








Measurement: Using a Ruler

<p>Aim: Measure and begin to record lengths and heights.</p> <p>DfE Ready-to-Progress Criteria: Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =. (1NPV-2)</p> <p>To measure length and height in centimetres.</p>	<p>Success Criteria: I can name some tools used for measuring in centimetres. I can understand how to use different rulers to measure in centimetres. I can measure how long or tall an object is in centimetres. I can measure how long or tall a line is in centimetres.</p>	<p>Resources: 15cm or 30cm rulers</p> <p>Examples of measuring tools to show children, such as a metre stick and measuring tape</p>
	<p>Key/New Words: Measure, length, height, long, tall, short, ruler, centimetre, cm, compare.</p>	<p>Preparation: Measuring Length and Height Activity Sheets - 1 per child Diving into Mastery Activity Cards - as required</p>

Prior Learning: Children should be able to measure height and length using non-standard units first. To practise this, use the lessons: [Measure Length with Non-Standard Units](#) and [Measure Height with Non-Standard Units](#).

Learning Sequence

	Remember It: Children compare the lengths and heights of pairs of common classroom items. They read statements comparing the lengths and heights and say if they are true or false. This activity will reinforce the prior knowledge needed for this lesson.	
	Measuring: Use the Lesson Presentation to explain that non-standard units are not a reliable form of measurement as they can vary: e.g. a child's foot would be a different length to a teacher's foot. Standard units are needed that are the same for everyone. Introduce the measurement 'centimetres' and share some objects that could be measured in centimetres. Explain that centimetres can be recorded as 'cm'. Introduce some tools for measuring in centimetres and ask children to share experiences of how they have seen these used in real life. These tools are shown on the Lesson Presentation but it would be useful to have physical ones to show the children. Can the children name some tools that are used for measuring length or height?	
	Investigating Your Ruler: Give each child a ruler to investigate. The Lesson Presentation shows the different types of rulers that children may come across in school. Emphasise the importance of finding the correct starting point for measuring, whether it is the end of the ruler or the zero on the ruler.	
	Using a Ruler to Measure: Children learn to use a ruler step by step. As well as finding the correct starting point on the ruler, emphasise the importance of making sure the thing being measured is lined up alongside the ruler. When recording a measurement, explain that it is important to put the unit of measure, e.g. cm. Explain that rulers can be used to measure by height and length but it is easier to lie something down to measure it, if possible. Using the Lesson Presentation , explain the importance of finding the correct start and end points when measuring objects. Can the children recognise and understand how to use different types of rulers?	
	Get Measuring! Children work with a partner to measure the everyday items on the Lesson Presentation . They use their measurements to compare the lengths of the objects.	
	Measurement Check: Children reason about where children on the Lesson Presentation have gone wrong with their measuring. This highlights to children the common misconceptions around using a ruler and helps them to avoid them.	
	<p>Measuring Length and Height: Children measure the length and height of a range of lines and pictures of objects. Can the children measure how long or tall a line or object is in centimetres?</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p> Children measure the height and length of objects, not to scale, using the simple rulers on the page. Then they measure vertical and horizontal lines using their own ruler and compare them.</p> </div> <div style="width: 30%;"> <p> Children measure vertical and horizontal lines using their own ruler and compare them. Then they compare the length and height of objects by measuring. They write sentences to compare the lengths and heights.</p> </div> <div style="width: 30%;"> <p> Children measure vertical and horizontal lines using their own ruler. They then compare and order them. Then they measure a variety of familiar objects to identify two that are equal in length. They also find the shortest and longest.</p> </div> </div>	

	<p>Diving into Mastery: Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.</p> <p> Children measure the length and height of everyday objects and then compare them.</p> <p> Children reason about common mistakes when measuring with a ruler. They compare two strings and explain why they are not the same length.</p> <p> Children measure real objects in their environment using their ruler and group them by their length. They compare the height of two towers and investigate what towers could be built that are between their heights.</p>	
	<p>Almost or Nearly: Children consider what happens when an object they measure is not an exact number of centimetres. The Lesson Presentation suggests vocabulary they could use in these circumstances.</p>	

Exploreit

Findit: Challenge children to use a ruler to hunt out items of a given length.

Planit: Plant beans or sunflowers and chart their growth in centimetres.

Recordit: Leave sticky notes or tags attached to different items in the classroom with the 'cm' unit already on it. The children measure the items and record the lengths.