

<b>Expectations in Mathematics: Year 3</b>	
<b>Key learning</b>	<b>Assessment Focus</b>
<b>Number</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Count from 0, forwards and backwards in multiples of 2, 3, 4, 5, 8, 10, 50 and 100; recall 3, 4 and 8 multiplication tables</li> <li>Read, write and use place value to order 3-digit numbers</li> <li>Add and subtract 1s, 10s, 100s to 3-digit number and use written methods to add and subtract pairs of 2- and 3-digit numbers</li> <li>Multiply and divide mentally and use written methods for multiplying 2-digit by 1-digit numbers</li> <li>Recognise, name and write unit and non-unit fractions and find fractions of quantities</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Count forwards and backwards in multiples of 2, 3, 4, 5, 8, 10, 50 and 100, with and without images to help them, and explain how counting in 3s, 4s and 8s corresponds to the related multiplication facts</li> <li>Explain the relationship between the scale of the hundreds, tens and ones and the effect that adding and subtracting 100s, 10s and 1s has on a number</li> <li>Recall and use number bonds to carry out mental calculations and derive related facts</li> <li>Interpret place value for digits in 3-digit numbers, including the use of zero, apply place value when carrying out the written column methods of addition and subtraction</li> <li>Partition 3-digit numbers into 100s, 10s and 1s and as alternative representations that support addition and subtraction and reflect exchange when carrying out formal written methods</li> <li>Recite 2, 3, 5, 8, 10 multiplication facts and recall the facts independently; use to derive division facts</li> <li>Relate tenths to 10 equal parts of a whole and division by 10</li> <li>Read and write unit and non unit fractions and explain the meaning of the denominator and numerator when identifying and placing fractions with small denominators on a number line</li> <li>Recognise unit fractions as one part of a number of equal parts of a whole and use practical resources, diagrams and division facts to work out a unit fractional part of a quantity</li> </ul>
<b>Measurement</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Measure, compare, add and subtract lengths, mass and volume/capacity; calculate amounts of money to give change recording separately in £ or p</li> <li>Read time to the nearest minute and compare durations of events in hours, minutes and seconds</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Interpret scales on practical measuring equipment and use these tools to measure to the nearest interval</li> <li>Interpret measurements that are expressed using mixed units and express the large common units as equivalent using the common smaller units</li> <li>Describe multiplicative relationships between measure e.g. is twice as heavy; is 10 times longer</li> <li>Use alternative combinations of coins and notes to give change and add and subtract amounts of money</li> <li>Use 12 hour time to describe times during the day and read times in seconds, minutes and hours</li> </ul>
<b>Geometry</b>	

<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Draw 2-D shapes and make 3-D shape; identify 3-D shape in different orientations and describe their properties</li> <li>• Compare angles with right angles and identify angles with turns and in shapes</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Recognise that when a 2-D or 3-D shape changes position or orientation it retains its name and its properties and explain why this is the case</li> <li>• Identify an angle in a shape and understand that it is formed at a corner where two straight sides meet and use angle to describe a turn about a point</li> <li>• Use mathematical language to describe types of angles; identify combinations of right angles using quarter turns, acute and obtuse angles, and lines that are parallel, vertical, horizontal or perpendicular</li> <li>• Draw straight lines and simple shapes accurately with a ruler</li> </ul>
<p><b>Statistics</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Interpret, interrogate and present data using bar charts, pictograms and tables</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Read scales with intervals of 2, 3, 4, 5, 8, or 10 and use on bar charts</li> <li>• Answer questions involving interrogation of data presented in charts or tables</li> </ul>
<p><b>Solve problems, communicate and reason mathematically</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Solve money, time, measures and missing number problems involving the four operations</li> <li>• Construct equivalent number sentences; compare and identify what is the same or different about shapes and angles; use examples and give reasons to say when and why a statement is true or false</li> <li>• Explain and interpret solutions in the context of the problem; describe properties of numbers and shapes using accurate language</li> </ul>	

Please refer to the year or key stage above or below if you child is working to different expectations

### Example minimum expectations

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<b>Expectations in Mathematics: Year 4</b>	
<b>Key learning</b>	<b>Assessment Focus</b>
<b>Number</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Count in single-digit steps and multiples of 10, 25, 50, 100 and 1000; recall multiplication tables to 12x12</li> <li>Read, write and use place value to order numbers with 4 or more digits; round to the nearest 10, 100, 1000</li> <li>Use written methods to add and subtract pairs of numbers with up to 4 digits</li> <li>Multiply and divide mentally and use written methods for multiplying 2- and 3-digit by 1-digit numbers</li> <li>Relate the fractions for tenths and hundredths to decimal numbers and write these as decimal equivalents</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Explain relationships within and between number sequences formed by counting in 5s, 10s, 25s, 50s, 100s and 1000s, and their links to multiplication and division facts</li> <li>Recall number facts and recite the multiplication tables up to 12x12 and use to recall individual multiplication facts; apply these facts to derive new facts involving multiples of 10, 100 and 1000</li> <li>Recognise that each multiplication fact has a corresponding commutative multiplication fact and each of these has an associated division fact, and state these facts</li> <li>Identify the place value of digits in 4-digit whole numbers and decimals with 2 decimal places</li> <li>Apply to multiplication and division of whole numbers by 10, 100 and to rounding whole numbers to the nearest 10, 100, 100 and decimals to whole numbers</li> <li>Read, represent and interpret tenths and hundredths when written as fractions and decimals</li> <li>Explain the meaning of the decimal point and order decimals with 1 or 2 decimal places</li> <li>Add and subtract fractions with the same denominator and show equivalent fractions on diagrams</li> </ul>
<b>Measurement</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Measure and convert from large to the smaller units of measure; calculate using the different measures, including perimeter of rectilinear shapes in cm and m</li> <li>Read and convert between times shown on analogue and digital 12- and 24-hour clocks</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Interpret scales, interpreting the size and end points of the intervals when measuring length, weight and capacity accurately and convert measurements in larger units to smaller units</li> <li>Describe perimeter as the distance around a shape, find perimeters practically and by adding the lengths of sides of rectilinear shapes</li> <li>Describe area as the space inside a shape, find areas of shapes on grids by counting interior squares</li> <li>Read and interpret times on analogue and digital clocks and times recorded using 12-hour notation and 24-hour notation</li> <li>Convert am, pm times into 24 hour times, and hours to minutes and minutes to seconds</li> <li>Interpret and use £.p notation, convert between £ and p and order amounts of money</li> </ul>
<b>Geometry</b>	

<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Name and sort angles by their size and identify lines of symmetry</li> <li>Describe and plot points on the first quadrant of the co-ordinate grid and translate shapes to a new position</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Recognise acute and obtuse angles including angles in shapes presented in different orientations</li> <li>Distinguish between and name the different triangles and quadrilaterals, and list those properties that informed their decisions</li> <li>Build symmetric patterns and identify lines of symmetry in 2-D shapes</li> <li>Use coordinates to identify and plot points on a grid and join these to make polygon</li> <li>Use the language of movement to describe a change in position and translations on a grid</li> </ul>
<p><b>Statistics</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Interpret and interrogate discrete and continuous data presented in tables and graphs; use time graphs and identify change over time</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Recognise examples of discrete data and read and interpret frequency tables, pictograms and bar charts</li> <li>Recognise examples of continuous data including time and other measures</li> <li>Read and interpret graphs with time represented on the horizontal axis; describe the changes over time</li> </ul>
<p><b>Solve problems, communicate and reason mathematically</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Solve two-step problems involving money, measures, time, fractions and scaling up or down; represent problems pictorially and symbolically</li> <li>Provide reasons for choosing operations and methods when solving problems, and when testing generalisation and classifying shapes</li> <li>Use the language of fractions, decimals, negative numbers and angles; describe position and movements on a coordinate grid</li> </ul>	

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<b>Expectations in Mathematics: Year 5</b>	
<b>Key learning</b>	<b>Assessment Focus</b>
<b>Number</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Count forwards and backwards through zero and interpret negative numbers in context</li> <li>Read write and use place value to order numbers to at least 1 000 000 and round to the nearest power of 10</li> <li>Use mental and formal written methods to add and subtract pairs of numbers with 4 or more digits and to multiply and divide 4-digit numbers by 1-digit numbers</li> <li>Interpret and represent division as a fraction and express remainders after division as a number, a fraction or a decimal; convert between improper fractions and mixed numbers</li> <li>Write decimal numbers and percentages as fractions; round decimals to the nearest whole number and order decimals with up to 3 decimal places</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Count backwards and forwards from a negative number and identify where and which positive and negative numbers are on a scale</li> <li>Identify and list the sequence of powers of 10; use to determine and state the value of a digit in large numbers and decimals with up to 3 decimal places; apply when rounding numbers</li> <li>Match the digits by their place value when adding and subtracting whole numbers with different numbers of digits, including numbers with zero place holders</li> <li>Add and subtract pairs of numbers mentally where both are multiples of 1, 10, 100 or 1000</li> <li>Recall facts from the multiplication tables up to 12x12 and derive related multiplication and division facts</li> <li>Set out and use a formal written method for each of the four operations</li> <li>Use the language of multiplication and division, including the language of scaling, to describe the processes involved and recognise why and when division can lead to a remainder</li> <li>Interpret and represent mixed numbers as whole plus part numbers</li> <li>Interpret an improper fractions as a division and a number that is bigger than the whole</li> <li>Read and interpret percentages as the number of 100 parts of a whole and know that 100% is a whole</li> <li>Read and record fractions and decimals involving thousandths, hundredths and tenths</li> </ul>
<b>Measurement</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Measure and convert between units including metric and the common imperial units using appropriate whole number and decimal notation</li> <li>Use all four operations in the context of metric measures, money and time; calculate the perimeters of composite rectilinear shapes in cm and m and the areas of rectangles in cm<sup>2</sup> and m<sup>2</sup></li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Explain the relationship between the different metric units of measure, understand and use appropriate scaling up and down in 10s, 100s and 1000s and moving between whole and decimal numbers</li> <li>Estimate lengths, weights, capacities and time and recognise how the common imperial units relate to metric units using rough approximations to convert between them</li> <li>Carry out calculations in the context of measures and express the answer to a calculation in units that are appropriate to the answer or to the context of the problem – perimeters in cm &amp; m, areas in cm<sup>2</sup> &amp; m<sup>2</sup></li> <li>Carry out mental calculations involving money, converting between £ and p and rounding to approximate</li> <li>Express times in alternative ways using 12 and 24 hour clocks and use appropriate time units when calculations cover longer time periods</li> </ul>

Geometry	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Draw and measure angles in degrees, and work out missing angles at a point and on a straight line</li> <li>• Identify, describe and represent the position of a shape after a reflection or translation</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Interpret the scale on a protractor and measure angles and turns clockwise and anticlockwise</li> <li>• Estimate the size of angles against angles of known size; know angle sums at a point &amp; on a straight line</li> <li>• Recognise how a reflection can change a shape's orientation but not its size while neither changes when a translation is carried out</li> </ul>
Statistics	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Complete, read and interpret, line graphs and tables, including timetables and use to solve problems</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Read values on partially numbered scales and annotate the scales to identify intermediate points</li> <li>• On line graphs, plot the end points of and draw line segments and use to read the intermediate values</li> </ul>
Solve problems, communicate and reason mathematically	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Solve routine and non-routine problems involving time, money, measures; convert between fractions, decimals and percentages when carrying out calculations</li> <li>• Use established facts and properties to make deductions about numbers, shapes and angles; make and test simple conjectures about patterns and relationships between numbers and shapes</li> <li>• Describe rules of arithmetic and for generating sequences; explain solutions to multi-step problems and begin to use algebraic notation to construct simple formulae</li> </ul>	

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<b>Expectations in Mathematics: Year 6</b>	
<b>Key learning</b>	<b>Assessment Focus</b>
<b>Number</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Identify common factors, common multiples, and prime, square and cube numbers; use negative numbers</li> <li>Calculate mentally with mixed operations; use formal written methods to multiply and divide numbers with up to 4 digits by 1- and 2-digit numbers, and multiply decimal numbers with up to 2 decimal places by whole numbers</li> <li>Scale quantities up or down in a given ratio; use ratio or a fraction to describe the relationship between quantities</li> <li>Simplify fractions and write fractions as an equivalent fraction with denominators that are scaled up or down, use to add and subtract fractions with different denominators; multiply and divide proper fractions by whole numbers; find percentages of quantities</li> <li>Use algebraic notation to represent missing numbers and to describe patterns and sequences; use formulae</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Count backwards and forwards in whole number steps that are multiples of 1, 10, 100 or 1000 and in part number steps; generate, extend and describe linear sequences of numbers</li> <li>Distinguish between and order positive and negative numbers; use negative numbers in context</li> <li>Use mental and using informal methods to add and subtract decimal and whole numbers in which the first one or two digits are non-zero and fractions with the same denominators</li> <li>Recall and use multiplication and division facts to 12x12 to multiply and divide whole numbers</li> <li>Use place value to multiply and divide numbers by 10, 100, 1000, to carry out formal, column methods of calculation, and to round and order whole and decimal numbers</li> <li>Determine whether one number is a factor/multiple of another; list small prime, square, cube numbers</li> <li>Add and subtract proper fractions and mixed numbers where denominators are multiples of one another</li> <li>Recognise and use equivalence between fractions and between fractions, decimals and percentages</li> <li>Apply multiplication and division facts to work out fractions and percentages of quantities and to multiply and divide decimals by a one-digit whole number</li> <li>Interpret statements that describe relationships between two quantities, use to calculate the change in one quantity when the other is increased or decreased, or to work out each quantity when given a total</li> <li>Read and generate simple expressions and equations; interpret and apply simple formulae</li> </ul>
<b>Measurement</b>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>Use, read, write, convert between standard units of time, length, mass, and capacity/volume using where appropriate decimal notation with up to 3 decimal places</li> <li>Calculate areas of composite rectilinear shapes, parallelograms and triangles, and volumes of cubes and cuboids using standard units <math>\text{cm}^3</math> and <math>\text{m}^3</math></li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>Read scales on measuring equipment, interpret unnumbered intervals, estimate values between the intervals and represent the values as whole and decimal numbers as appropriate</li> <li>Use and explain strategies to estimate a quantity by length, weight or capacity and evaluate methods</li> <li>Select appropriate units and convert to these units when measuring and when calculating time intervals</li> <li>Build on knowledge of properties of a rectangle to explain how to calculate areas of related shapes</li> <li>Recognise volume is a measure of 3-D space that determines how many identical cubes fit in a shape</li> </ul>
<b>Geometry</b>	

<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangle, quadrilaterals and regular polygons</li> <li>• Use coordinates to describe positions and movement in all four quadrants</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Recognise and name 2-D and 3-D shapes presented in different orientations and sizes; identify and name properties in relation to their angles, sides, vertices, edges, faces, nets and line symmetry</li> <li>• Measure and draw angles and complete shapes using given information</li> <li>• Label axes, identify and plot points on a 4-quadrant coordinate grid, complete partially drawn shapes</li> <li>• Describe a translation and a reflection, identify and represent shapes after such transformations</li> </ul>
<p><b>Statistics</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Interpret and construct bar and pie charts, and line and time graphs, and the mean as an average; use to answer data questions and to solve problems</li> </ul>	<p>Focus assessment on how securely children can:</p> <ul style="list-style-type: none"> <li>• Read, interpret and use discrete data presented in tables, bar charts and pie charts; calculate the mean for small data sets and calculate sums and differences to solve problems</li> <li>• Read, interpret and use continuous data presented in line and time graphs to identify changes over time</li> </ul>
<p><b>Solve problems, communicate and reason mathematically</b></p>	
<p>To make expected progress children should be able to:</p> <ul style="list-style-type: none"> <li>• Solve routine and non-routine problems that involve geometric shapes, fractions, ratio, scaling; give answers to required accuracy that takes account of context</li> <li>• Derive and use properties of number and shape and determine whether they hold true always, sometime, or never; extend patterns and explain methods and reasoning used to derive unknown values</li> <li>• Use precise mathematical language to present an explanation and to describe properties of numbers and shapes; interpret and use algebraic notation to construct and expressions, equivalences, equations</li> </ul>	

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