

# Year 1 Unit 11: Length and Mass (2 weeks)

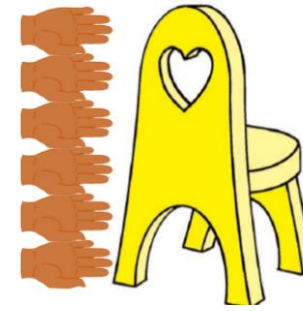
## Before you start...

- How familiar are pupils with using language to describe size and weight?
- What experiences of using non-standard measures have pupils had?



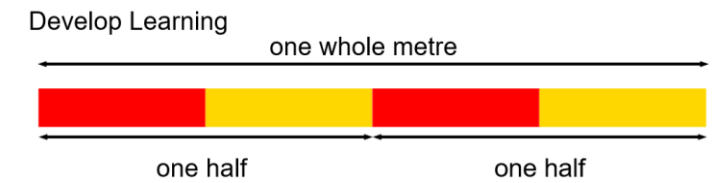
This unit has two Big Pictures. The first is Pinocchio in Mr Geppetto's workshop which offers lots of opportunities to discuss length and height.

**Video:** Using non-standard units



## Approximations

Pupils should be aware that their measurements are approximations and use words such as 'about' or 'approximately' to indicate this.  
"The mini-whiteboard is **about** half a metre."



## Comparing lengths

L1 Compare the lengths of two or more objects

Using the language of comparison, including comparative and superlative adjectives, pupils explore the lengths and heights of various objects.

- ? How will you support pupils' understanding of the difference between height and length?
- ? What talk opportunities will you plan throughout the unit to embed the language introduced in lesson 1?

## Measuring length using non-standard units

L2 & L3 Measure length using non-standard units

Pupils explore using non-standard measures of length using body parts and classroom objects whilst consolidating mathematical language that was introduced in the previous lesson. To support pupils' conceptual understanding, build discussions into your lessons that address the importance of using consistent objects of uniform size when measuring.

- ? What examples and non-examples of measuring accurately could you share with pupils?

## Introducing standard units of length

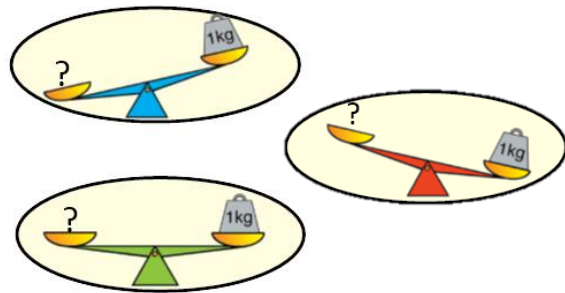
L4 Explore the concept of 1 metre

Pupils are introduced to the standard measure of one metre and think mathematically to sort objects into those that are greater than or less than one metre. Connections are made to fractions (covered previously in Unit 10) as pupils measure objects using fractions of a metre.

- ? What language will need to be used to reinforce pupils' understanding that their measures are approximate?

**Video:** Conservation of measure

The topic of length and mass is not taught again explicitly until Year 2, so it is important to revisit aspects within Maths Meetings. Ideas from lesson activities can be adapted for this purpose.



## Mass or weight?

Both terms are used interchangeably until Year 5 when pupils begin to explore these concepts further in Science. **Mass** refers to the amount of matter or 'stuff' within a given object and is measured in grams/kilograms. **Weight** refers to the amount of force exerted on an object by gravity.

The second Big Picture is the tale of the Gingerbread man and is used to explore weight and mass.



## Doubling and halving lengths

L5 Solve problems that involve doubling and halving lengths

Cuisenaire rods are used to develop pupils' conceptual understanding of halving and doubling lengths, without giving length a particular numerical value.

- ? How will you reinforce pupils' understanding of the relationship between doubling and halving?

## Introducing standard units of mass

L10 Explore the concept of 1 kilogram

Pupils discuss where they have encountered the standard unit of kilograms before having opportunity to hold a one-kilogram weight to get a sense of its mass. They then think mathematically to sort objects into those that are greater than or less than one kilogram.

- ? What items will you use to give pupils experience of measures less than and greater than 1 kg?

## Measuring mass using non-standard units

L8 & L9 Find the mass of objects using non-standard units

Using non-standard units, such as marbles, buttons and cubes, pupils measure the mass of objects. Encourage pupils to record their measurements using a table in order to make comparisons, applying the use of comparative language introduced earlier in the unit.

- ? What opportunities will you give to pupils to make conjectures, compare and generalise?

## Comparing mass

L6 Compare the mass of two objects  
L7 Compare the mass of more than two objects

Providing pupils with lots of opportunities to compare the mass of objects using a balance will support them to gain a relative understanding of mass, including understanding that larger items are not always heavier, to apply in subsequent lessons.

- ? What comparative language will you encourage pupils to use?

## Measure for measure

This [article](#) looks at how some measuring units and devices were developed.

