

# Measurement Progression

## Compare, measure, estimate and calculate.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Compare</b>, describe and solve practical problems for:</p> <ul style="list-style-type: none"> <li>lengths and heights</li> <li>mass/weight</li> <li>capacity and volume</li> <li>time</li> </ul> <p><b>Measure</b> and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds)</p> <p>To know that length is measured in centimetres.</p>	<p>Choose and use appropriate standard units to <b>estimate and measure</b> 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.</p> <p>To know that metres are used when measuring larger objects.</p> <p>To know that a metre is greater than a centimetre. To know that a kilogram is heavier than a gram.</p> <p>To know that a litre is more liquid than a millilitre.</p> <p>To know that the temperature is higher when the weather is warmer.</p> <p><b>Compare and order</b> lengths, mass, volume/capacity</p>	<p><b>Measure, compare, add and subtract:</b> lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p>To compare measures using fractions. Eg: <math>\frac{1}{2}</math> kg is heavier than 400g.</p> <p>To combine units of measurement and record this as ___m and ___ cm and ___mm.</p> <p>To find equivalent lengths ( metres and centimetres and millimetres and centimetres)</p> <p>To know that 1 mm is smaller than 1 cm.</p> <p>To know that there are 10mm in 1 cm</p> <p>To know that there are 100cm in 1m.</p> <p>To know that 1000g is equivalent to 1kg.</p> <p>To know that capacity is the maximum amount of liquid a container can hold when full.</p>	<p><b>Convert</b> between different units of measure [for example, kilometre to metre; hour to minute] include fractions too- <math>\frac{1}{2}</math> a km etc.</p> <p><b>Estimate, compare and calculate different measures.</b></p> <p><b>** mass and volume not in Y4 but to include wp involving conversions of measure and retrieval of key facts- 1000 g in kg, 1000ml in 1L etc.</b></p>	<p><b>Convert</b> between different units of metric measure- include fractions. 1/2kg =500g etc.</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p> <p>To know that kilo always means 1000.</p> <p>To know that "≈" as "approximately equal to".</p>	<p>Solve problems involving the <b>calculation and conversion of units</b> of measure, using decimal notation up to 3 d.p. where appropriate.</p> <p>Use, read, write and <b>convert</b> between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to 3 d.p.</p> <p><b>Convert</b> between miles and kilometres</p> <p>To know: 1 inch ≈ 2.5 cm</p> <ul style="list-style-type: none"> <li>1 foot = 12 inches</li> <li>1 pound = 16 ounces</li> <li>1 stone = 14 pounds</li> <li>1 gallon = 8 pints</li> </ul>

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	and record the results using >, < and =	To know that volume refers to the specific amount of liquid in a container.			
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## Key vocabulary

Longer than, taller than, shorter than, is equal to, centimetres (cm) mass, heavier, lighter, heaviest, lightest, empty, nearly empty, full, nearly full, more than, less than, capacity	Metres (m) shortest, longest, tallest, grams, kilogram, full, half full and empty, millilitres, degrees celsius, thermometer. (°C)	Equivalent, half a metre, half a kilogram, quarter of a litre, quarter of a kilogram,		Metric, imperial	Tonnes, miles, kilometres, inches, foot, stone, gallon, ounces.
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## Money

Recognise and know the value of different denominations of coins and notes	<p>Recognise and use symbols for pounds (£) and pence (p);</p> <p>combine amounts to make a particular value</p> <p>Find different combinations of coins that equal the same amounts of money</p> <p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p>To know that £1 = 100p</p>	Add and subtract amounts of money to give change, using both £ and p in practical contexts	<p>To estimate, compare and calculate different measures, including money in pounds and pence.</p> <p>To read and write money using decimal notation.</p> <p>To convert between different types of notation and between different units of money.</p>	<p>To use all four operations to solve problems involving measure [for example, money]</p> <p><b>**build in money problems during, decimals.</b></p>	Solve problems involving money and make links with money during decimals, fractions and 4 operation units.
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## Key Vocabulary

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Coins, value, 1 pence, 2 pence, 5 pence, 10 pence, 20 pence, 50 pence, 1 pound	Worth, £, p, notes, greater than, less than, most, least, change		Decimal, 2 decimal places,		
<b>Time</b>					
<p>Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <p>Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p> <p>To know that the smaller number of seconds, minutes or hours is the quicker time.</p> <p>To know that the hour hand is shorter than the minute hand.</p> <p>To know that when the minute hand is pointing directly to 12, they need to look at the shorter hand to see which hour it is.</p>	<p>Compare and sequence intervals of time.</p> <p>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.</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p>	<p>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.</p> <p>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.</p> <p>Know the number of seconds in a minute and the number of days in each month, year and leap year.</p> <p>Compare durations of events [for example to calculate the time taken by particular events or tasks.</p>	<p>Read, write and convert time between analogue and digital 12- and 24-hour clocks.</p> <p>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>	<p>Solve problems involving converting between units of time.</p>	<p>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. <b>(Not a WR unit- recap of Y5 small steps timetables and convert units of time. )</b></p>
<b>Key Vocabulary</b>					
Before, after, next, first, finally, morning, afternoon, evening, today, yesterday, tomorrow, days of the	Quarter past, quarter to,	Roman numeral, 12 hour digital clock, am, pm, noon,	24 hour digital clock	Timetables.	

# Measurement Progression

week, months of the year, hours, minutes, seconds, quicker, slower, hour, o'clock, half- past					
<b>Area, Perimeter and volume</b>					
		<p>To know that perimeter is the distance around the outside of a closed 2D shape.</p> <p>To calculate the perimeter by counting the outside squares.</p>	<p>To know that area is the amount of space taken up by a two-dimensional shape or surface.</p> <p>To find the area by counting squares</p> <p>To calculate the perimeter of rectangles using the side lengths.</p> <p>To know that a regular polygon has sides that are equal in length and all the angles are equal in size.</p> <p><b>** opportunity to discuss properties of rectangles.</b></p>	<p>To find the perimeters of rectangles by measuring the sides and by calculation.</p> <p>The calculate the area of rectilinear shapes.</p> <p>To find the area using the formula Lx W</p> <p>To calculate the perimeter of regular polygons when given the length of one side.</p> <p>To find the length of each side of a regular polygon when given the perimeter.</p> <p>To know that volume refers to the amount of three-dimensional space an object takes up, and they measure volume using cubes.</p> <p><b>**Opportunities to discuss properties of regular polygons</b></p>	<p>To use knowledge of factor pairs to work out the area of rectangles.</p> <p>To use the formula <math>\frac{1}{2} \times \text{base} \times \text{perpendicular height}</math></p> <p>To use the formula <math>\text{base} \times \text{perpendicular height}</math> when finding the area of parallelograms</p> <p>To find the volume by multiplying the volume of a single layer by the number of equal layers. This can include cuboids and other prisms.</p> <p>To use the formula for finding the volume of a cuboid <math>l \times w \times h</math></p> <p><b>** opportunities to discuss the properties of triangles and parallelograms and properties of cubes/ cuboids.</b></p>
<b>Key Vocabulary</b>					
		perimeter, width, length	Area, square unit, rectilinear shape, regular polygon, irregular polygon.	cm <sup>2</sup> , m <sup>2</sup> , mm <sup>2</sup> km <sup>2</sup> cm <sup>3</sup> volume	