



Mathematics Key Learning – Measurement: Area and Perimeter

'Working together to achieve success'

Statements taken from the National Curriculum 2014

Additional statements to support progression in learning.



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
EYFS – COMPARING AND ESTIMATING					
<i>Understand and use language to compare the length/width of two objects</i>	<i>Understand and use language to compare the height of two objects</i>	<i>Understand and use language of comparison when ordering three objects of different lengths/widths/heights</i>	<i>Understand and use language to compare the weight/mass of two objects</i>	<i>Understand and use language to compare two of the same container holding different amounts</i>	<i>Understand and use the language of comparison when ordering three of the same container holding different amounts</i>
COMPARING AND ESTIMATING					
compare, describe and solve practical problems for: * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later]	compare and order lengths, mass, volume/capacity and record the results using >, < and =	compare durations of events, for example to calculate the time taken by particular events or tasks estimate and read time with increasing accuracy to the nearest minute record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)	estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes (also included in measuring) Estimate <i>and calculate</i> volume (e.g. using 1 cm ³ blocks to build cubes and cuboids) and capacity (e.g. using water) <i>Use read and write standard units of length and mass.</i>	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm ³) and cubic metres (m ³), and extending to other units such as mm ³ and km ³ .
		<i>Continue to estimate and measure temperature to the nearest degree using thermometers.</i>	<i>Order temperatures including those below 0 degrees celcius.</i>	<i>Understand the difference between liquid volume and solid volume.</i>	<i>Covert between miles and kilometres.</i>
sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	compare and sequence intervals of time			Continue to order temperatures including those below 0 degrees Celsius.	Calculate differences in temperature, including those that involved a positive and negative temperature.
EYFS – DISTANCE (MEASURING and CALCULATING)					
<i>Understand that measures of distance can have different names including length, width, height</i>	<i>Understand and use language to compare the length/width of two objects</i>	<i>Understand and use language to compare the height of two objects</i>	<i>Understand and use language of comparison when ordering three objects of different lengths/widths/heights</i>	<i>Understand the concept of the conservation of length/width/height</i>	
EYFS – WEIGHT/MASS					
<i>Understand the measurement of weight/mass (heavy/light)</i>	<i>Understand and use language to compare the weight/mass of two objects</i>		<i>Understand the concept of conservation of weight/mass</i>		
EYFS – VOLUME/CAPACITY					
<i>Understand the measurement of volume/capacity (empty/full/nearly)</i>	<i>Understand and use language to compare two of the same container holding different amounts</i>	<i>Understand and use the language of comparison when ordering three of the same container holding different amounts</i>		<i>Understand the concept of the conservation of volume/capacity</i>	
MEASURING and CALCULATING – AREA and PERIMETER					
measure and begin to record the following: * lengths and heights <i>using non-standard and then manageable standard units (cm/m)</i> * mass/weight <i>using non-standard and then manageable standard units (g/kg)</i>	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	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	estimate, compare and calculate different measures (appears also in Comparing)	use all four operations to solve problems involving measure (e.g. length, mass, volume) using decimal notation including scaling.	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting)

* capacity and volume <i>using non-standard and then manageable standard units (ml/l)</i> * time (hours, minutes, seconds) <i>within children's range of counting competence</i>			<i>Know area is a measure of surface within a given boundary.</i>		
			<i>Find the area of rectilinear shapes by counting squares.</i>		
		measure the perimeter of simple 2-D shapes	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	recognise that shapes with the same areas can have different perimeters and vice versa
				calculate the area of parallelograms and triangles	
				calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes	calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units [e.g. mm ³ and km ³].
				recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) (copied from Multiplication and Division)	recognise when it is possible to use formulae for area and volume of shapes
		<i>Understand perimeter is a measure of distance around the boundary of a shape.</i>	convert between different units of measure (e.g. kilometre to metre)	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	use, read, write and convert between standard units, converting measurements of length, mass, volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
		<i>Solve problems involving measures.</i>			

EYFS - MONEY

<i>Understand that we need to pay for goods</i>	<i>Talk about things they want to spend their money on</i>	<i>Talk about different ways we can pay for things</i>	<i>Recognise that there are different coins</i>	<i>Recognise 1p coin</i>	<i>Use 1p coins to pay for objects</i>
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CALCULATING - MONEY

recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	add and subtract amounts of money to give change, using both £ and p in practical contexts	estimate, compare and calculate, including money in pounds and pence (appears also in Comparing)	use all four operations to solve problems involving measure money using decimal notation including scaling.	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting)
	find different combinations of coins that equal the same amounts of money	<i>Continue to recognize and use symbols for pounds and pence and understand the decimal point separates pound and pence.</i>			
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <i>and measures (including time)</i>	<i>Recognise the ten 10p coins equal £1 and that each coin is 1/10 of £1.</i>	<i>Write amounts of money using decimal notation.</i>		
		<i>Solve problems involving money.</i>	<i>Recognise that one hundred 1p coins equal £1 and that each coin is 1/100 of £1</i>		

EYFS - TIME					
<i>Talk about significant times of the day, e.g. home time, lunch time, snack time, bed time, etc.</i>	<i>Understand and use language – before, after, yesterday, today, tomorrow</i>	<i>Use the language of comparison when talking about time, e.g. longer/ shorter; faster/slower</i>	<i>Sequence two or three familiar events and describe the sequence</i>	<i>Know the names of the days of the week</i>	<i>Say the names of the days of the week in order</i>
TELLING and CONVERTING THE TIME					
tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	solve problems involving converting between units of time	use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa
					using decimal notation to up to three decimal places
recognise and use language relating to dates, including days of the week, weeks, months and years	know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)	solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating)
		know the number of seconds in a minute and the number of days in each month, year and leap year	convert between different units of measure (e.g. hour to minute)	<i>Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks</i>	
		<i>Solve problems involving time including the passing of time.</i>	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)		
			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)		
VOCABULARY					
measure, compare, more (than), less (than), equal to, estimate, guess, roughly, about the same as, length, width, height, depth, long, short, tall, high, low, wide, narrow, deep, shallow, thick, thin, longer, shorter, taller, higher ... and so on, longest, shortest, tallest, highest... and so on, far, near, close, metre, ruler, metre stick, weigh(s), balances, heavy, light, heavier, lighter, heaviest, lightest, balance, scales, weight, double, half	measure, size, compare, estimate, guess, roughly, about the same as, exact(ly), measuring scale, length, width, height, depth, long, short,, tall, high, low, wide, narrow, deep, shallow, thick, thin (add –er and –est to all of these), ruler, metre stick, tape measure, metre, centimetre, mass, weigh, balance, heavy, light (add –er and –est to these), kilogram, half-kilogram, gram, scales, capacity, volume, estimate, measure accurately, compare, order, standard unit(s), litre (l), millilitre (ml), half full, quarter full, three quarters full, empty, full, contains, more than, less than, clockwise, anti-clockwise, time, days of the week, months of the year, seasons, day, week, fortnight, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, before, after, next, last, now, soon, early, late, quick (-er, -est, -ly), fast (-er, -est), slow (-er, est, -ly), old (-er, -est), new (-er, -est), takes longer, takes less time, how long ago/how long will it be to...?, hour, minute, second, o'clock, half past, quarter past, quarter to, past, to, clock, watch, hands	measure, compare, length, width, height, distance, perimeter, unit, centimetre (cm), metre (m), kilometre (km), ruler, metre stick, tape measure, add, plus, sum, total, altogether, subtract, take (away), minus, how many more/fewer, difference between, mass, kilogram (kg), gram (g), heavy, light, heavier, lighter, heaviest, lightest, volume, capacity, litre(l), millilitre (ml), full, empty, half-full analogue, digital, 12-hour, 24-hour, hour, minute, second, o'clock, half, quarter, past, to, a.m., p.m., morning, afternoon, evening, night, midnight, day, days of the week, month, months of the year, year, leap year, how long	time, days of week: Monday, Tuesday..., months of the year: January, February..., seasons: spring, summer, autumn, winter, day, week, fortnight, month, year, leap year, decade, century, millennium, weekend, birthday, holiday, calendar, date, date of birth, morning, afternoon, evening, night, measure, measurement, size, compare, unit, standard unit, metric unit, measuring scale, division, guess, estimate, approximately, length, width, height, depth, breadth, edge, perimeter, rectilinear, rectangle, square, kilometre (km), metre (m), centimetre (cm), millimetre (mm), ruler, metre stick, tape measure, mass, balances, weight, weighs, heavy/light, heavier/lighter, heaviest/lightest, kilogram (kg), half-kilogram, gram, scales, volume/capacity, full, half full, empty, holds, contains, litre (l), half-litre, millilitre (ml), container, measuring cylinder	days of the week: Monday, Tuesday ...months of the year: January, February ... seasons: spring, summer, autumn, week, fortnight, month, year, leap year, century, millennium, weekend, hour, minute, second, capacity, full, half full, empty, holds, contains, litre (l), half-litre, millilitre (ml), volume, cube, cuboid, length, width, depth, height, cubic centimetre (cm ³), cubic metre (m ³), pint, gallon, mile, yard, feet, foot, inches, inch, pound (lb), ounce (oz) time, days of the week: Monday, Tuesday...months of the year: January, February...seasons: spring, summer, autumn, week, fortnight, month, year, leap year, century, millennium, weekend, calendar, date, date of birth, am, pm, noon, midnight, before, after, next, last, now, soon, early, late, earliest, latest, quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, takes longer, takes less time, how long ago? how long will it be to...?, how long will it take to...?, timetable, arrive, depart, hour, minute, second, o'clock, half past, quarter to, quarter past, clock, watch, hands, digital/analogue clock/watch, timer, 24-hour clock, 12-hour clock, how often?	length, width, height, depth, breadth, perimeter, circumference, kilometre (km), metre (m), mile, mass, gram (g), kilogram (kg), tonne, hour, minute, second, convert, conversion, space, cubes, cubic centimetre (cm ³), cubic metre (m ³), cubic millimetre (mm ³), cubic kilometre (km ³), formula, formulae, length, width, height, depth, breadth, perimeter, circumference, kilometre (km), metre (m), millimetre (mm), mile, hour, minute, second, convert, conversion,