

Maths SSM Sticky Knowledge

MATHS: Shape, Space and Measure					
GEOMETRY - SHAPE	GEOMETRY – POSITION AND DIRECTION	MEASUREMENT – LENGTH/HEIGHT/WEIGHT/ TEMPERATURE	MEASUREMENT – TIME/MONEY	STATISTICS	RATIO & PROPORTION
Recognise and name common 2D shapes (e.g. triangles, circles, rectangles).	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Compare, describe, solve and measure length/height.	Compare, describe, solve and measure time.		
Recognise and name common 3D shapes (e.g. cuboids, pyramids and spheres).	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Compare, describe, solve and measure mass/weight.	Sequence events in chronological order using language		
Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Compare, describe, solve and measure capacity and volume.	Recognise and use language relating to dates (days of the week, months of the year)		
Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	Tell the time to the hour and half past.		
Identify 2-D shapes on the surface of 3-D shapes [for example, a	Describe positions on a 2-D grid as coordinates in the first quadrant	Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Recognise and know the value of different		

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circle on a cylinder and a triangle on a pyramid			denominations of coins and notes.		
Compare and sort common 2-D and 3-D shapes and everyday objects	Describe movements between positions as translations of a given unit to the left/right and up/down	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	
Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Plot specified points and draw sides to complete a given polygon	Measure the perimeter of simple 2-D shapes	Find different combinations of coins that equal the same amounts of money	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	
Recognise angles as a property of shape or a description of a turn	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Convert between different units of measure [for example, kilometre to metre; hour to minute]	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Ask and answer questions about totalling and comparing categorical data	
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Describe positions on the full coordinate grid (all four quadrants)	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Compare and sequence intervals of time	Interpret and present data using bar charts, pictograms and tables	
Identify acute and obtuse angles and compare and order	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Find the area of rectilinear shapes by counting squares	Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a	Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?']	

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angles up to two right angles by size			clock face to show these times	using information presented in scaled bar charts and pictograms and tables	
Identify lines of symmetry in 2-D shapes presented in different orientations		Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	
Complete a simple symmetric figure with respect to a specific line of symmetry		Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	
Identify 3-D shapes, including cubes and other cuboids, from 2-D representations		Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	Solve comparison, sum and difference problems using information presented in a line graph	
Know angles are measured in degrees: estimate and compare		Calculate and compare the area of rectangles (including squares), and including using standard units, square	Know the number of seconds in a minute and the number of days in	Complete, read and interpret information in tables, including timetables.	

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acute, obtuse and reflex angles		centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes.	each month, year and leap year		
Identify: angles at a point and one whole turn, angles on a straight line, other multiples of 90°.		Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	Compare durations of events [for example to calculate the time taken by events or tasks]	Interpret and construct pie charts and line graphs and use these to solve problems	I can solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts
Draw given angles and measure them in degrees.		Solve problems involving converting between units of time.	Estimate, compare and calculate different measures, including money in pounds and pence	Calculate and interpret the mean as an average	I can solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison
Use the properties of rectangles to deduce related facts and find missing lengths and angles		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Read, write and convert time between analogue and digital 12- and 24-hour clocks		I can solve problems involving similar shapes where the scale factor is known or can be found
Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days		I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
Draw 2-D shapes using given dimensions and angles		Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice			

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		versa, using decimal notation to up to three decimal places			
Recognise, describe and build simple 3-D shapes, including making nets		Convert between miles and kilometres			
Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons		Recognise that shapes with the same areas can have different perimeters and vice versa			
Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius		Recognise when it is possible to use formulae for area and volume of shapes			
Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles		Calculate the area of parallelograms and triangles			
		Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres			

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		(m ³), and extending to other units [for example, mm ³ and km ³]			
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