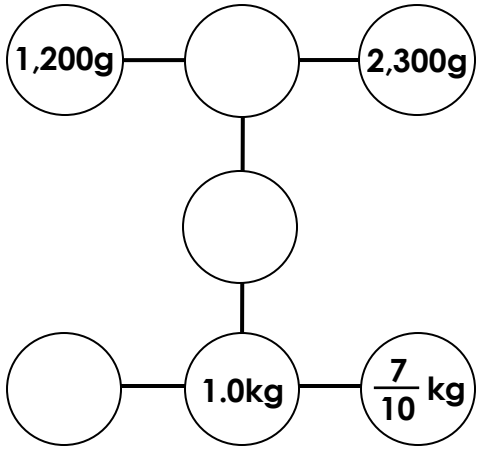
4a. Complete the circles so that each line adds up to 5,000m in every direction. Give your answer in kilometres.



E PS

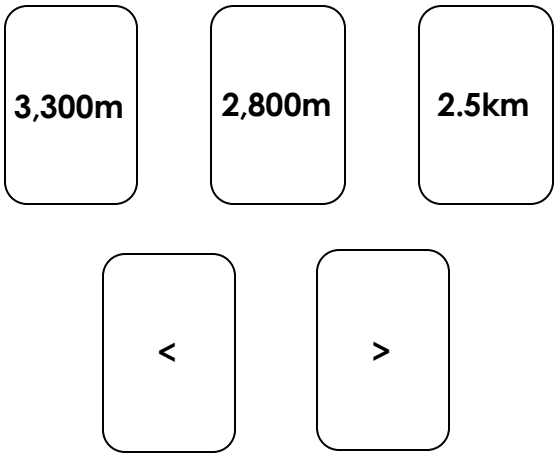
Kilograms and Kilometres

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



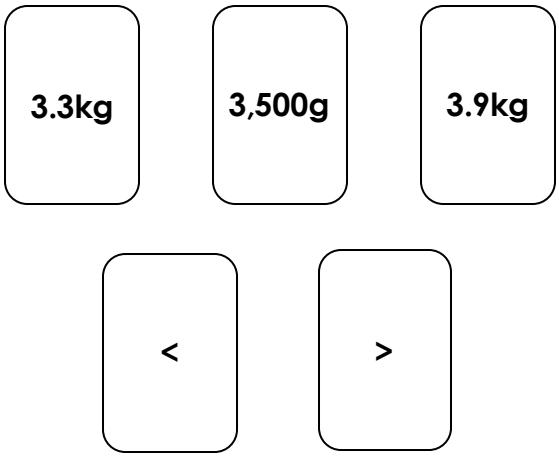
E PS

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



E PS

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



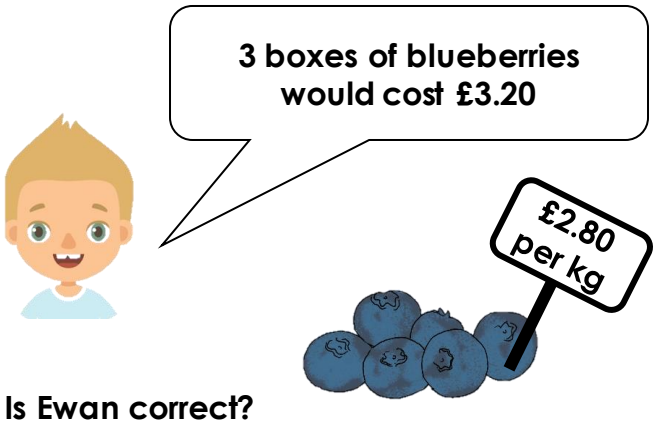
E PS

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

Is Nadia correct?
Explain how you know.

E R

6b. A box of blueberries weighs 500g.

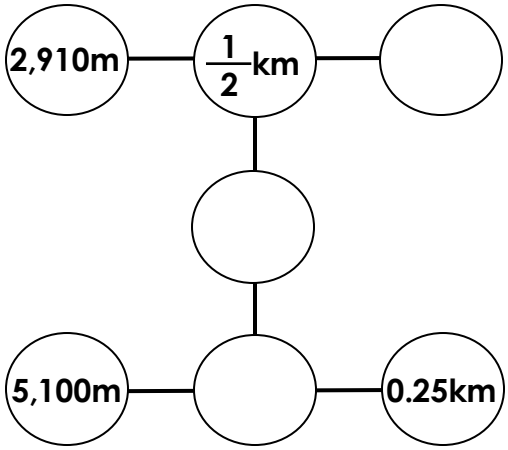


Is Ewan correct?
Explain how you know.

E R

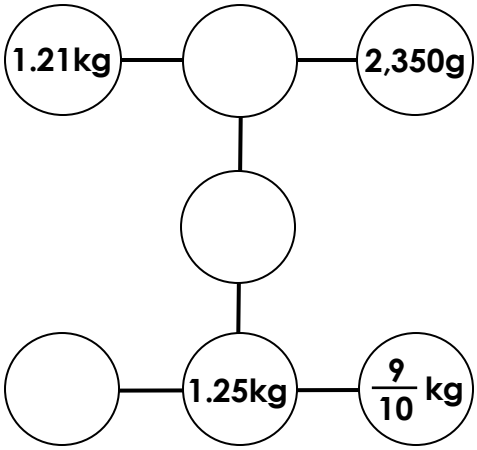
Kilograms and Kilometres

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



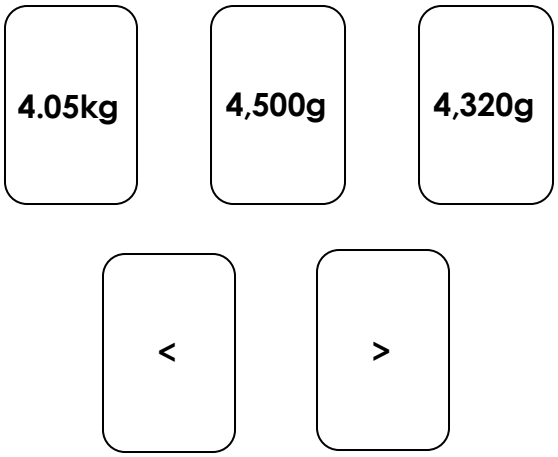
GD PS

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



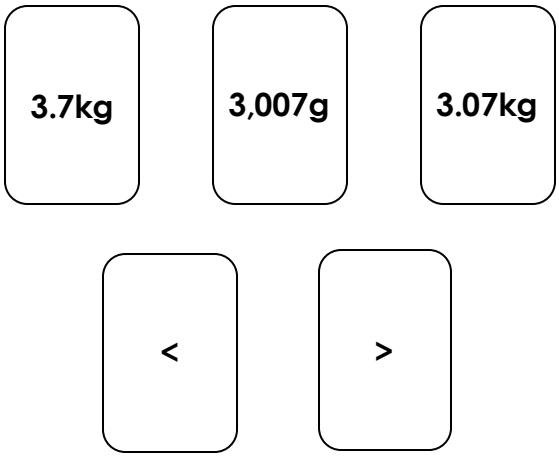
GD PS

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



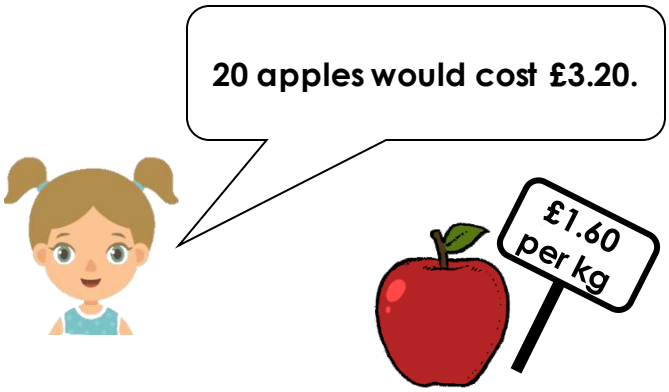
GD PS

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



GD PS

9a. Each apple weighs 105g.



Is Ruby correct?
Explain how you know.

GD R

9b. A pear weighs 252g.

Is Harrison correct?
Explain how you know.

GD 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 x 105g = 2,100g, which is equivalent to 2.1kg. 2kg of apples would cost 2 x £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 x 500g = 2,000g. 2,000g is equivalent to 2kg. 2 x £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 x 500g = 1,500g, which is equivalent to 1.5kg. 1.5 x £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 x 252g = 2,520g, which is equivalent to 2.52kg. 2.5kg would cost 2.5 x £1.90 = £4.75 so 2.52kg would cost more than £4.75.