

Compare mass

Notes and guidance

In this small step, children compare the masses of different objects using grams and kilograms.

In Year 2, children decided if an object was heavier or lighter by using balance scales. They now use units of measure to work out which object is heavier or lighter. Understanding that kilograms are heavier than grams will help them to compare mass, for example 100 g is lighter than 100 kg. They can also compare using fractions: for example $\frac{1}{2}$ kg is heavier than 400 g.

Children then go on to compare masses that combine kilograms and grams. They should recognise that, because kilograms are heavier than grams, they should compare the kilograms first: for example 1 kg and 300 g is lighter than 3 kg and 300 g. If the kilograms are the same, they then need to compare the grams: for example 1 kg and 300 g is heavier than 1 kg and 100 g.

Things to look out for

- Children may focus more on the number than the unit of measure, for example saying 750 g is greater than 50 kg.
- Children need to be secure in reading scales with different intervals.

Key questions

- Which object is heavier/lighter? How do you know?
- Which is heavier: 1 kg or 100 g?
- Which is heavier: 1 kg and 100 g or 1 kg and 400 g?
- Which is heavier: 500 g or 3 kg and 100 g?
- Which is heavier: 600 g or $\frac{1}{2}$ kg?
- If you know the total mass of two identical items, how can you work out the mass of one of them?
- If 2 _____ have the same mass as 3 _____, which object is heavier?

Possible sentence stems

- _____ kg is heavier/lighter than _____ kg, so _____ kg and _____ g is heavier/lighter than _____ kg and _____ g.
- The number of kilograms is the same so I need to compare the _____
_____ kg and _____ g is heavier/lighter than _____ kg and _____ g.

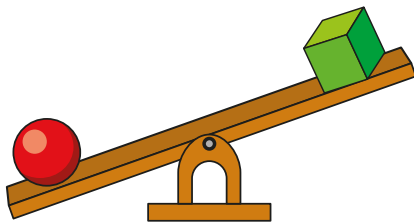
National Curriculum links

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

Compare mass

Key learning

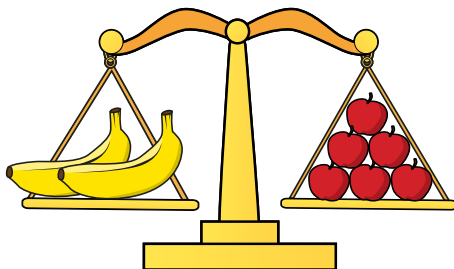
- Write **heavier** or **lighter** to complete the sentences.



The sphere is _____ than the cube.

The cube is _____ than the sphere.

- Complete the sentences.

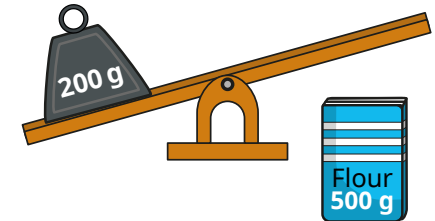
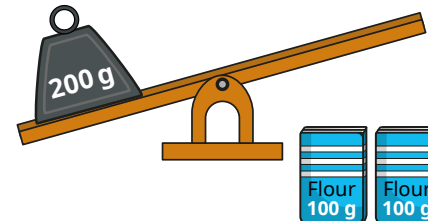
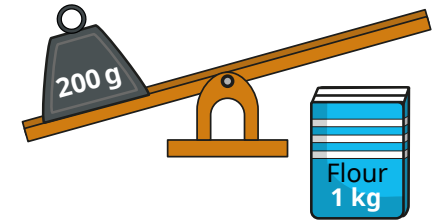
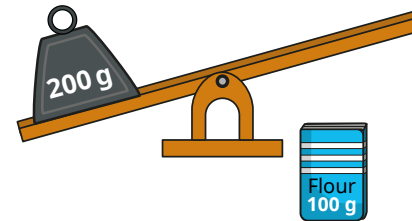


_____ bananas have the same mass as _____ apples.

1 banana has the same mass as _____ apples.

The mass of 1 banana is _____ than the mass of 1 apple.

- Rosie puts different amounts of flour onto the scales. For each scale, say what will happen and why.



- Write $<$, $>$ or $=$ to compare the masses.

500 g 500 kg 1 kg and 300 g 3 kg and 300 g

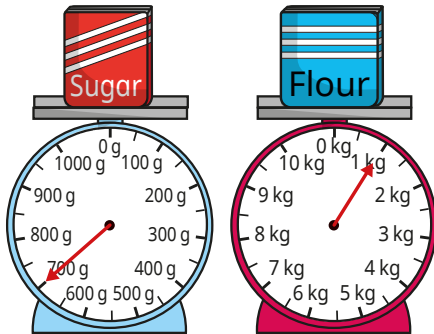
900 g 1 kg 1 kg and 300 g 1 kg and 100 g

210 g $\frac{1}{5}$ kg 4 kg and 27 g 27 kg and 4 g

Compare mass

Reasoning and problem solving

Which statement is correct?



A

The sugar is heavier, because the arrow is further around the scale than the arrow on the flour scale.

B

The flour is lighter, because 1 is less than 700

C

The flour is heavier, because 1 kg is more than 700 g.

Explain your answer.

C

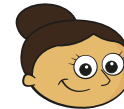
Here are three masses.

20 kg and 600 g

20 kg

18 kg and 500 g

Match each mass to the correct person.



Dora

My mass is greater than $\frac{1}{2}$ of 40 kg.

My mass is greater than Max's mass.



Max

My mass is greater than 18 kg but less than 20 kg.



Teddy

Dora: 20 kg and 600 g

Teddy: 20 kg

Max: 18 kg and 500 g