

Aim

- I can measure mass in grams.

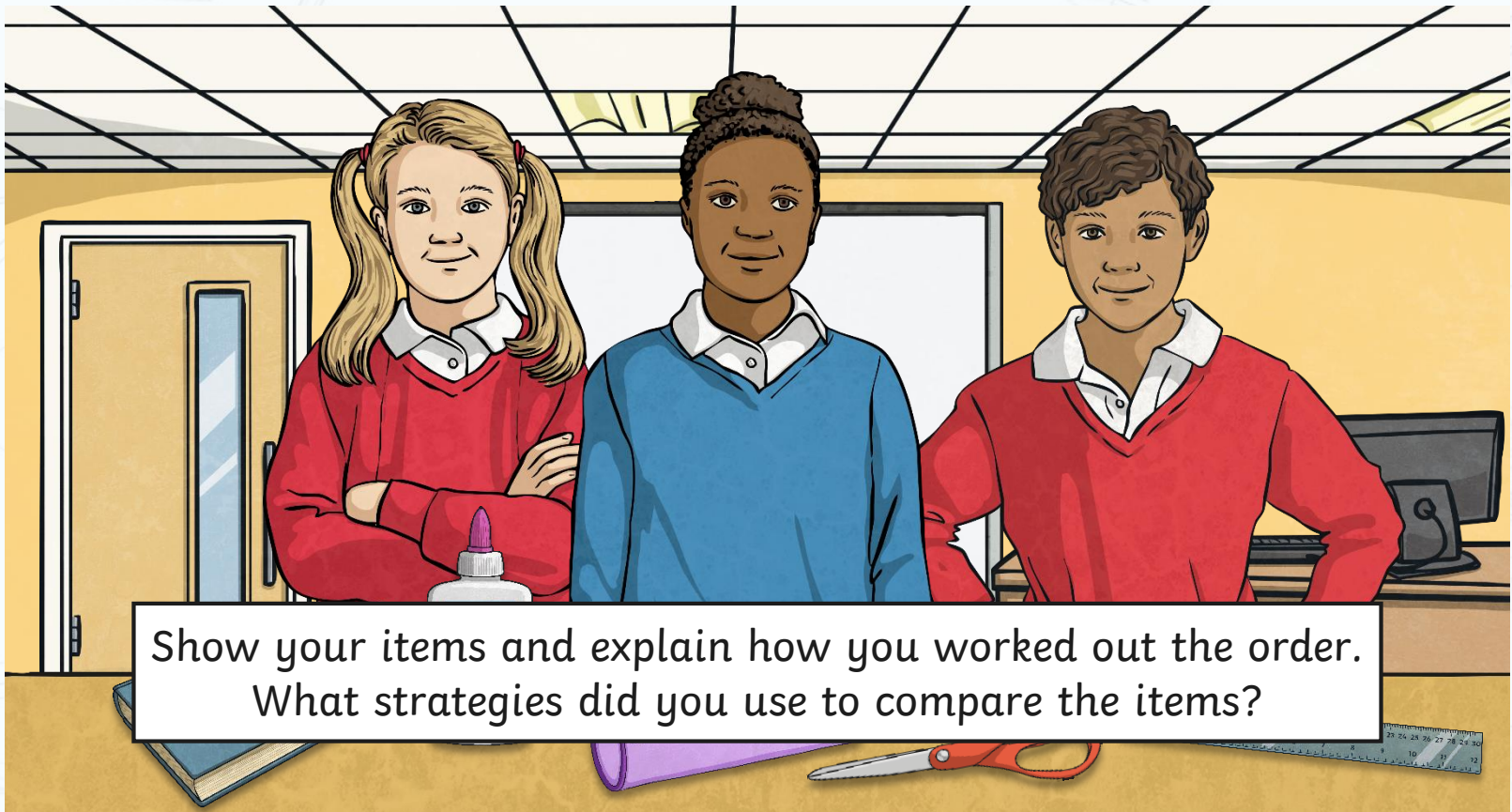
Success Criteria

- I can calculate the intervals on a scale.
- I can read scales to measure in grams.

Order It - Mass



Work with your group to collect five objects.
Order them from heaviest to lightest.



Show your items and explain how you worked out the order.
What strategies did you use to compare the items?



Estimate the Mass

Look at the food items.
Estimate their mass in grams and order them from heaviest to lightest.



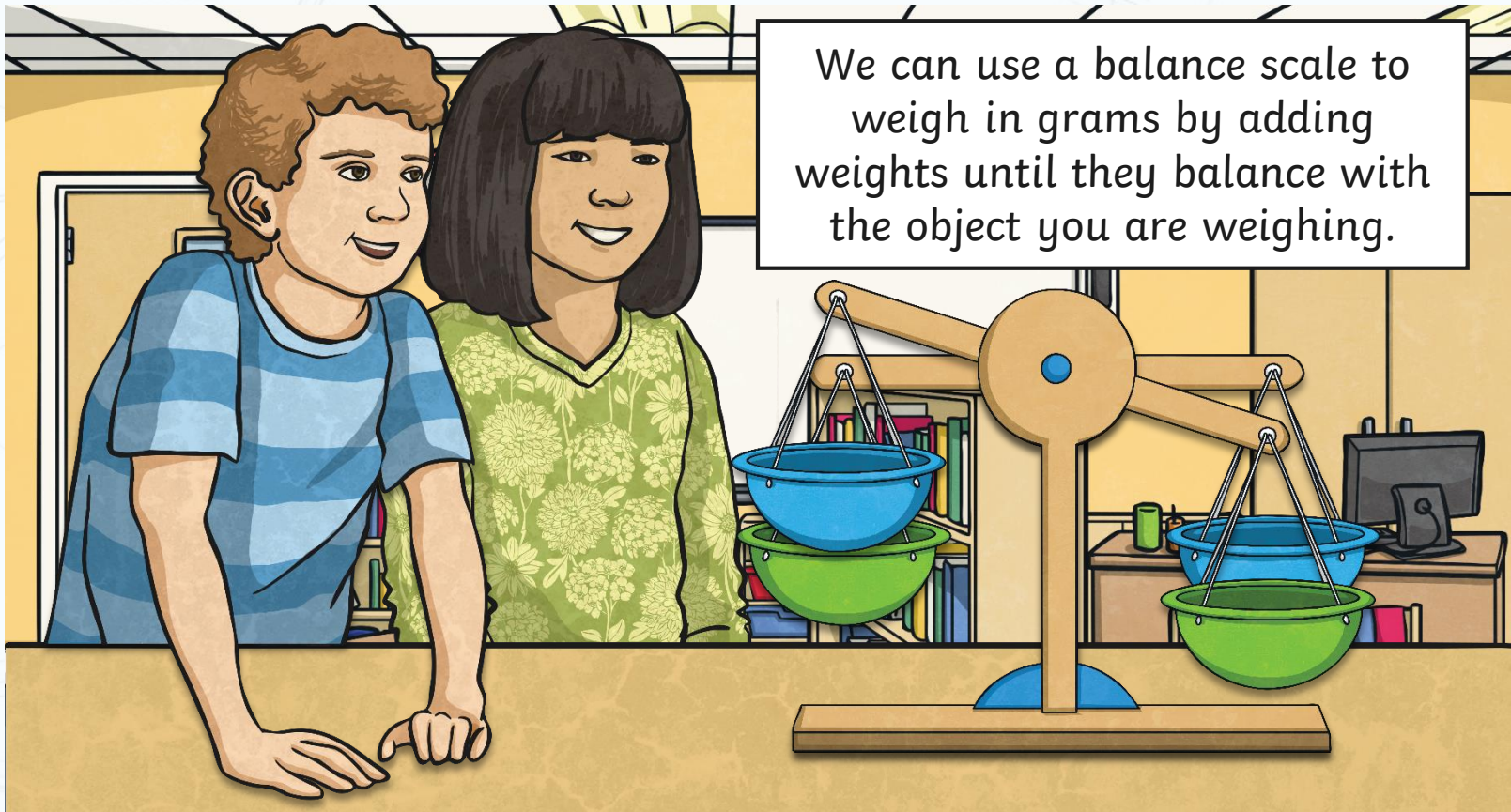
How close were your estimates to the real mass in grams?



Weighing in Grams

A gram is a very small unit for measuring mass.
A paperclip and a raisin both weigh about 1 gram.

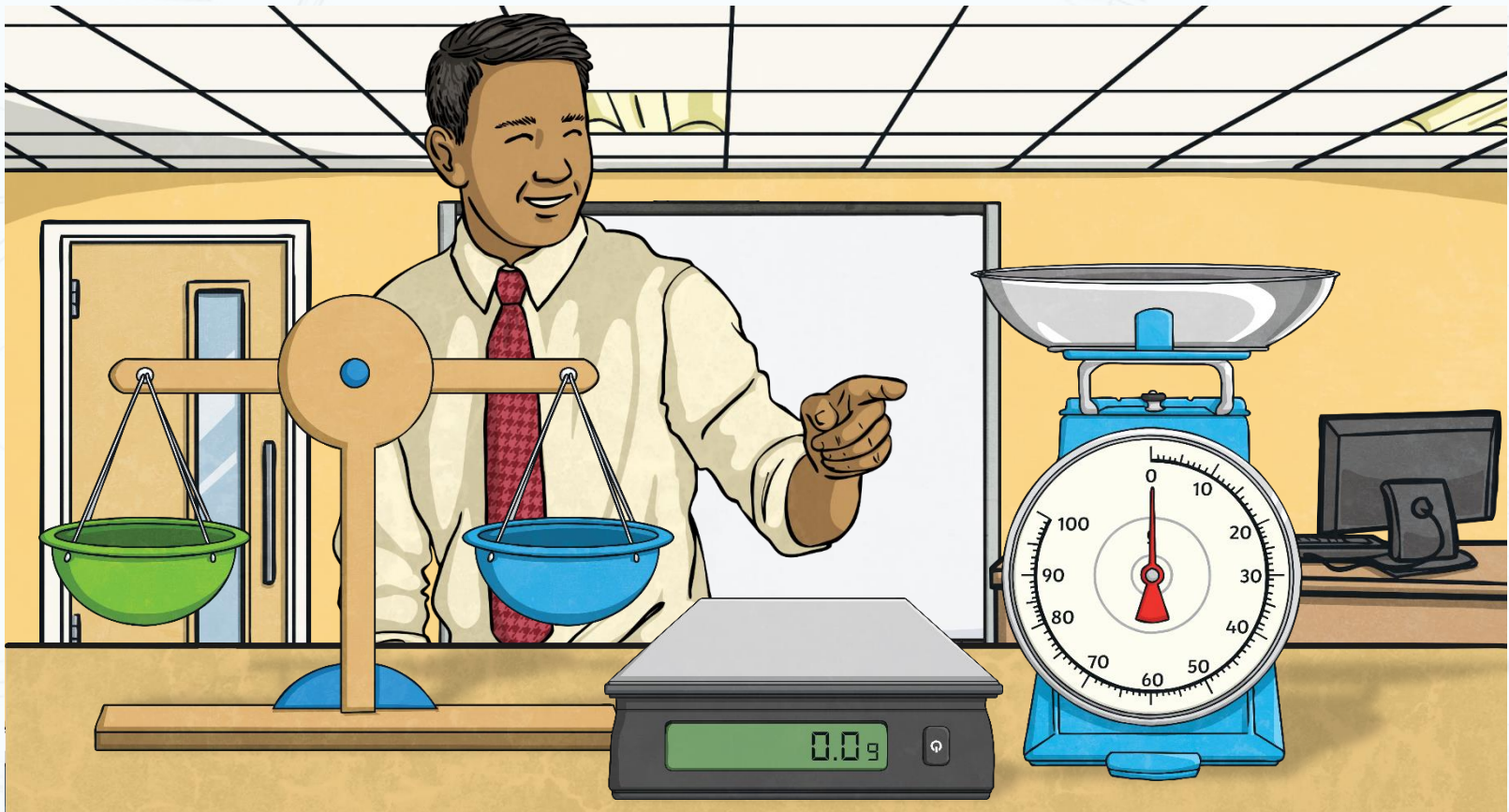
We can use a balance scale to weigh in grams by adding weights until they balance with the object you are weighing.



Weighing in Grams



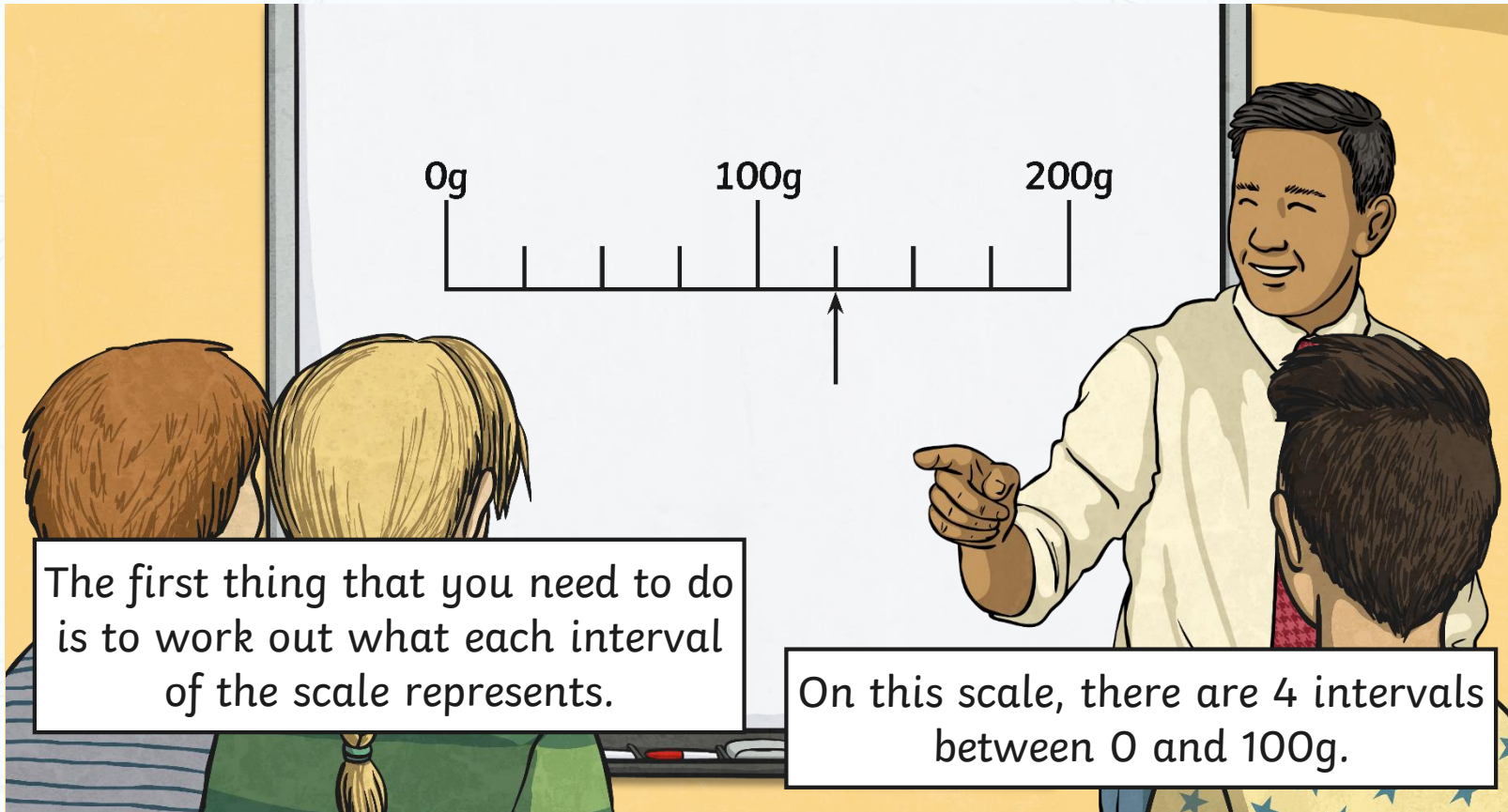
It is more accurate to use weighing scales to measure in grams.
There are many different sorts of weighing scales:



Reading Scales



We are going to learn how to use **analogue scales**.



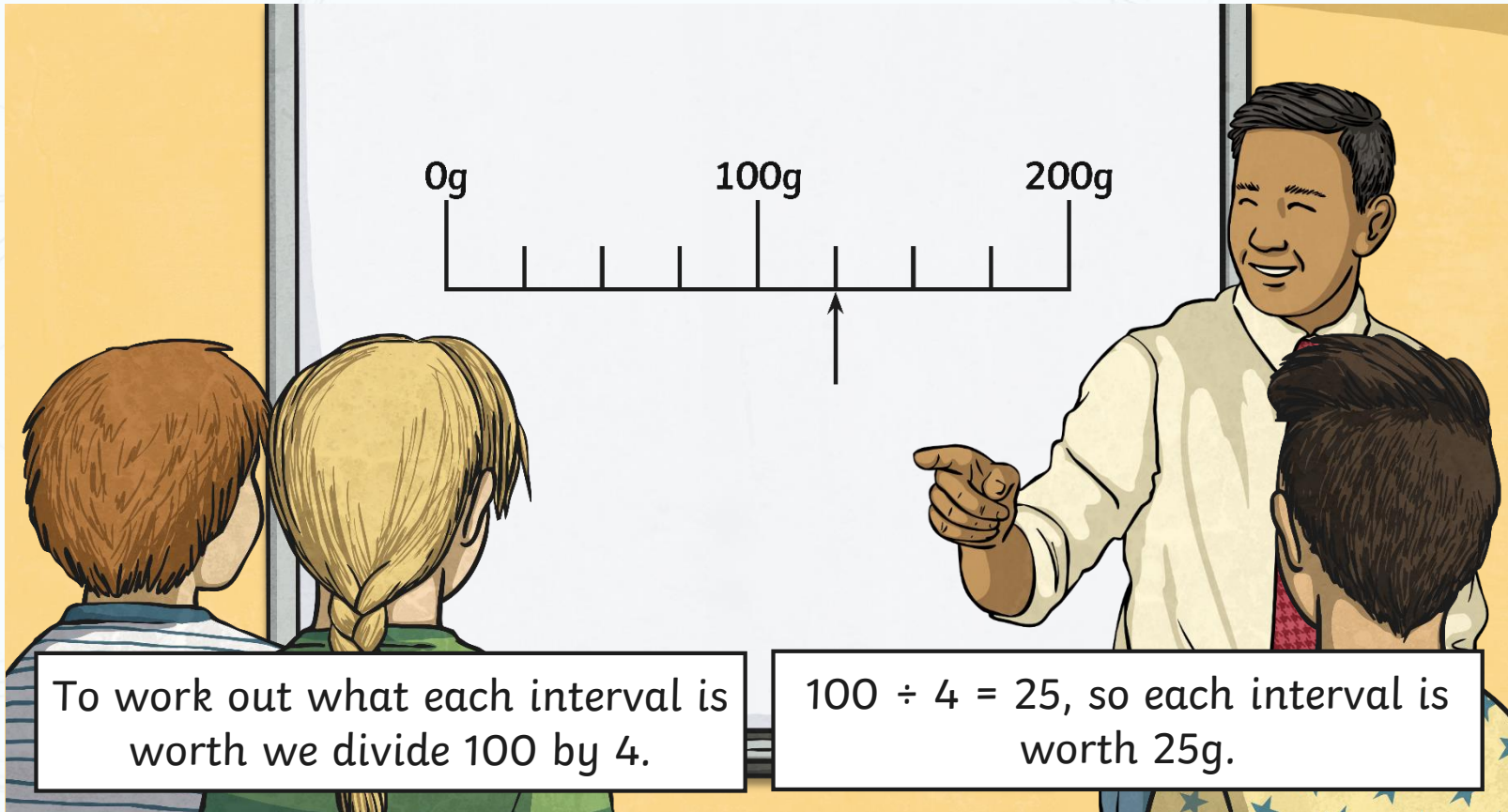
The first thing that you need to do is to work out what each interval of the scale represents.

On this scale, there are 4 intervals between 0 and 100g.

Reading Scales



We are going to learn how to use **analogue scales**.



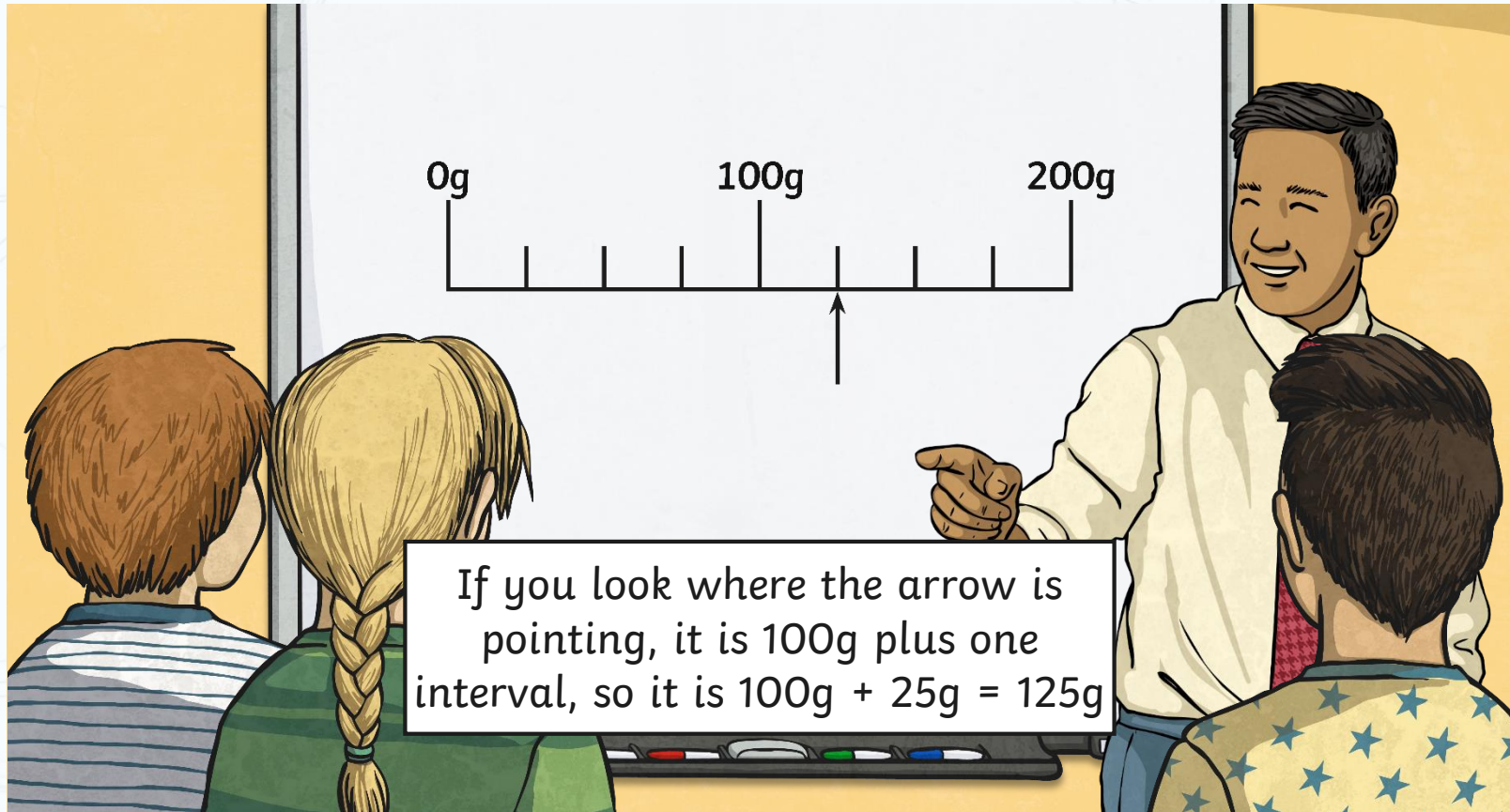
To work out what each interval is worth we divide 100 by 4.

$100 \div 4 = 25$, so each interval is worth 25g.

Reading Scales



We are going to learn how to use **analogue scales**.

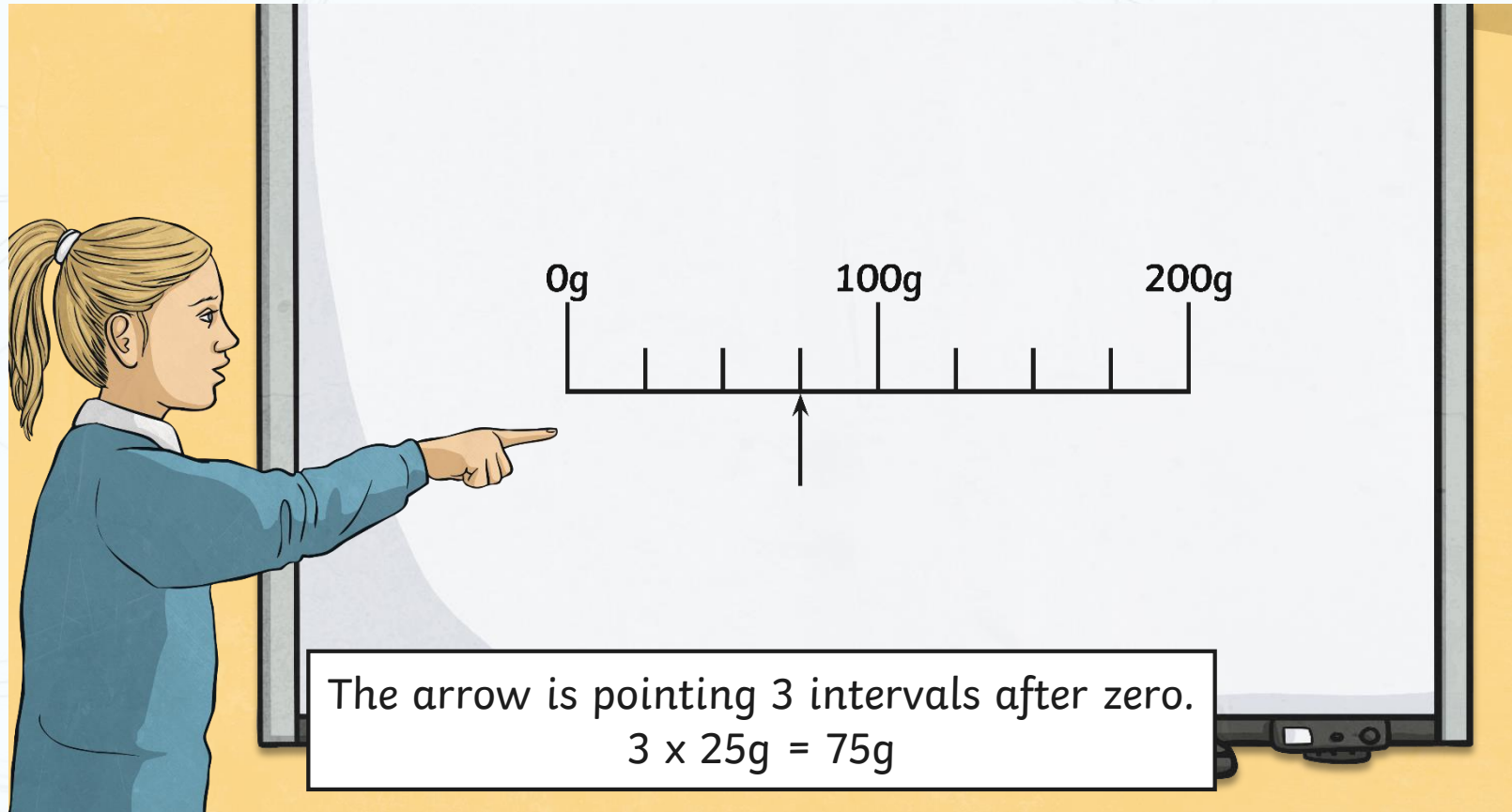


If you look where the arrow is pointing, it is 100g plus one interval, so it is $100\text{g} + 25\text{g} = 125\text{g}$

Reading Scales



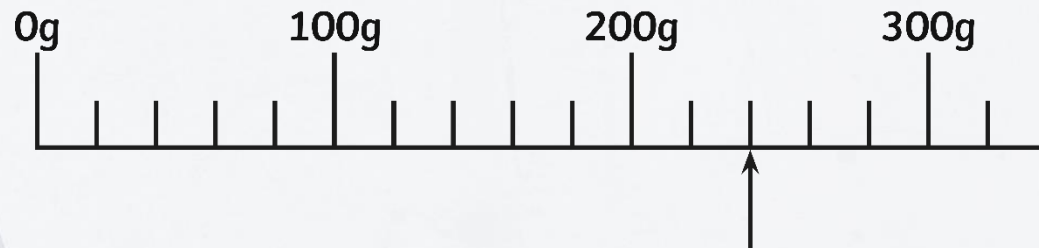
This is the same scale. What is the arrow pointing to now?



Reading Scales



On this scale, there are 5 intervals between 0 and 100g.



To work out what each interval is worth we divide 100 by 5.

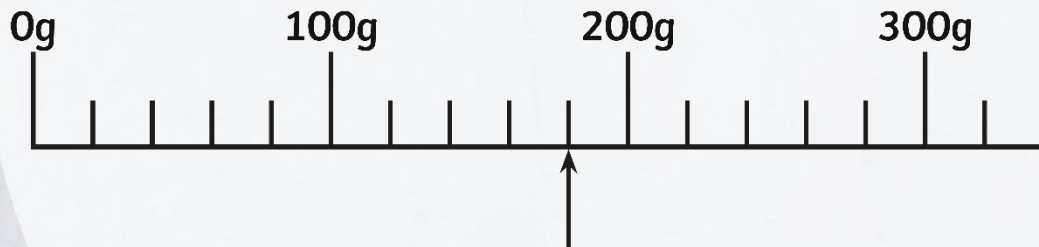
$100 \div 5 = 20$, so each interval is worth 20g.

If you look where the arrow is pointing, it is 200g plus two intervals, so it is $200\text{g} + 40\text{g} = 240\text{g}$

Reading Scales



This is the same scale. What is the arrow pointing to now?



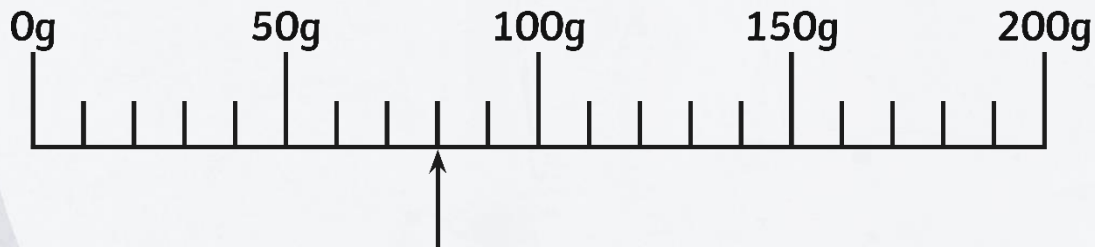
The arrow is pointing 1 interval
before 200g.
 $200\text{g} - 20\text{g} = 180\text{g}$

We could also say:
The arrow is pointing 4 intervals
after 100g.
 $100\text{g} + 80\text{g} = 180\text{g}$

Reading Scales



On this scale, there are 5 intervals between 0 and 50g.



To work out what each interval is worth we divide 50 by 5.

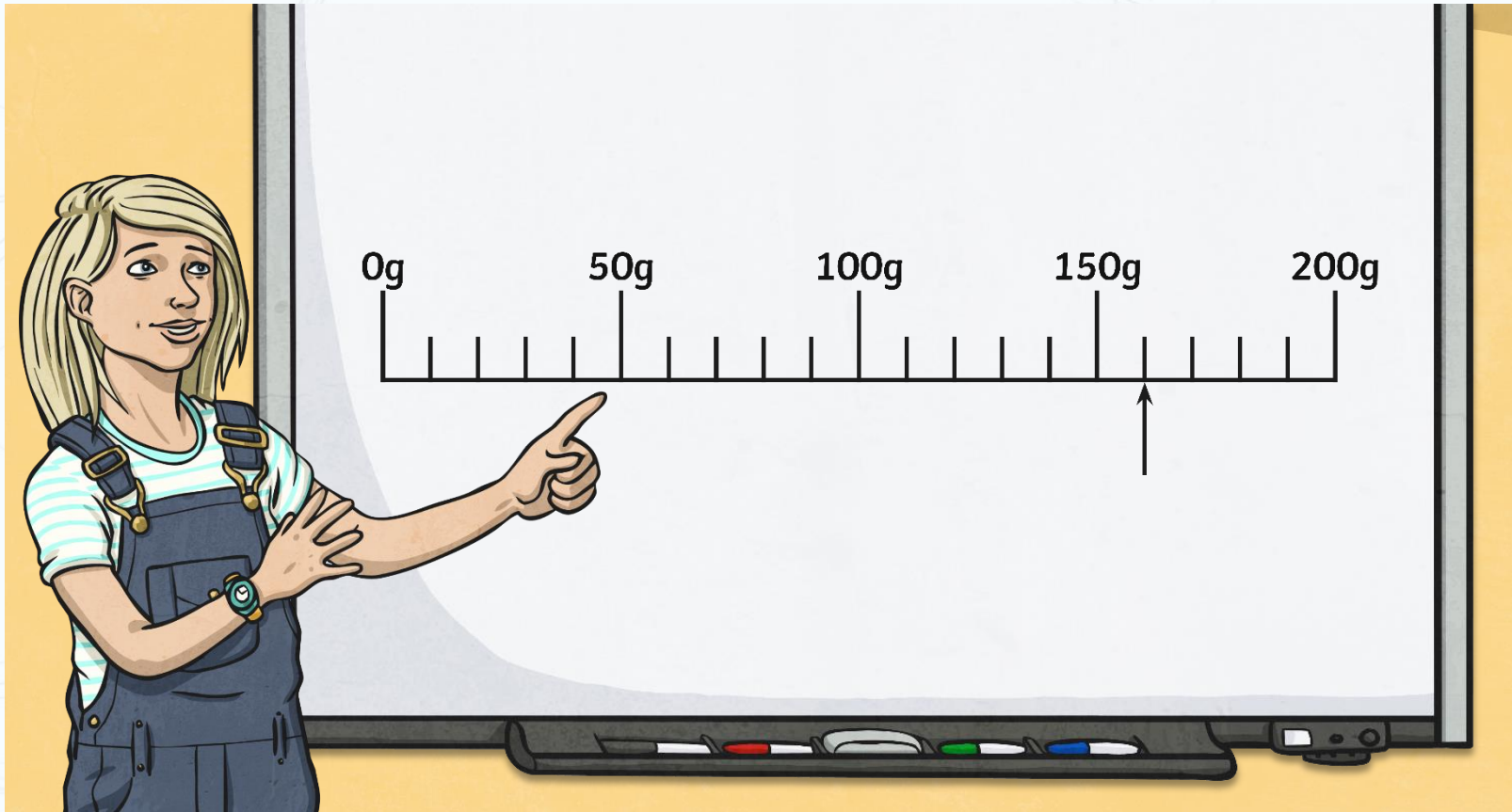
$50 \div 5 = 10$, so each interval is worth 10g.

If you look where the arrow is pointing, it is 50g plus three intervals, so it is $50g + 30g = 80g$

Reading Scales



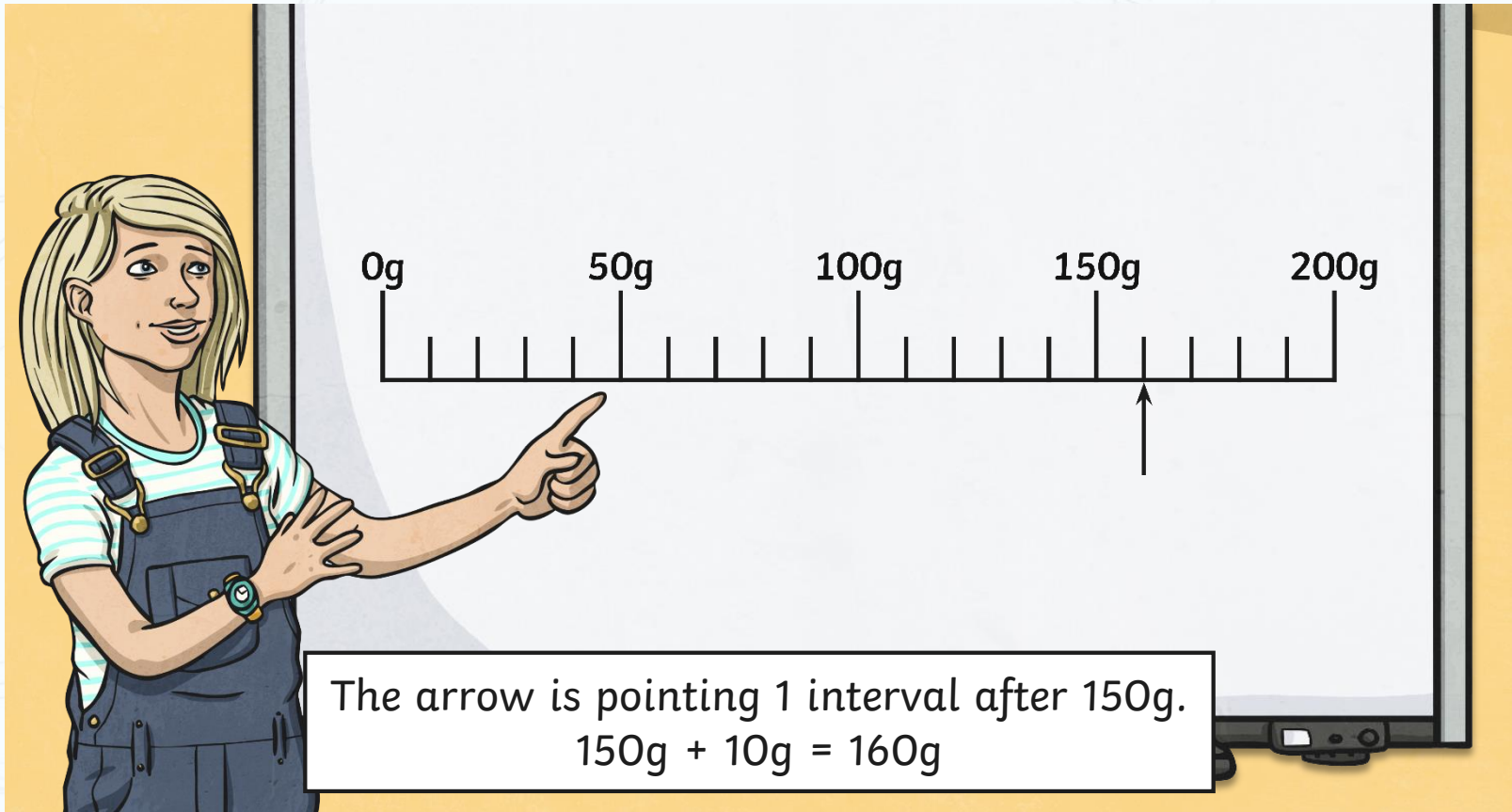
This is the same scale. What is the arrow pointing to now?



Reading Scales



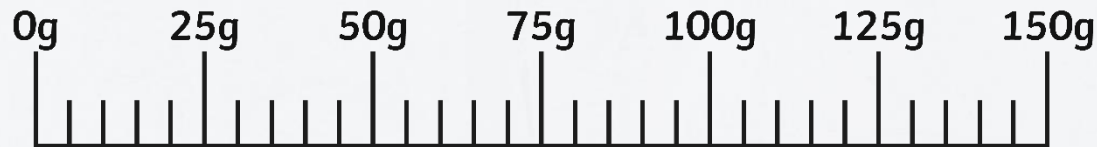
This is the same scale. What is the arrow pointing to now?



Reading Scales



On this scale, there are 5 intervals between 0 and 25g.



To work out what each interval is worth we divide 25 by 5.

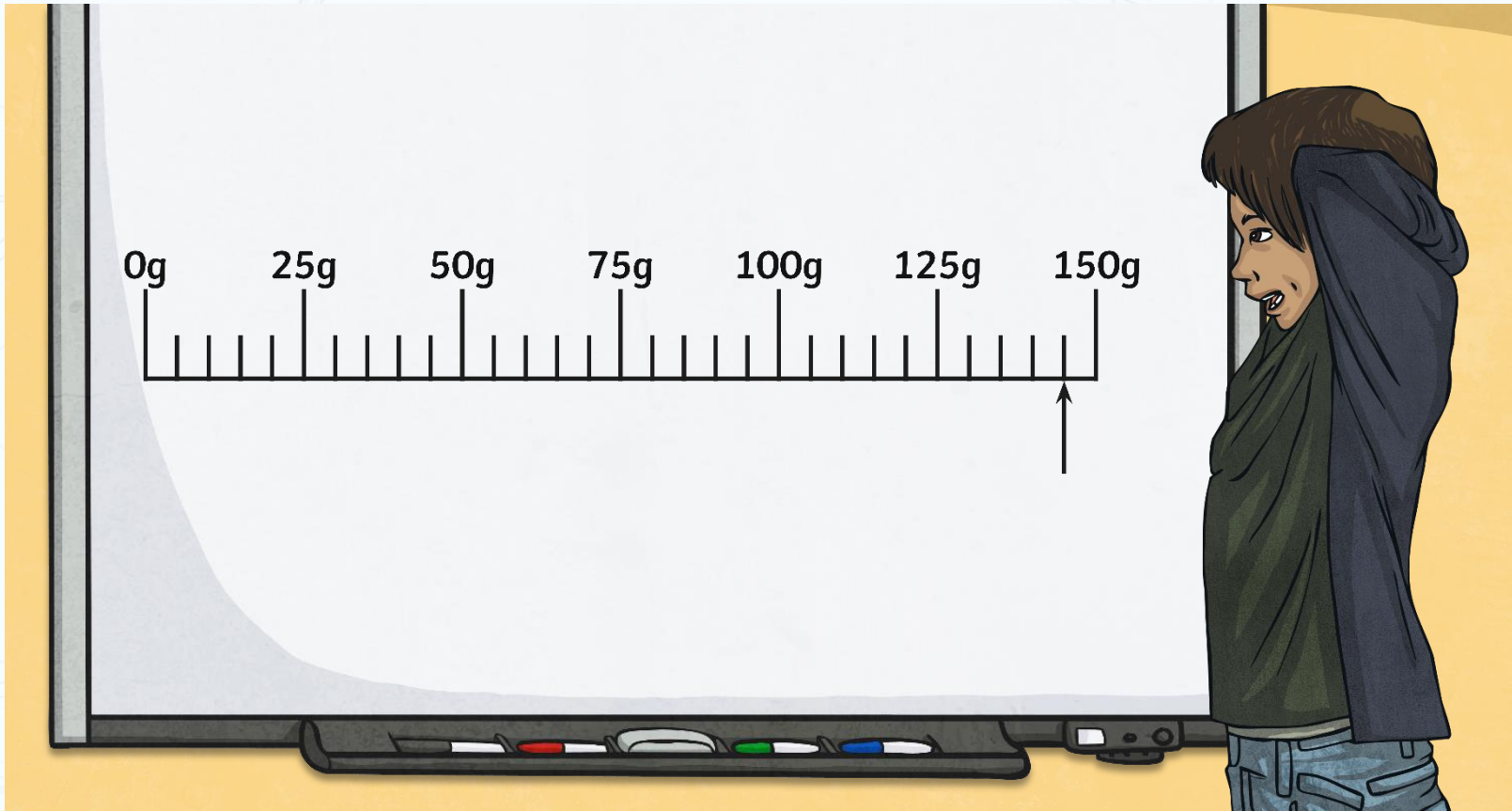
$25 \div 5 = 5$, so each interval is worth 5g.

If you look where the arrow is pointing, it is 50g plus four intervals, so it is $50g + 20g = 70g$

Reading Scales



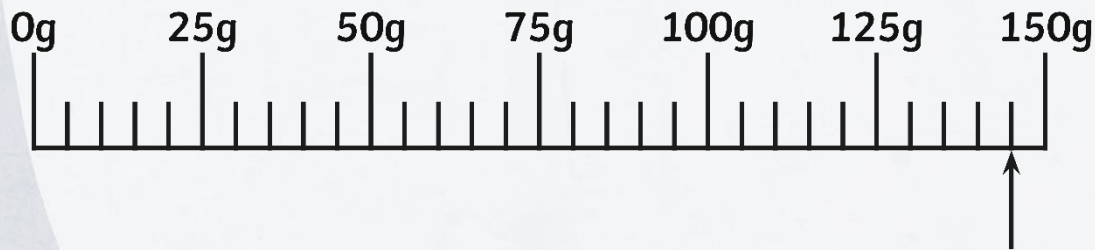
This is the same scale. What is the arrow pointing to now?



Reading Scales



This is the same scale. What is the arrow pointing to now?



The arrow is pointing 1 interval
before 150g.
 $150\text{g} - 5\text{g} = 145\text{g}$


We could also say:
The arrow is pointing 4 intervals
after 125g.
 $125\text{g} + 20\text{g} = 145\text{g}$

Reading Scales



On this scale, there are 10 intervals between 0 and 100g.

0g 100g 200g 300g 400g 500g 600g 700g 800g 900g



To work out what each interval is worth we divide 100 by 10.

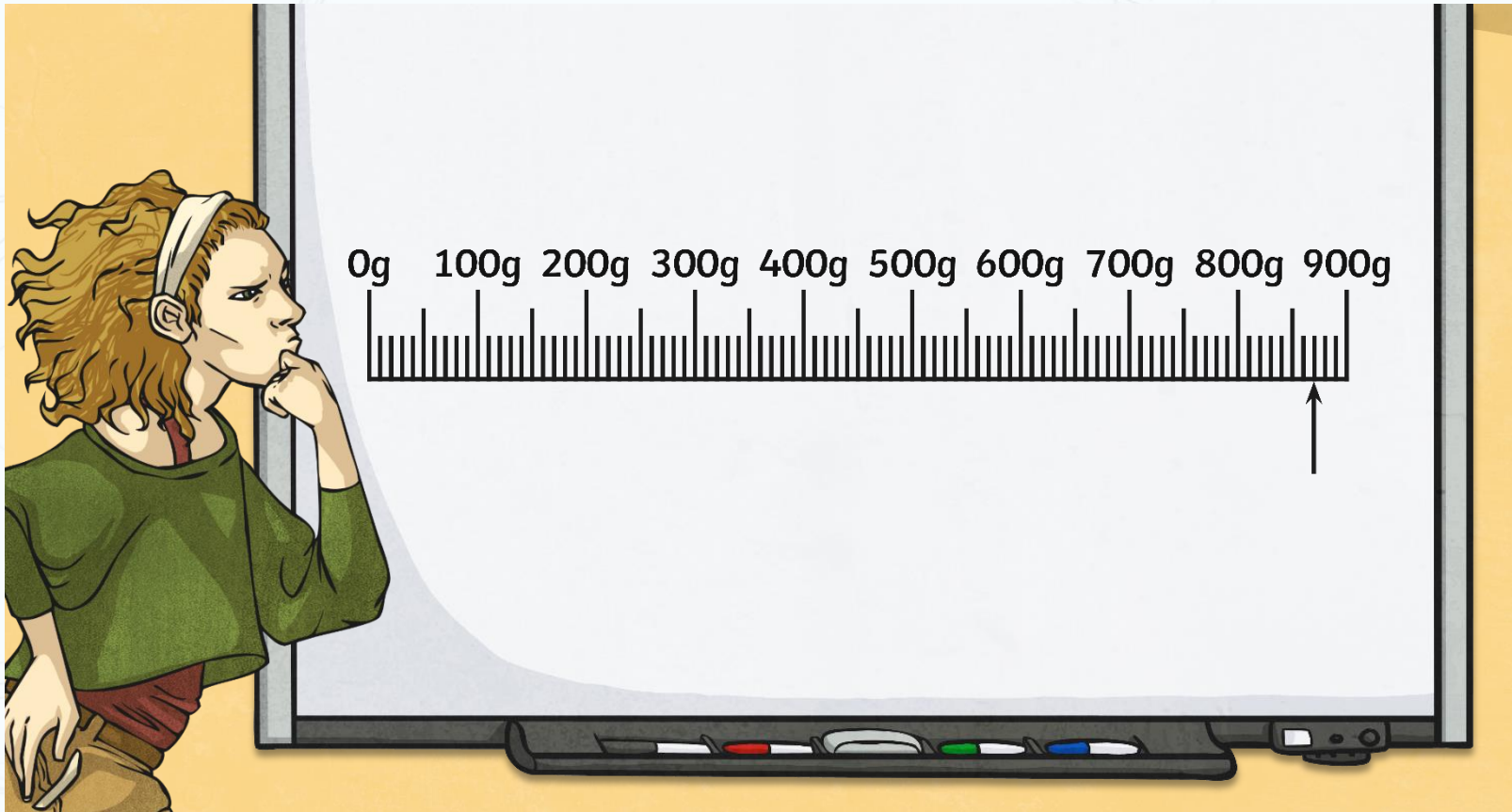
$100 \div 10 = 10$, so each interval is worth 10g.

If you look where the arrow is pointing, it is 200g plus five intervals, so it is $200\text{g} + 50\text{g} = 250\text{g}$

Reading Scales



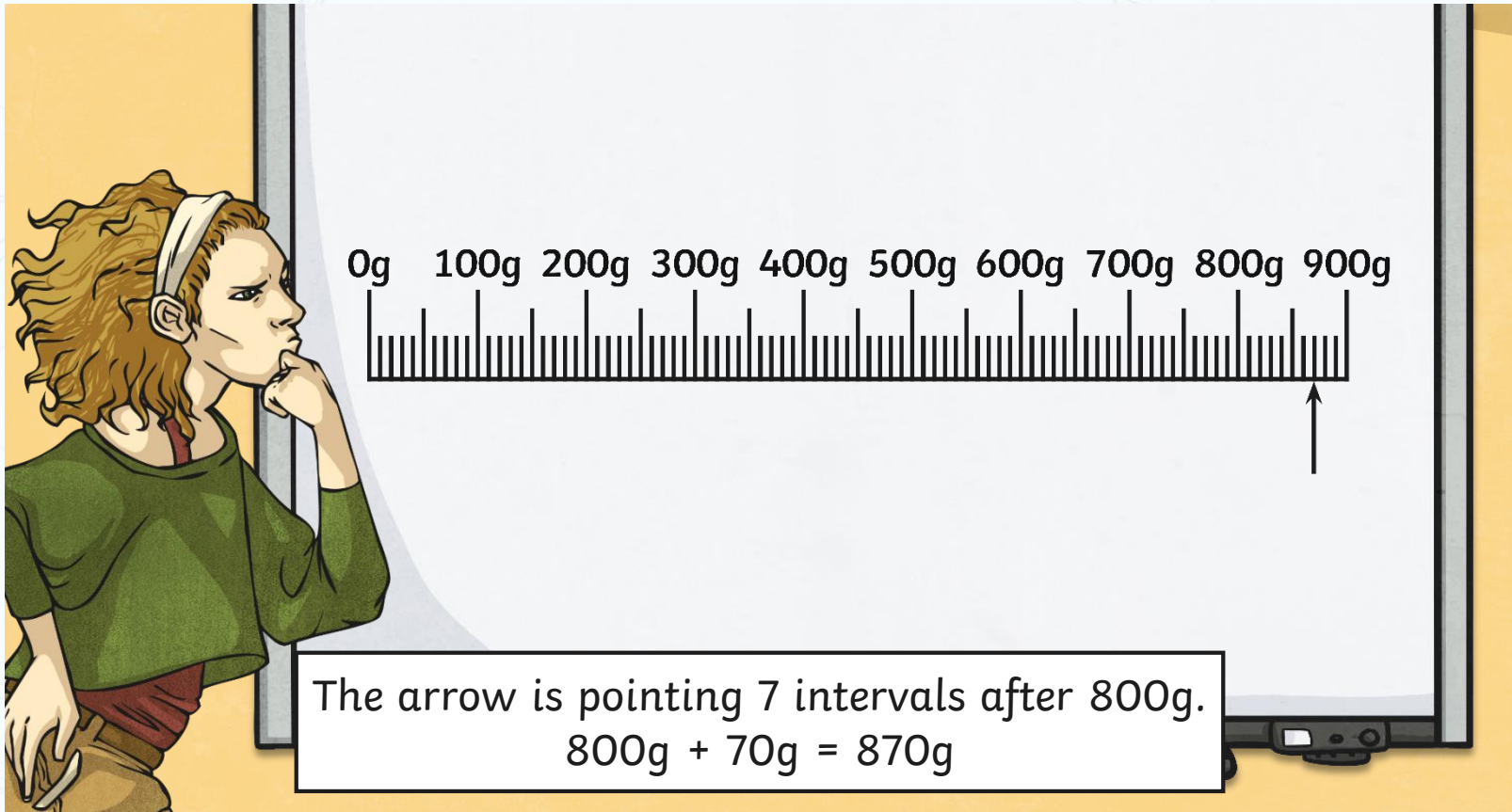
This is the same scale. What is the arrow pointing to now?



Reading Scales

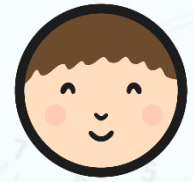


This is the same scale. What is the arrow pointing to now?



The arrow is pointing 7 intervals after 800g.
 $800\text{g} + 70\text{g} = 870\text{g}$

Measure in Grams



Use your mass measuring mastery to complete these activity sheets.

Scale 3:

Write a sentence to explain how you worked out what each interval is worth and then say how many grams the arrow is pointing to.

Calculating the intervals:

Arrows are pointing to:

A g
B g
C g
D g

Scale 4:

Use a ruler to draw your own scale from 0g to 300g. On the scale mark the following.

Arrows are pointing to:

A 75 g
B 150 g
C 225 g
D 375 g

Reading Scales

Scale 3:

For each scale, write a calculation to show how you worked out what each interval is worth and then say how many grams the arrow is pointing to.

Scale 1:

Calculating the intervals:

There are **2** intervals between 0 and 100.

$100 \div 2 = 50$

Each interval is worth **50**.

The arrow is pointing to **50**.

Scale 2:

Calculating the intervals:

There are **2** intervals between 0 and 100.

$100 \div 2 = 50$

Each interval is worth **50**.

The arrow is pointing to **50**.

Reading Scales

Scale 3:

There are intervals between 0 and 100.

$100 \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

Each interval is worth .

Arrows are pointing to:

A g
B g
C g
D g

Reading Scales to Measure in Grams

I can read scales to measure in grams.

For each scale, write a calculation to show how you worked out what each interval is worth and then say how many grams the arrows are pointing to. The first one has done for you.

Scale 1:

Calculating the intervals:

There are **2** intervals between 0 and 100.

$100 \div 2 = 50$

Each interval is worth **50** g.

The arrow is pointing to **250** g.

Scale 2:

There are intervals between 0 and 100.

$100 \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

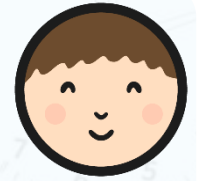
Each interval is worth g.

Arrows are pointing to:

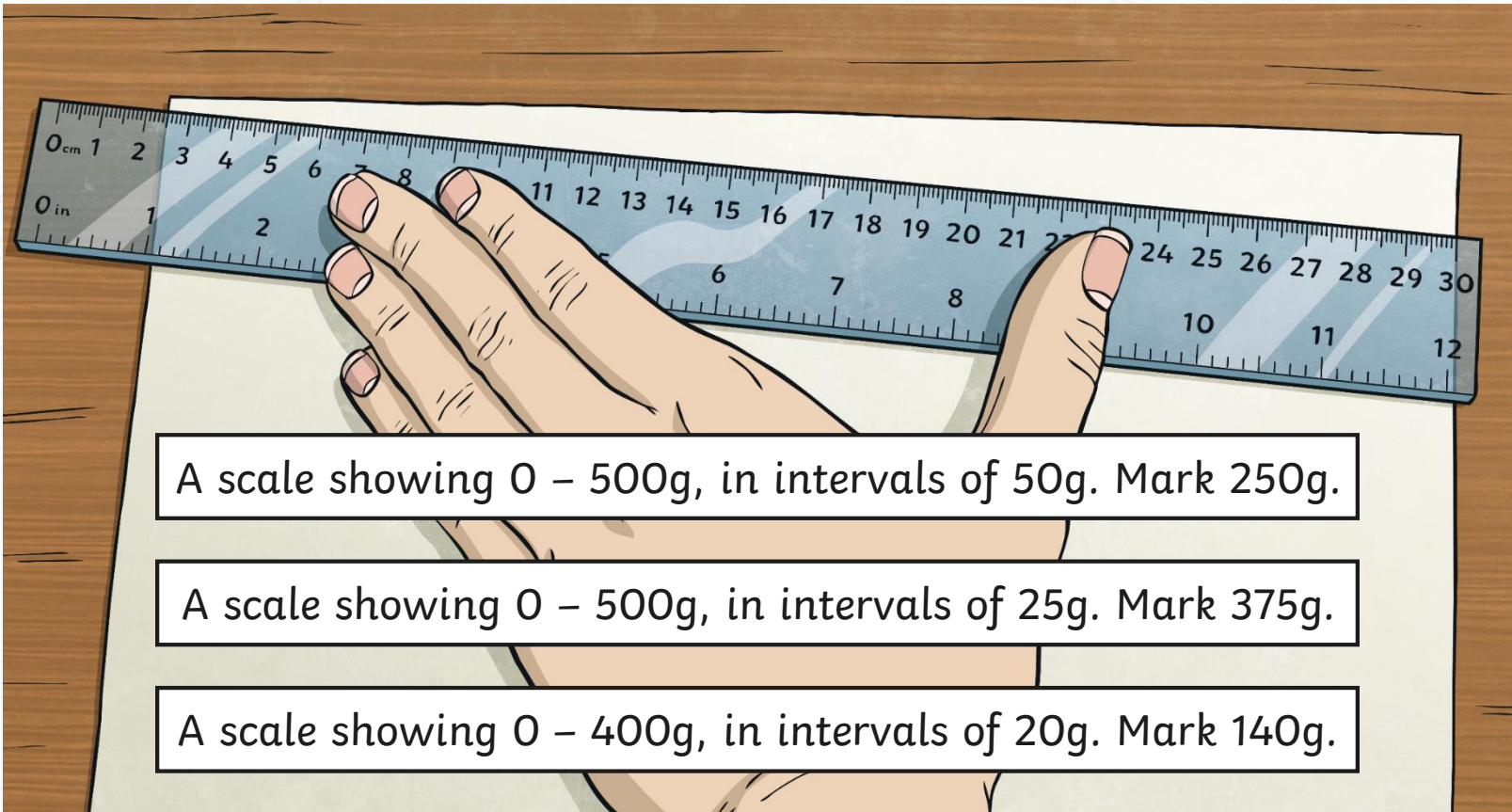
A g
B g
C g
D g

Maths Year 5: Measurement: Masses, Capacity, Area & Volume: Unit 2 of Measurement: Section 1 of 2: Measuring Grams

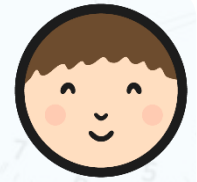
Draw Your Own



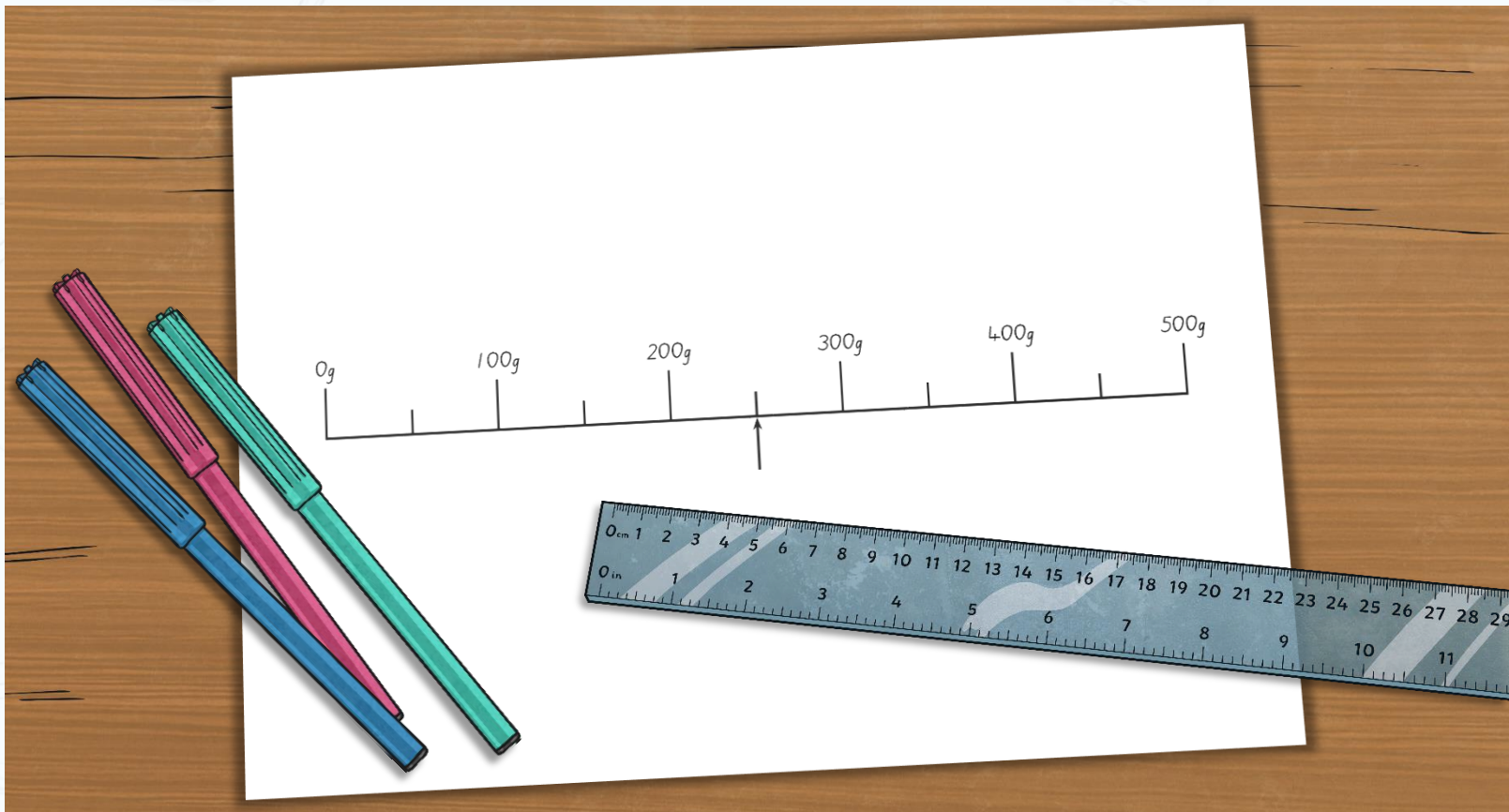
Using a pencil and ruler, draw your own scales and mark the mass shown.
Label multiples of 100g on your scale.



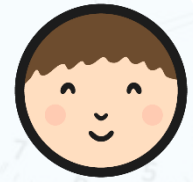
Draw Your Own Answers



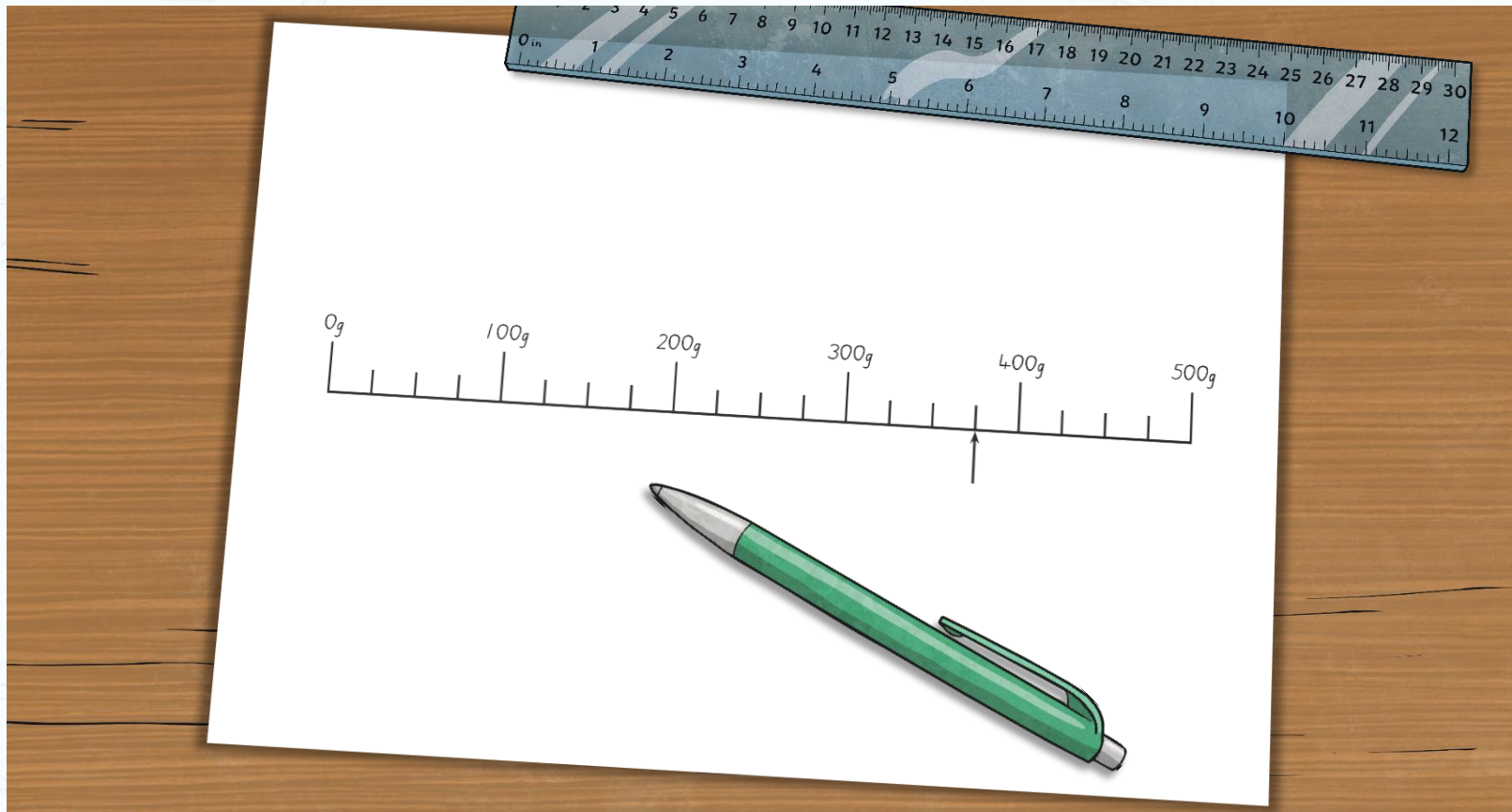
A scale showing 0 – 500g, in intervals of 50g. Mark 250g.



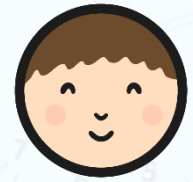
Draw Your Own Answers



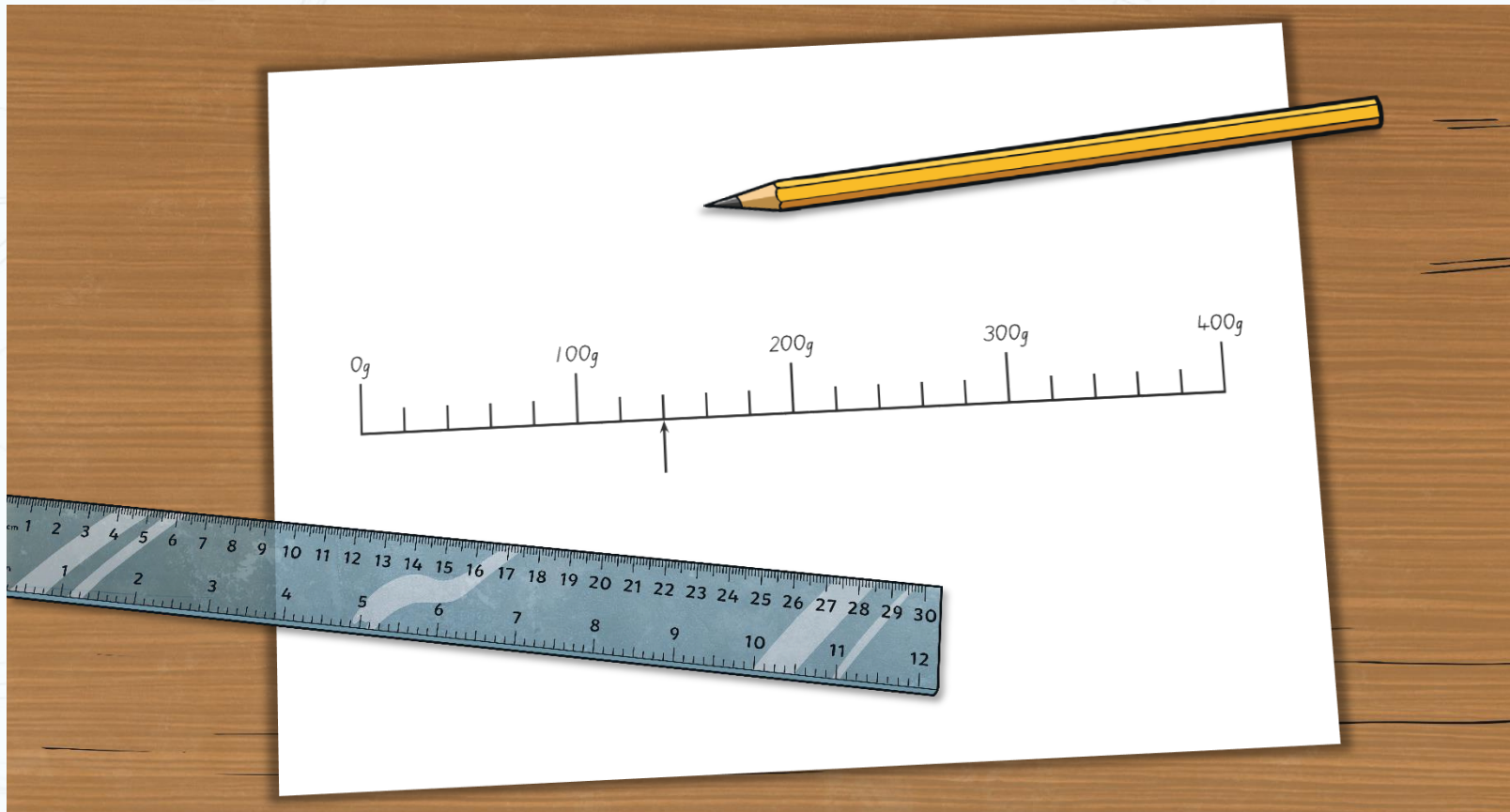
A scale showing 0 – 500g, in intervals of 25g. Mark 375g.



Draw Your Own Answers



A scale showing 0 – 400g, in intervals of 20g. Mark 140g.



Aim



- I can measure mass in grams.

Success Criteria

- I can calculate the intervals on a scale.
- I can read scales to measure in grams.