



Maths

Measurement

Need a coherently planned sequence of lessons to complement this resource?

Lesson Breakdown

Below is our suggestion for the most coherent and progressive sequence to teach this area of Plant Maths steps on the White Rose Maths scheme of learning although we have not aimed to mirror the exact order in which the lessons are presented.

Understanding Length and Height (1): Height Comparison
 This lesson teaches children to compare the heights of familiar objects, in height such as tall, short, taller, shorter, tallest and shortest. In this lesson all children are encouraged to compare objects as well as comparing objects with the presentation, activity sheets and our fantastic Diving in Mastery Cards that are available in the Year 1 Lesson Breakdown.

NC Statement: Compare, describe and solve practical problems for lengths and heights.
Lesson Aim: To compare the heights of objects.

Measuring Length and Height (1): Measure Height Using Non-Standard Units
 Allow children to explore measuring the height of objects using non-standard units. The children then apply this understanding measuring measuring height to record the height of various objects within their classrooms as well as measuring the height of various objects within their classrooms as well as measuring the height of various objects within their classrooms.

NC Statement: Measure and begin to record lengths and heights.
Lesson Aim: To measure height using non-standard units.

Understanding Length and Height (2): Length Comparisons
 This lesson teaches children to compare the length of various objects, in length including long, longer, longest, short, shorter and shortest. The lesson includes presentation, activity sheets and our fantastic Diving in Mastery Cards that are available in the Year 1 Lesson Breakdown.

NC Statement: Compare, describe and solve practical problems for lengths and heights.
Lesson Aim: To compare the length of objects.

Introduction

This unit will introduce children to the concept of measurement in different areas, such as length and height, capacity, weight, money and time. Children learn the vocabulary they will need to compare and describe measurement and develop their reasoning skills through solving practical problems. The children explore both non-standard and standard units of measure and apply their skills of measuring and recording in a wider range of real life contexts. They also learn to sequence events in chronological order, use language related to dates and begin to tell the time on an analogue clock.

Assessment Statements

By the end of this unit, children working towards the expected level will be able to:

- describe and compare lengths, heights, capacities, weights and times using simple vocabulary;
- measure length, heights, capacities, weights and using non-standard units;
- recognise some coins and notes;
- put two or three simple events in chronological order;
- recognise and use the names of the days of the week and know some months of the year;
- tell the time to the hour on an analogue clock and draw the hands;
- reason about measurements to solve simple practical problems.

Children working at the expected level will be able to:

- describe and compare lengths, heights, capacities, weights and times using mathematical vocabulary;
- measure length, heights, capacities, weights and times using standard and non-standard units;
- know the value of coins and notes;
- sequence familiar events in chronological order;
- tell the time to the hour and half past the hour on an analogue clock;
- draw the hands on an analogue clock face to the hour and half past the hour;
- understand and fully numbered scales such as measuring jigs;
- reason about measurements to solve practical problems.

Measurement
 Year 1 (Steps 10 Progression Overview)

The aim of this overview is to support teachers using Plant Maths to show the most coherent and progressive sequence to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within Plant Maths. Wherever possible, lesson packs have been matched to teach of the small steps on the White Rose Maths scheme of learning.

Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value (within 10)		Number: Addition and Subtraction (within 10)			Geometry: Shape		Number: Place Value (within 20)		Consolidation		
Spring	Number: Addition and Subtraction (within 20)			Number: Place Value (within 50) (Multiples of 2, 5 and 10 to be included)			Measurement: Length and Height		Measurement: Weight and Volume			Consolidation
Summer	Number: Multiplication and Division (Multiples of 2, 5 and 10 to be included)		Number: Fractions		Geometry: Position and Direction	Number: Place Value (within 100)		Measurement: Money	Time		Consolidation	

Understanding Mass and Weight



Aim

- To compare and describe the mass of objects.

Success Criteria

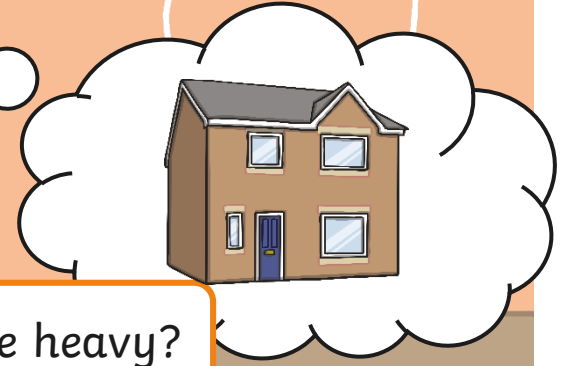
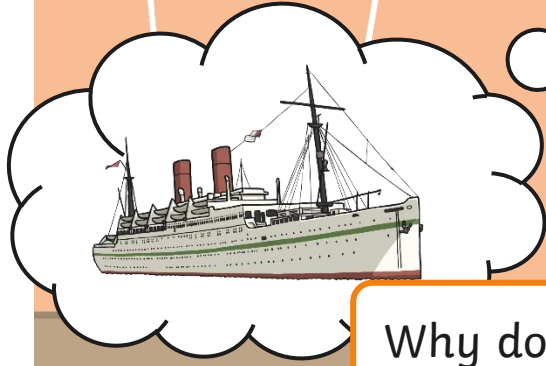
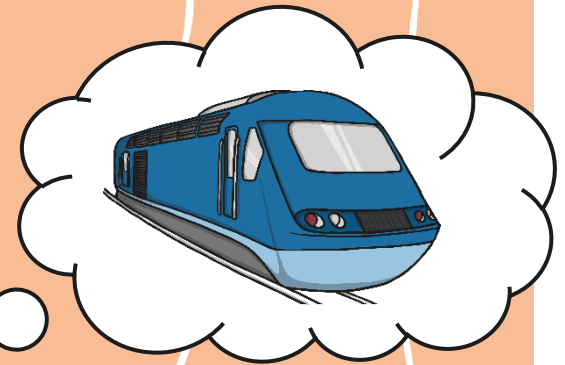
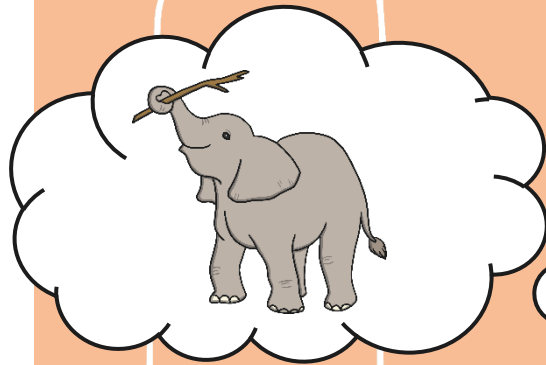
- I can use balance scales to compare the mass of objects.
- I can describe mass.
- I can reason about mass.

Remember It



What is the heaviest thing that you can think of?

Here are some ideas.



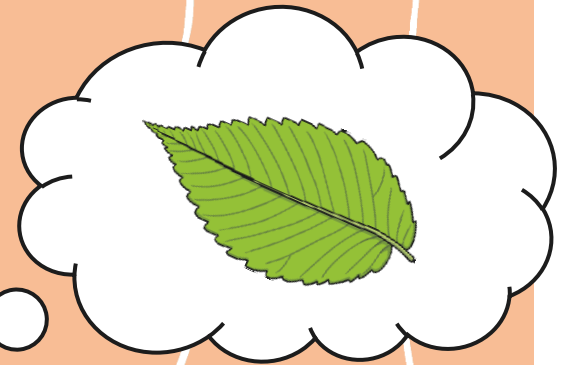
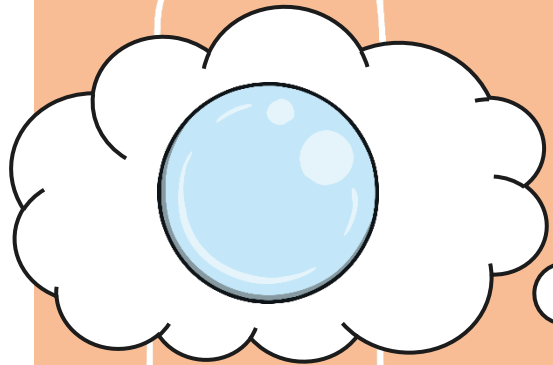
Why do you think these things are heavy?

Remember It



What is the lightest thing that you can think of?

Here are some ideas.



Why do you think these things are light?

Weight and Mass



When we talk about weight, we mean how heavy or light something is. We call this mass.

heavy

heavier

heaviest

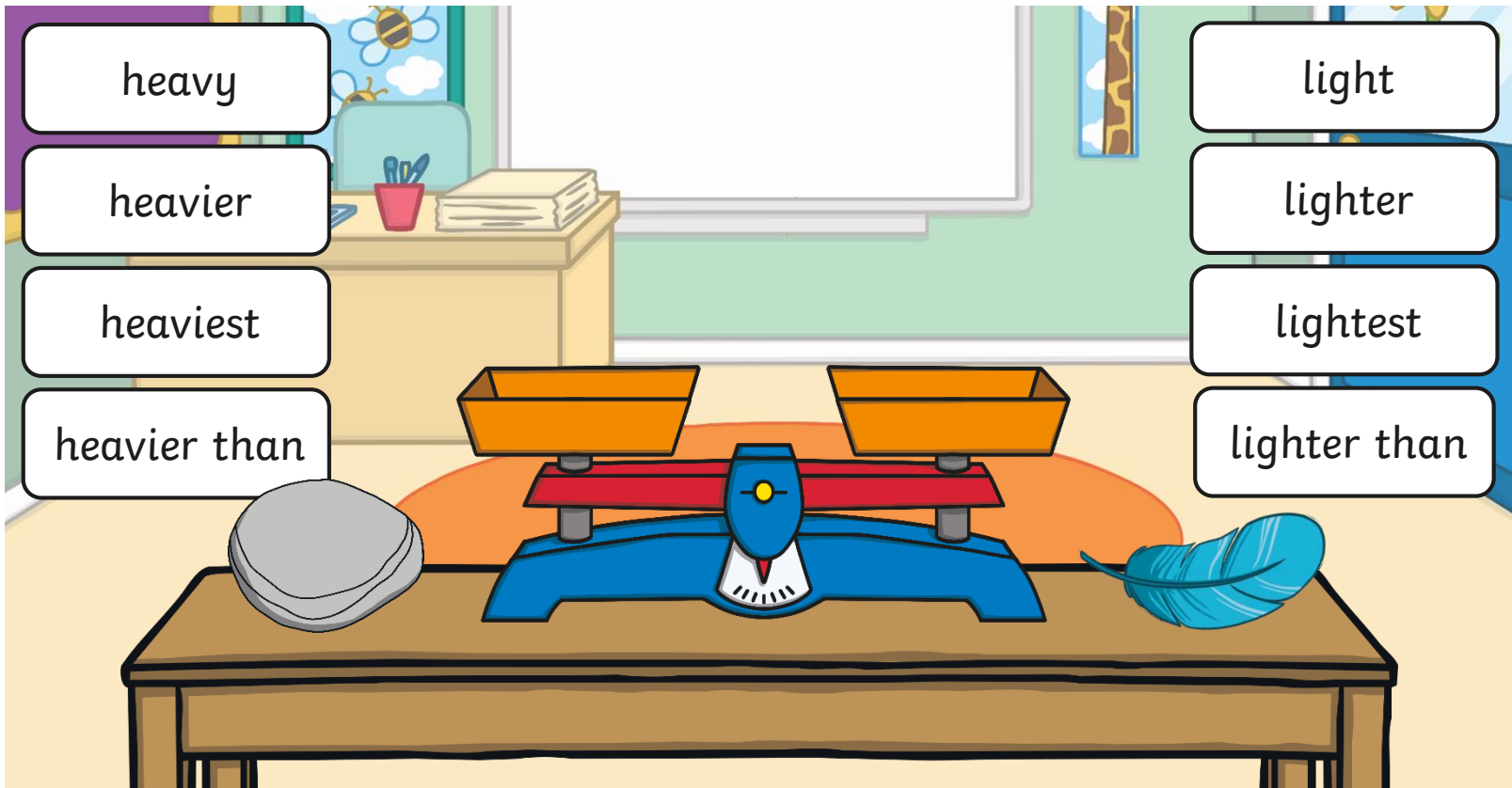
heavier than

light

lighter

lightest

lighter than

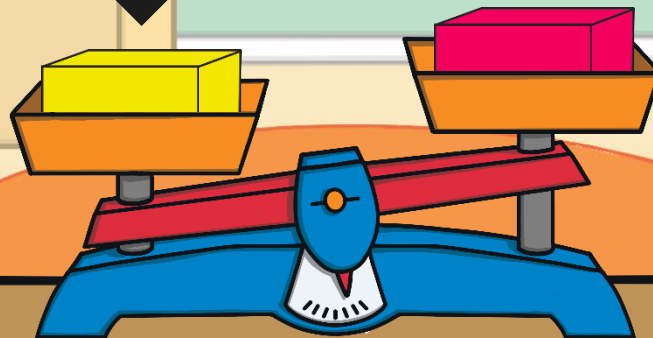


Balance Scales



Balance scales show us how heavy things are compared to other things. They help us compare their mass.

The pink box is **lighter** than the yellow box.



What does the side that moves up tell us?

Balance Scales

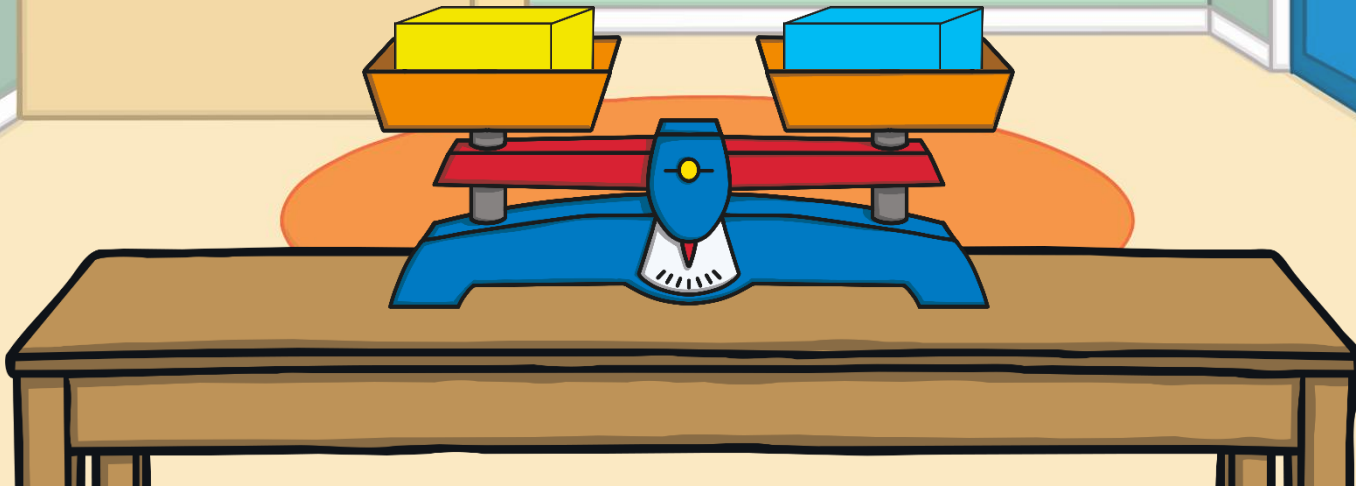


What if the balance scales don't move?

What do you know about the yellow box and the blue box?

They weigh the same.

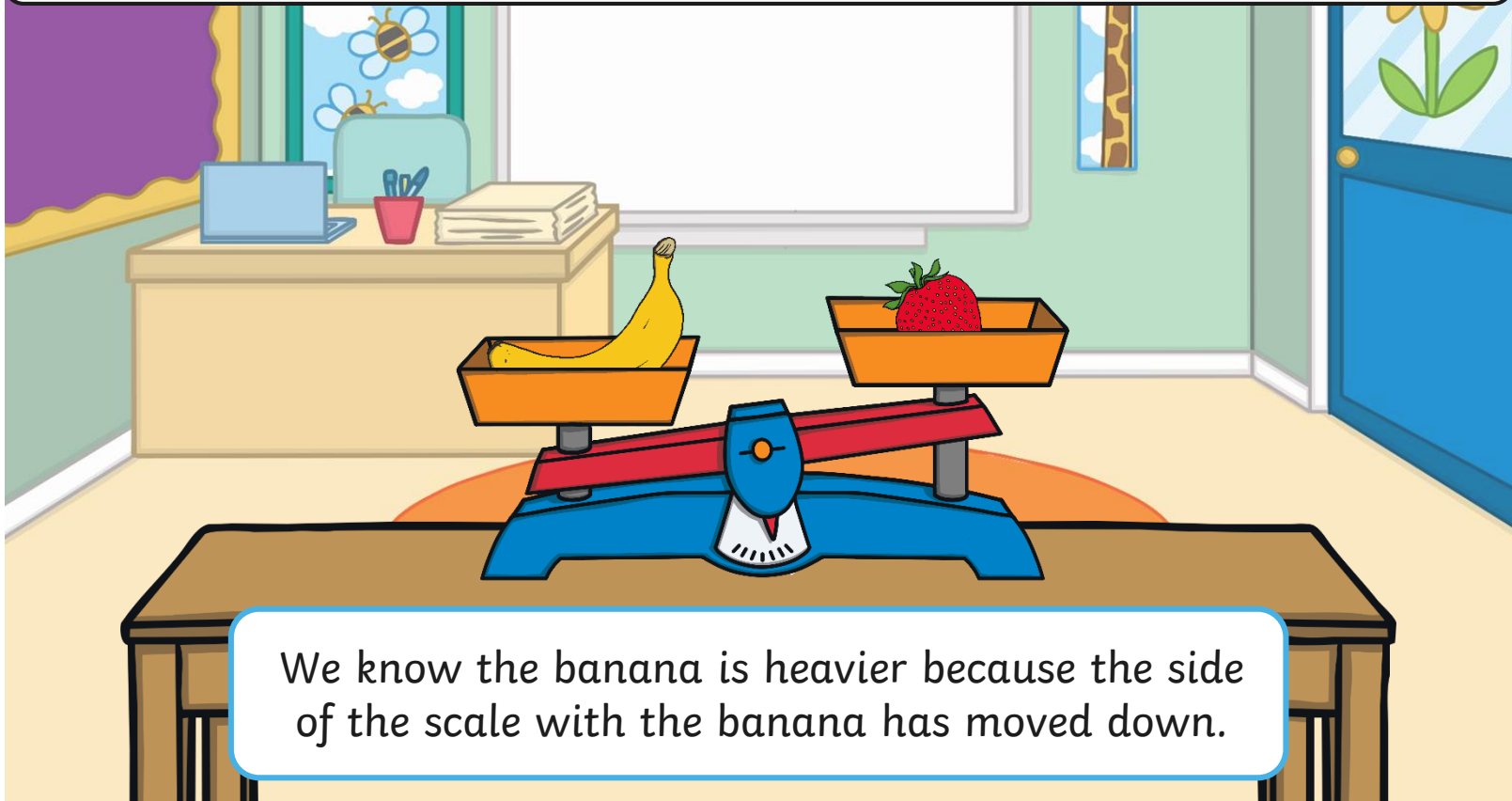
They have the same mass.



Compare Mass



Which is heavier, the banana or the strawberry? How can you tell?

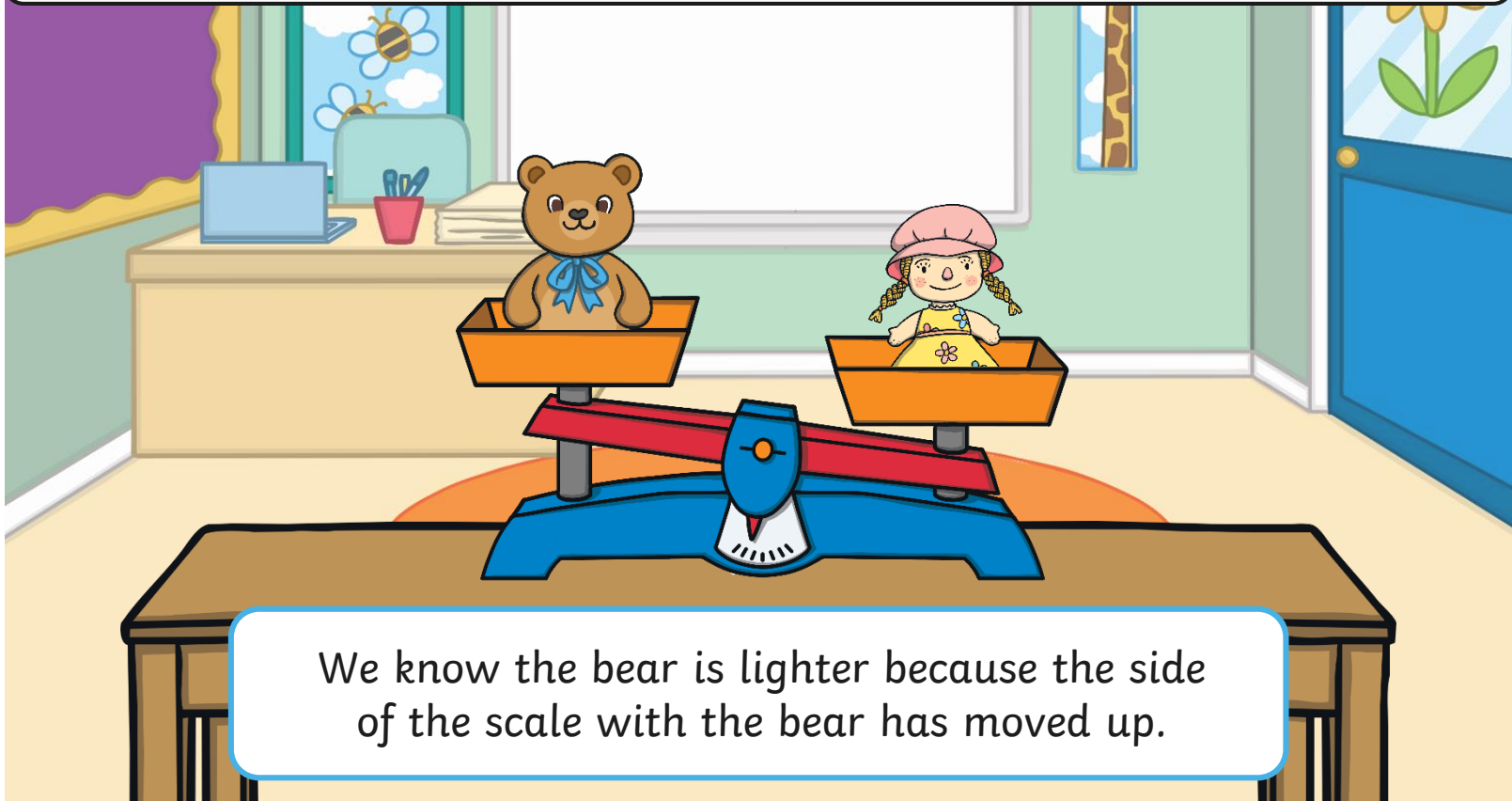


We know the banana is heavier because the side of the scale with the banana has moved down.

Compare Mass



Which is lighter, the bear or the doll? How can you tell?

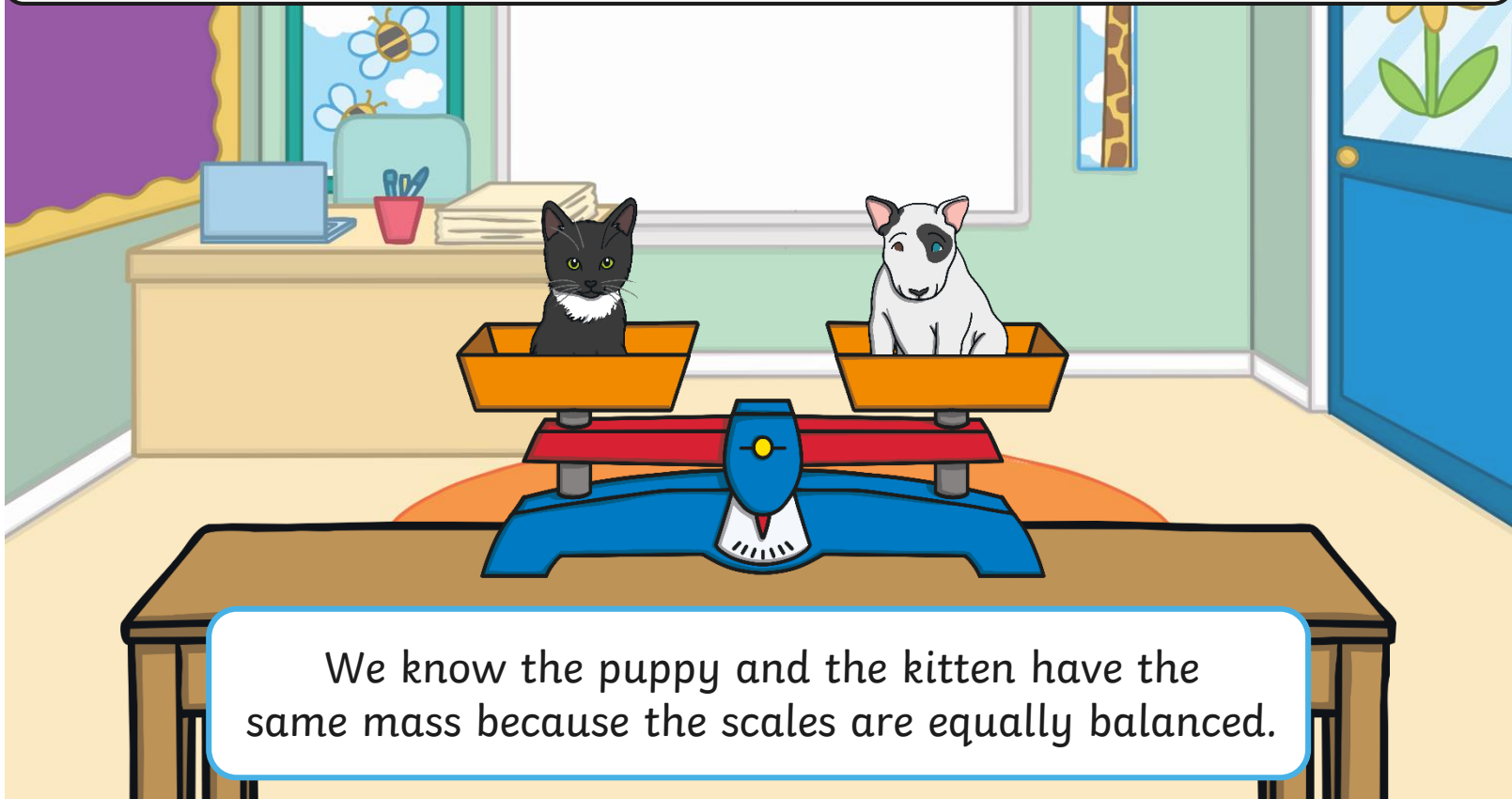


We know the bear is lighter because the side of the scale with the bear has moved up.

Compare Mass



Which is heavier, the puppy or the kitten? How can you tell?



We know the puppy and the kitten have the same mass because the scales are equally balanced.



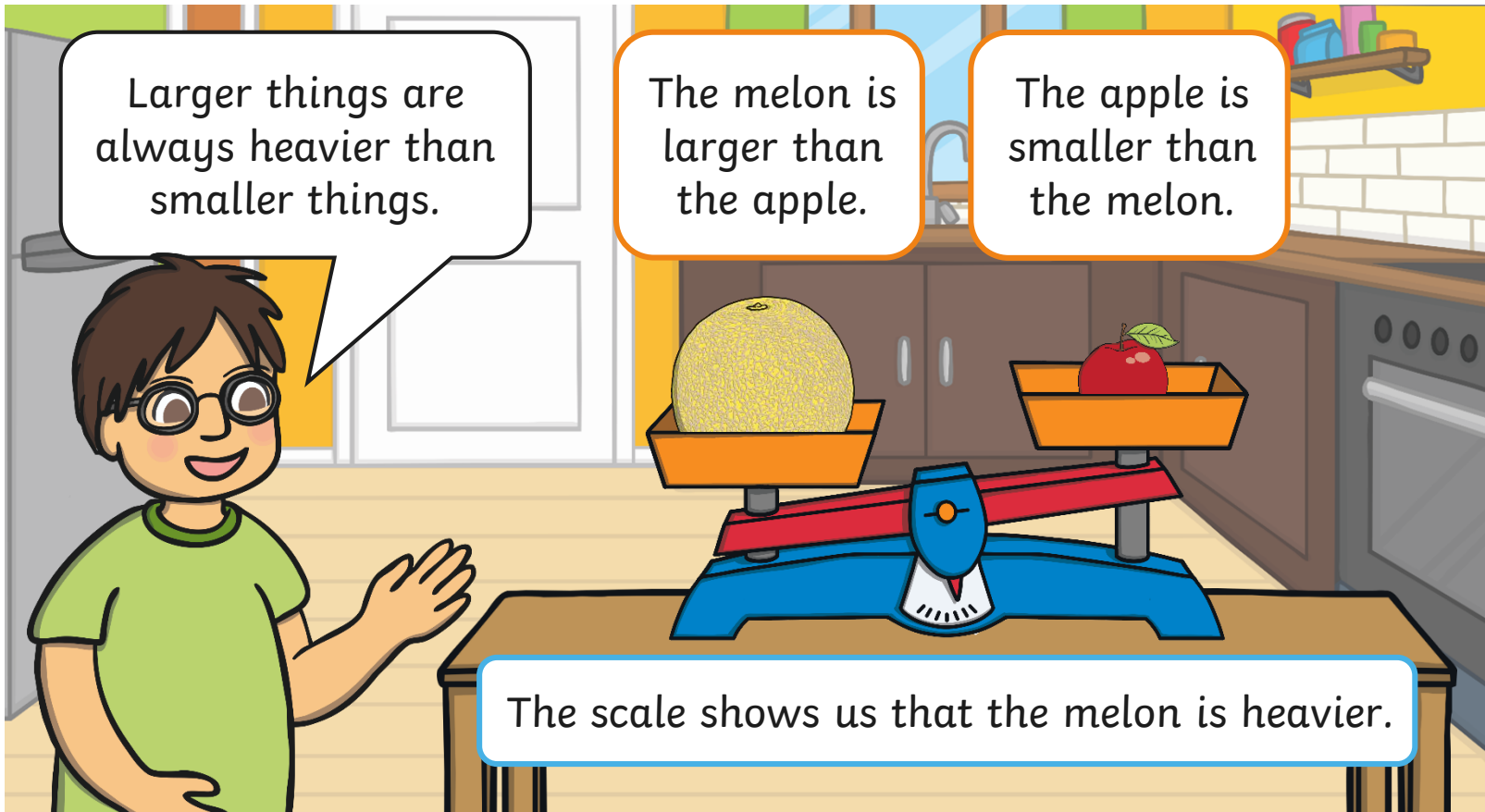
Mass and Size

Do you agree? Can you explain why?

Larger things are always heavier than smaller things.

The melon is larger than the apple.

The apple is smaller than the melon.

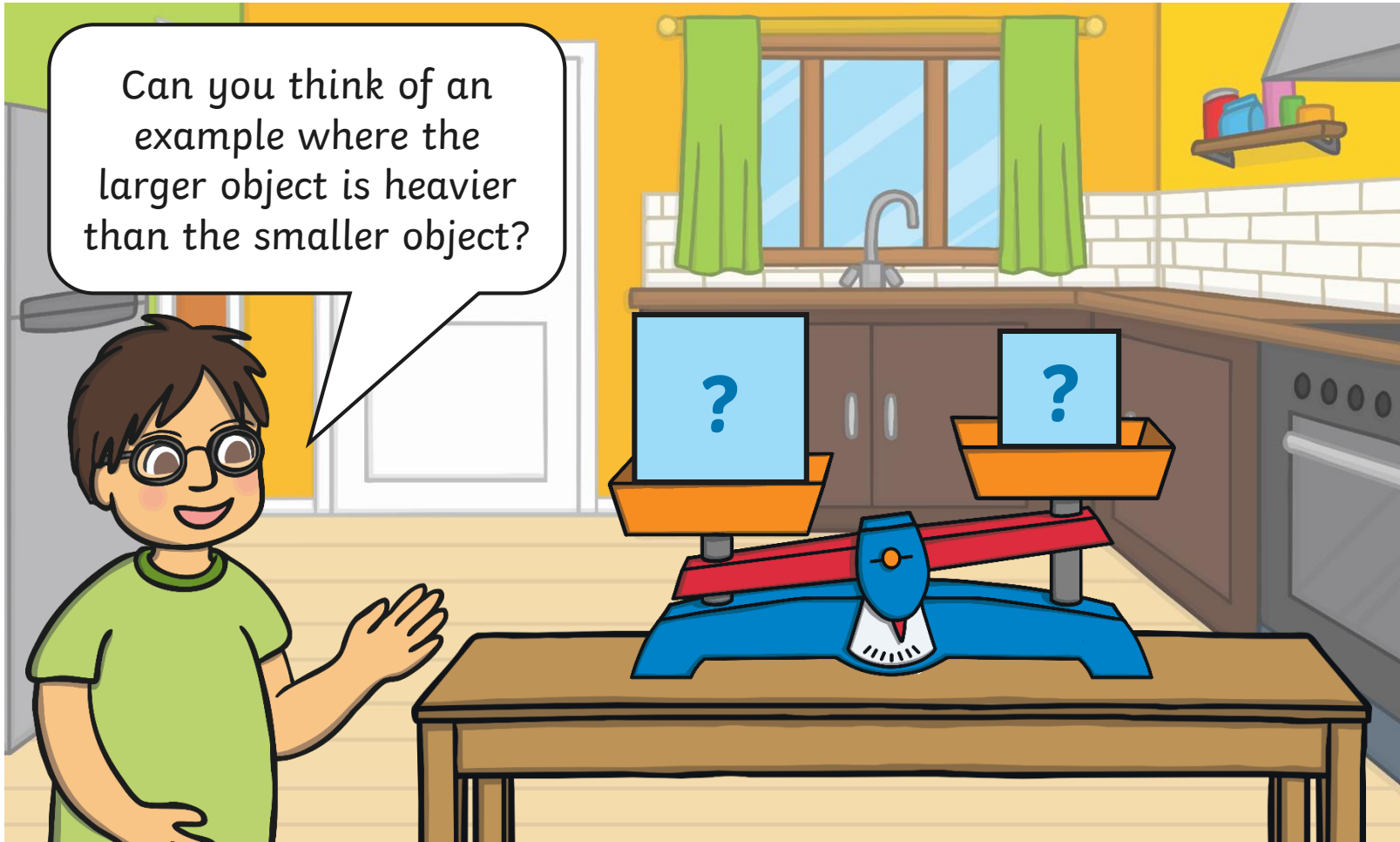


The scale shows us that the melon is heavier.

Mass and Size



Can you think of an example where the larger object is heavier than the smaller object?



Mass and Size



What do you notice about the egg and the feather?

The feather is larger than the egg.

The egg is smaller than the feather.

The feather is lighter than the egg.

The egg is heavier than the feather.



The scale shows us that the egg is heavier.

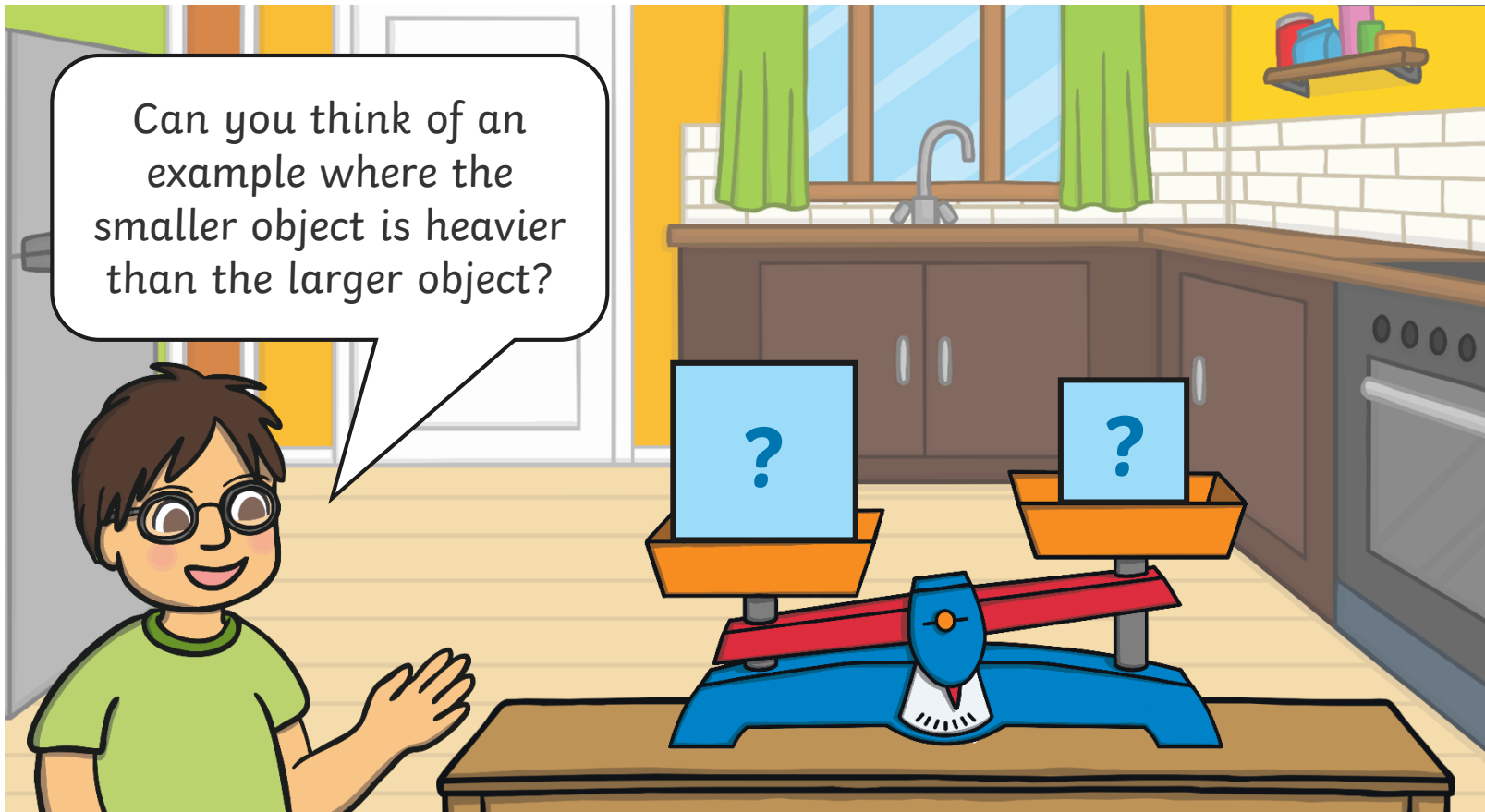
Smaller things can be heavier than larger things.

Mass and Size



Sometimes, heavier things are smaller than lighter things.

Can you think of an example where the smaller object is heavier than the larger object?

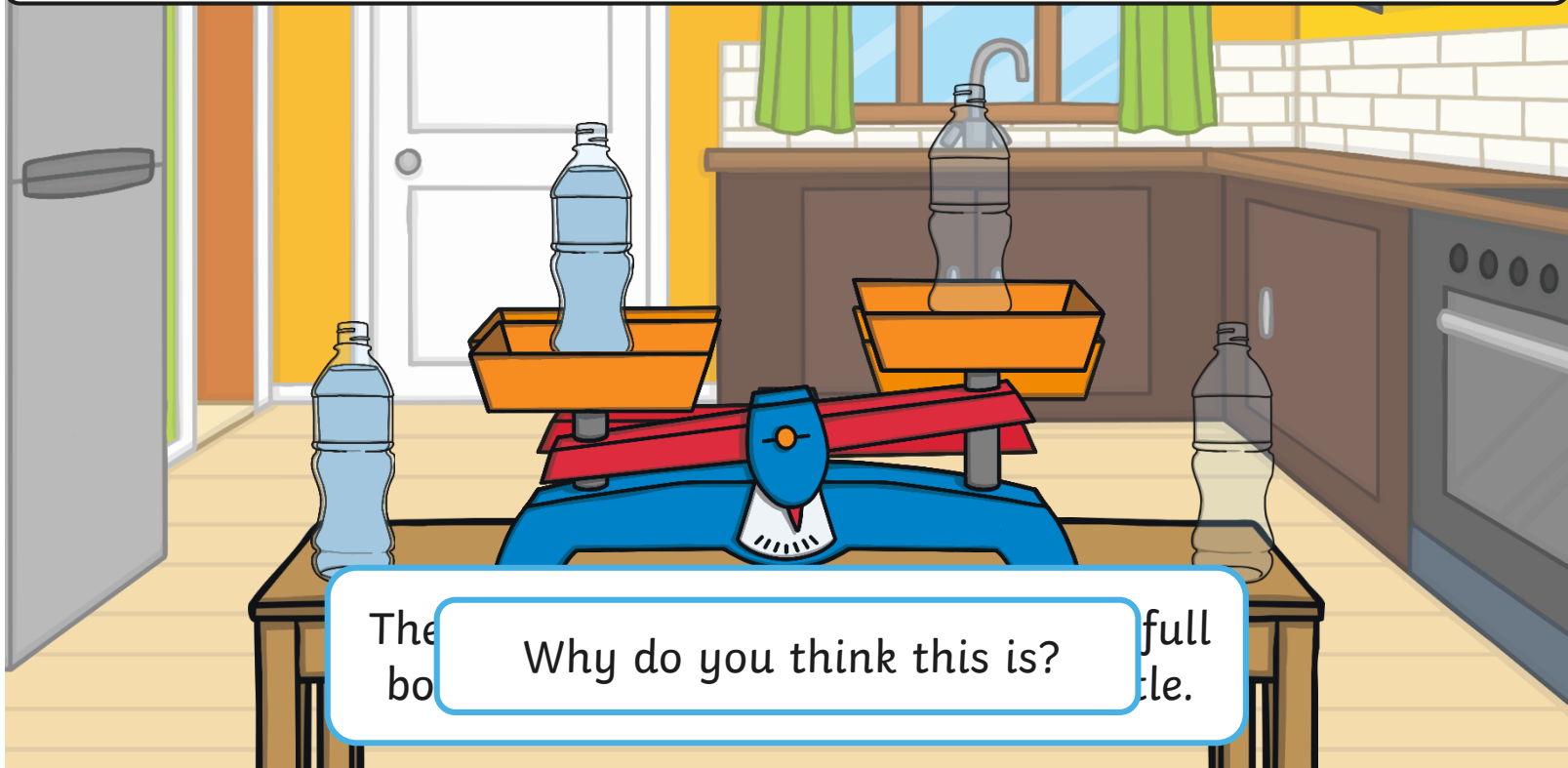


Mass and Size



What will happen when I put these bottles on the scales?

Larger things are not always heavier.

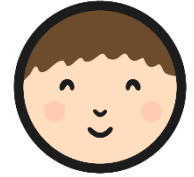


The
bo

Why do you think this is?

full
le.

Comparing Mass



Challenge!
Larger things are always heavier than smaller things.

Find 2 objects to prove that.

lightest

The _____ is heavier than the _____.

Now can you find 3 objects.

lightest


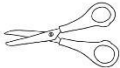
The _____ is heavier than the _____.

The _____ is lighter than the _____.

The _____ is lighter than the _____.

Comparing Mass
To compare and describe the mass of objects.

Find three objects. Put them in order from lightest to heaviest in the spaces, then complete the sentence underneath to compare the mass of your objects.

lightest		
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The _____ is heavier than the _____.

Comparing Mass
To compare and describe the mass of objects.

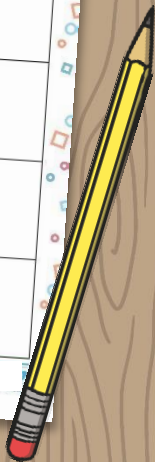
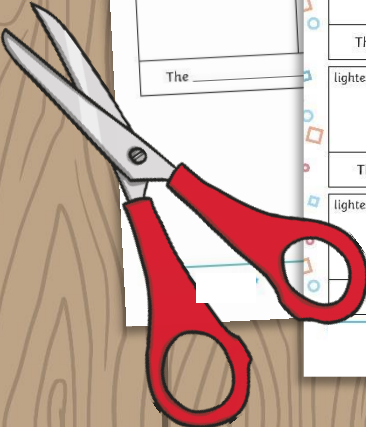
Find objects which are lighter and heavier than the objects shown. Draw them in the table.

lighter	heavier

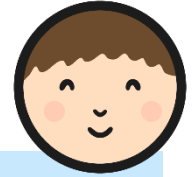
Comparing Mass
To compare and describe the mass of objects.

Find 2 objects. Work out which one is lighter and which one is heavier. Draw them in the table.

lighter	heavier



Diving into Mastery



Dive in by completing your own activity!



Understanding Mass and Weight



Complete the sentences.



The _____ is heavier than the _____.

The _____ is lighter than the _____.



Can you describe the mass of these objects using these words?

lighter than

equal to

heavier than

Choose 2 objects and compare their mass.

Can you find 2 objects that have the same mass?

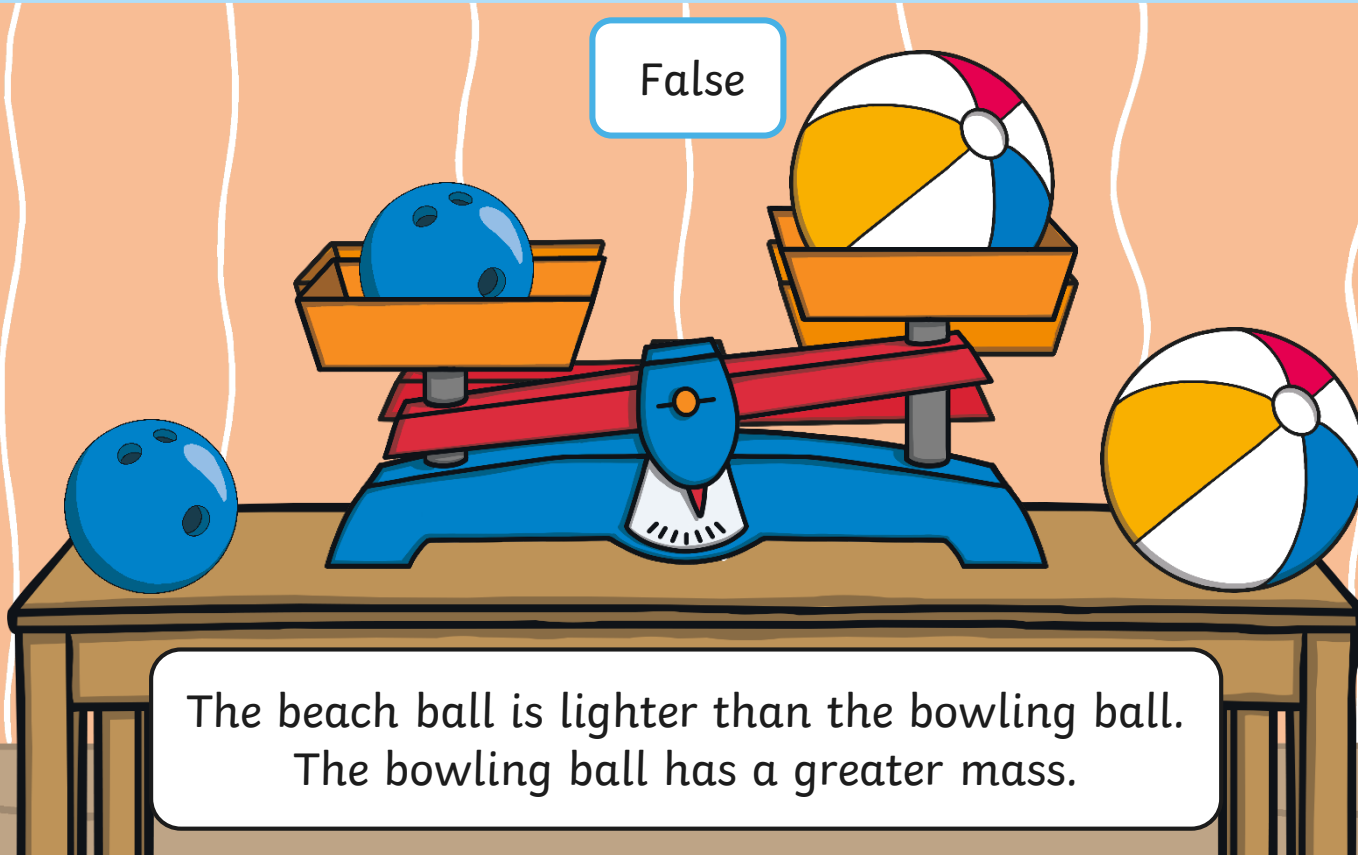
Are they the same size?

True or False?



The beach ball is heavier than the bowling ball because it is larger.

False



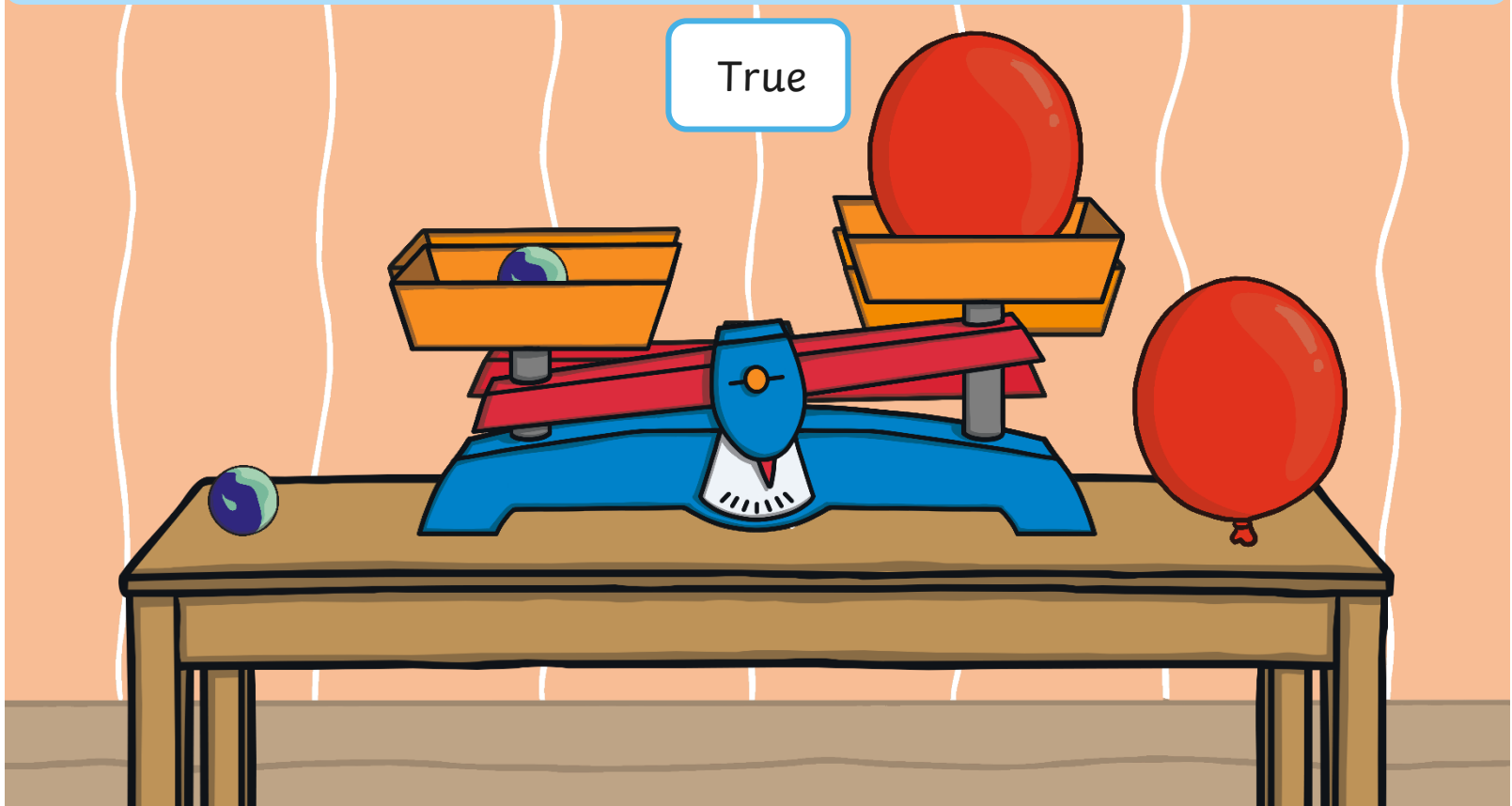
The beach ball is lighter than the bowling ball.
The bowling ball has a greater mass.

True or False?



The marble is heavier than the balloon because it has a greater mass.

True

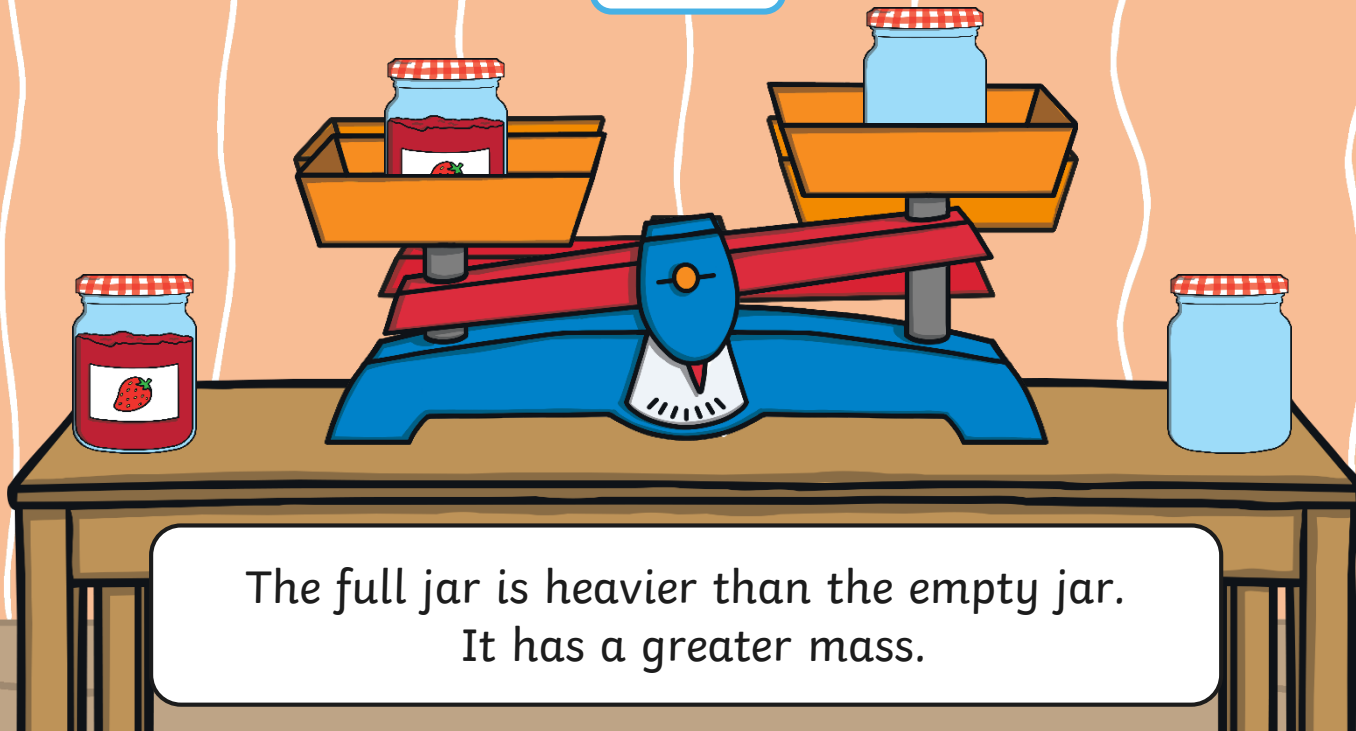


True or False?



The jars have the same mass because they are the same size.

False

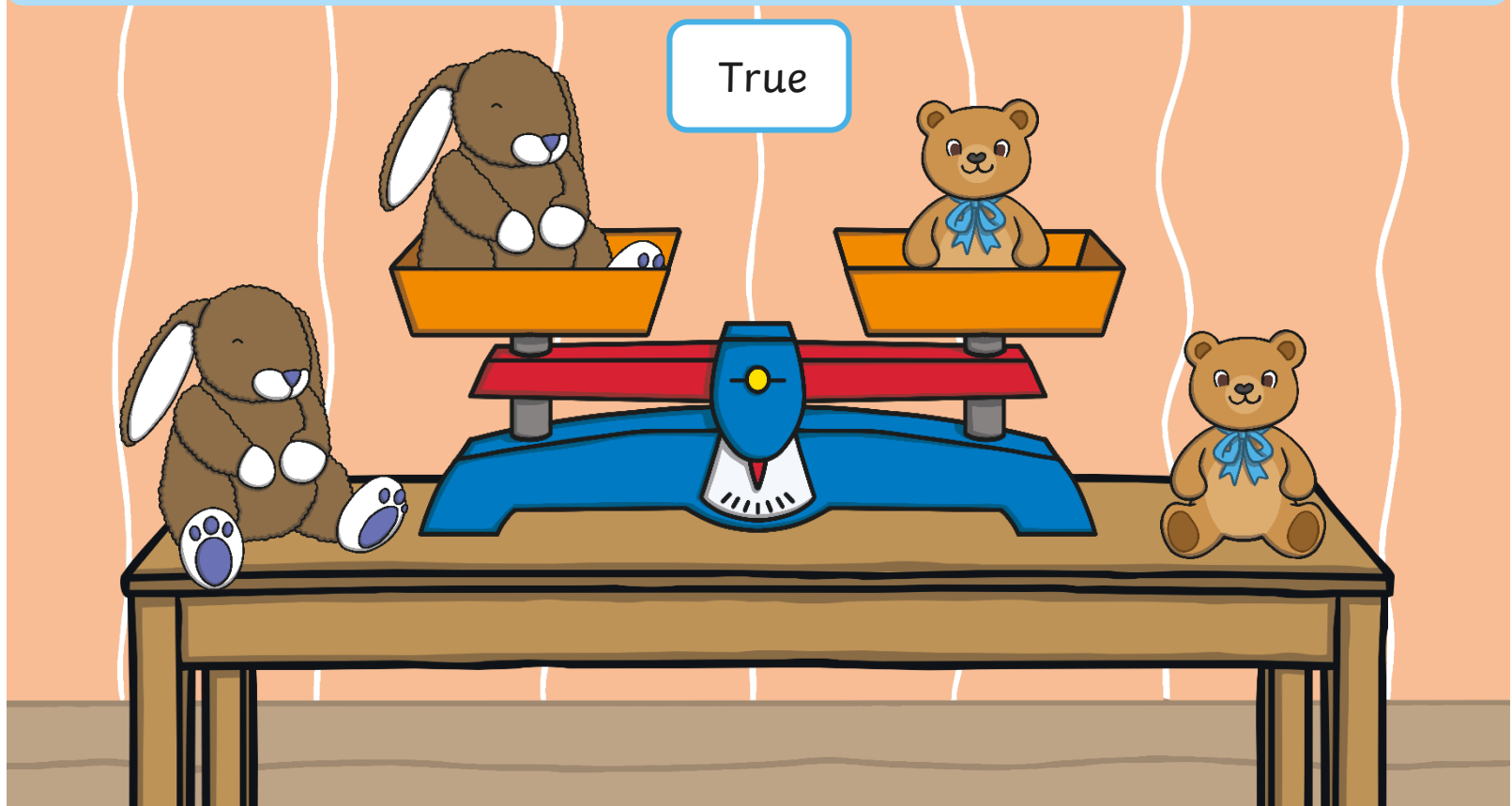


The full jar is heavier than the empty jar.
It has a greater mass.

True or False?



These toys can have the same mass even if they are different sizes.



Aim



- To compare and describe the mass of objects.

Success Criteria

- I can use balance scales to compare the mass of objects.
- I can describe mass.
- I can reason about mass.

