

KS5 Maths

Measure- Length & size

Subject curriculum intent:	<p>We want our pupils to be able to develop functional measurement skills so that they can be as independent as possible in their adulthood. Depending on the cognitive ability of the pupil, our intention is that pupils are able to consider length and size when planning ahead for things such as organising and purchasing house furniture or thinking about the sizing of clothing they will be purchasing for themselves.</p> <p>We want our pupils to...</p> <ol style="list-style-type: none">1. develop fluency in the fundamentals of mathematics so that they are efficient in using and selecting the appropriate strategies to use measure skills including mental methods, underpinned by mathematical concepts2. can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios3. can reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language. <p>In all math lessons, teachers plan engaging lessons with the aim that pupils:</p> <ul style="list-style-type: none">• 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		
End of KS3 intent/outcome	End of KS4 intent/outcome	End of KS5 intent/outcome	
Students will be introduced into key vocabulary linked to length and size. Students will be able to describe concrete items using their key vocabulary and will use this to help them order and compare items based on length and size.	Students continue to build on their learning from key stage 3. Students will be able to use a variety of concrete resources such as cubes or rulers to measure and compare the length and size of different items. Students will record the length and size of items using relevant units (cm,m).	Students will continue to experience measuring items. Students will be able to apply measuring in a number of different contexts. Students will be able to compare measurements and space available and identify if size/length of items is suitable for the space available.	
Intent for this topic:	This half term, pupils will build on their knowledge of length and size from the KS3 and KS4 Curriculums. Pupils will access discrete Maths lessons where they will further develop knowledge and skills linked to length and size, starting at their last learning point in the topic from the previous key stage. Pupils will be more confident in identifying and using these skills in wider contexts and understand how these skills will be important in their adulthood. Pupils will be learning how to apply their knowledge and understanding of measuring to be able to consider how to plan furniture arrangements (length), DIY (length & size) or when buying clothing (size).		

Key vocabulary taught within this topic:	Measure, Length, height, long(er), short(er), tall(er), wide(r), narrow(er), millimeters, centimeters, meter, ruler, measuring tape, size, big(ger), small(er), large(r)
Links to other subjects:	-Design technology (manufacturing) -Shape -Preparation for adulthood

Suggested flow:

This flow is to be used as a guide. Teachers to adapt the flow to meet the needs and abilities of students within their class.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
<p><u>Measure</u> Preassessment of measuring (length) skills</p> <p>Measuring lengths using non-standard or standard (cm) units</p>	<p><u>Measure</u> Use and apply - measuring sides of 2D shapes using non-standard or standard units</p> <p>Use and apply addition skills to calculate perimeter</p>	<p><u>Measure</u> Measuring and calculating perimeter including early algebra skills</p> <p>Use and apply knowledge of the properties of 2D shapes to find missing lengths.</p>		<p><u>Measure</u> Use and apply measure/perimeter skills to adulthood skills</p> <p>Look at arranging / selecting furniture for rooms. Look at floor plans.</p>	<p><u>Size</u> -purchasing clothing</p>
	Addition skills	Using and applying addition skills. Using and applying early algebra skills. Use and applying shape skills			

	B2 P 5	B2 P 6-8	B2 step 1c-1b	B2Step 1b-2c	B2Step 2c-2a	B2Step 2a-3a
<u>Subject specific knowledge</u>	<p><u>To know</u> key words: big/small tall/short</p> <p><u>To know</u> to place objects next to</p>	<p><u>To know</u> key words: bigger / smaller taller / shorter</p>	<p><u>To know</u> they can measure lengths using cubes, objects or hand-spans</p>	<p><u>To know</u> a ruler measures length</p> <p><u>To know</u> how to use a ruler correctly: start at zero and not end</p>	<p><u>To know</u> which is the correct standard unit for a measurement e.g. mm,cm,m</p>	<p><u>To know</u> how to break down a worded problem related to measure</p>

<p>What do pupils need to know?</p>	<p>each other to accurately compare inc. from same starting point</p>			<p>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> what measuring tool is more efficient to measure a particular item</p>	
<p><u>Subject specific skills</u></p> <p>What do pupils need to be able to do?</p>	<p><u>Is able to find</u> big and small objects on request.</p> <p><u>Is able to find</u> long/tall/ and short objects on request.</p> <p><u>Is beginning to compare</u> heights/lengths by placing objects next to each other.</p> <p><u>Is beginning to compare</u> sizes by placing objects next to each other</p>	<p><u>Is able to use every day language</u> to talk about length and size in context and through play</p> <p>Is able to describe an object as: Small / big Small / large Short / long Short / tall</p> <p><u>Is able to use comparative language:</u> Smaller / bigger Smaller / larger Shorter / longer Shorter / taller describe length and size of objects</p>	<p><u>Is able to measure lengths</u> using cubes/objects/ Hand-spans</p> <p><u>Is able to use a balance scale</u> to aid comparative vocabulary independently</p>	<p><u>Is able to measure the perimeter</u> of 2d shapes (cm)</p> <p><u>Is able to compare and describe</u> lengths and heights using 'double/half' vocabulary</p> <p><u>Is beginning to use standardised measuring tools</u> to measure length e.g. ruler (start with whole cm, then move onto cm & mm combined)</p> <p><u>Is able to solve practical problems</u> for length and size</p>	<p><u>Is able to use the correct standardised measuring tools</u> to measure length, (deciding to use a ruler, tape measure or meter ruler)</p> <p><u>Is able to compare and order measurements</u> (mm, cm, m)</p>	<p><u>Is able to solve worded problems</u> related to measure.</p>

		Is able to place objects in order of size or length				
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