

Structured Learner Department: Maths

Measure: Length

This half term, pupils will develop their measurement skills through the topic 'length'. They will develop an understanding of how to measure and compare different lengths. They will develop their early measuring skills, including accuracy using non-standard and standard units, that can be developed, used and applied in other topics such as shape (perimeter). Within this topic, pupils will also use and apply other mathematical skills such as number, addition, subtraction and statistics.

Pupils:

1. develop **fluency** in the fundamentals of mathematics so that they are efficient in using and selecting the appropriate strategies to **measure weight** including mental methods, underpinned by mathematical concepts
2. can **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
3. can **reason mathematically** by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

In all math lessons, teachers plan engaging lessons with the aim that pupils:

- master skills in maths which they are then able to apply to a range of contexts within the school and home context
- embed their new skills and understanding to a range of contexts; thus supporting application and progress in learning
- acquire core mathematical skills to support their independence as they progress through the school
- are able to apply their understanding; supporting them in other areas of the curriculum

Keywords

Length, long(er), short(er), tall(er) measure, ruler, centimeter, meter, cm, m, perimeter, unit

Measurement: Length

	<u>B2 progression step 5</u>	<u>B2 progression step 6-8</u>	<u>B2NC step 1c-1b</u>	<u>B2NC Step 1b-2c</u>	<u>B2NC Step 2c-2a</u>	<u>B2NC Step 2a-3a</u>
<p><u>Subject specific knowledge</u></p> <p>What do pupils need to know?</p>	<p><u>To know</u> key words: big/small tall/short Long/short</p> <p><u>To know</u> to place objects next to each other to accurately compare inc. from same starting point</p>	<p><u>To know</u> comparative language: bigger/smaller taller/shorter Longer/shorter</p>	<p><u>To know</u> they can measure lengths using cubes, objects or hand-spans</p> <p><u>To know</u> where they need to start and stop measuring from</p> <p><u>To know</u> the ensure non-standard measuring objects are touching, leaving no gaps for accuracy</p>	<p><u>To know</u> a ruler measures length in cm</p> <p><u>To know</u> how to use a ruler correctly: start at zero and not end of ruler, then see where the object ends</p> <p><u>To know</u> rulers only accurately measure straight objects - not curved.</p> <p><u>To know</u> cm and mm are units to measure length</p> <p><u>To know</u> 10 mm = 1cm</p>	<p><u>To know</u> which is the correct standard unit for a measurement e.g. mm,cm,m,g,kg etc</p> <p><u>To know</u> what measuring tool is needed to measure something specific</p> <p><u>To know</u> 1m = 100cm</p>	<p><u>To know</u> how to break down a worded problem related to measure</p>
<p><u>Subject specific skills</u></p> <p>What do pupils need to be able to do?</p>	<p><u>Is able to</u> find big and small objects on request.</p> <p><u>Is able to</u> compare heights, size and length by placing objects next to each other.</p> <p><u>Is able to</u> describe every day objects as: big/small tall/short</p>	<p><u>Is able to</u> compare and describe lengths and heights using 'longer/shorter, taller shorter' vocabulary</p>	<p><u>Is able to</u> measure lengths using cubes/objects/ Hand-spans (non-standard units) accurately</p> <p><u>Is beginning to</u> use and apply number skills to compare the lengths of objects, referring to lengths measured in non-standard units.</p>	<p><u>Is able to</u> measure the perimeter of 2d shapes (cm)</p> <p><u>Is able to</u> compare and describe lengths and heights using 'double/half' vocabulary</p> <p><u>Is beginning to</u> use standardised measuring tools to measure length e.g. ruler (start with whole cm, then move</p>	<p><u>Is able to</u> use the correct and most appropriate standardised measuring tools to measure length e.g. whether to use a ruler or meter ruler</p> <p><u>Is able to</u> compare and order measurements</p> <p><u>Is able to</u> use and apply addition</p>	<p><u>Is able to</u> solve worded problems related to measure.</p>

	long/short			onto cm & mm (combined)	skills to measure the perimeter of shapes	
<p><u>Suggested teaching activities</u></p> <p>How should I teach this?</p>	<ul style="list-style-type: none"> • Describing familiar objects using language • Finding something long/short/tall etc in their surrounding • Concrete objects such as snakes, socks, string 	<ul style="list-style-type: none"> • Ordering lengths • Concrete objects such as snakes, socks, string • Start to move onto pictorial representations 	<ul style="list-style-type: none"> • Measuring every day objects using hand spans (print hand and copy multiple times for pupils to arrange for more accuracy) • Move onto using counting blocks/cubes, then tiles (getting ready for ruler work) as non-standard units 	<ul style="list-style-type: none"> • Introducing ruler skills and apply to measuring sides of 2D shapes once pupil understand • Can you use a ruler to measure curved sides? What would be the solution? • What do you notice about parallel sides? Do we always need to measure all sides? Pupils to develop efficiency when measuring sides of common 2d shapes 	<ul style="list-style-type: none"> • Use and apply addition skills to calculate the perimeter of a 2d shape • Use and apply algebra skills. What would the missing length be? 	<ul style="list-style-type: none"> • Use and apply algebra skills. What would the missing length be? (more complex problem solving including deduction.

