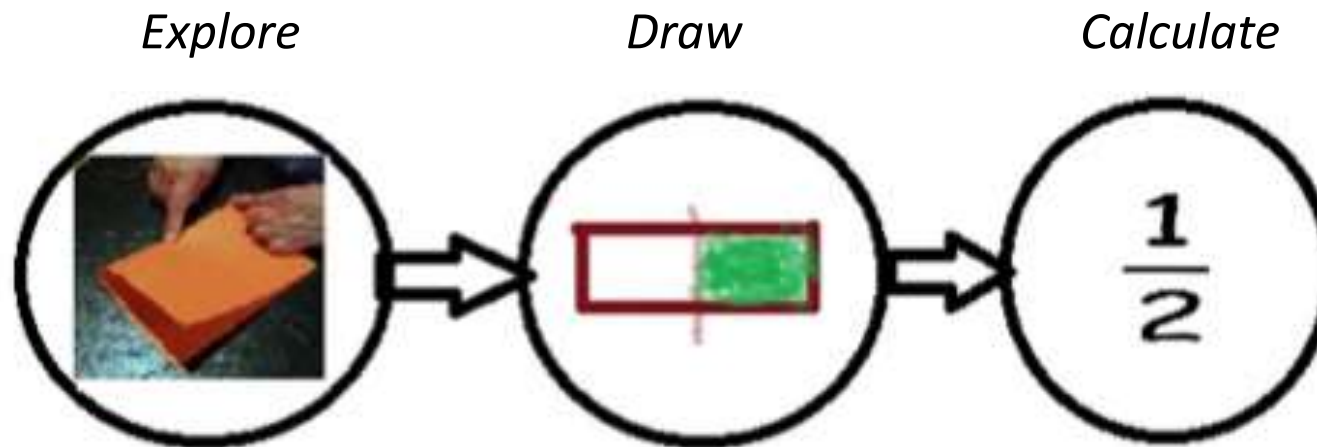


Maths Skills Progression – ‘Explore, Draw, Calculate!’




Explore – for as long as the children need to be able to fully and confidently understand the principles of a mathematical concept.

Draw - what they have explored!

Calculate- use drawing and exploring to underpin and support written calculations – BUT only when the children are ready to do so!



Number: Number and Place Value with Reasoning

<p>EYFS</p> 	<p>Year 1</p> 	<p>Year 2</p> 
<p><u>Counting</u></p> <p>3 -4 year olds</p> <ul style="list-style-type: none"> • Recites numbers past 5 • Say one number name for each item in order: 1,2,3,4,5 • Know that the last number reached when counting a small set of objects tells you how many there are in total (cardinal principle) <p>Reception</p> <ul style="list-style-type: none"> • Counts objects, actions and sounds • Count beyond 10 <p>ELG: Verbally count beyond 20, recognising the pattern of the counting system.</p>	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Counting to and across 100. • Read numbers to 100. • Identify one more and one less. • Count in 2s 5s and tens <p><u>Other statutory learning objectives that are required</u></p> <ul style="list-style-type: none"> • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal 	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Count in steps of 2, 3, and 5 from 0 and in tens from any number, forward and backward. • Recognise the place value of each digit in a two-digit number (tens, ones) • Identify, represent and estimate numbers using different representations, including the number line. • Read and Write numbers to at least 100 in numerals.

Identifying, Representing and Estimating Numbers

- 3 -4 year olds

Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').

- Show 'finger numbers' up to 5.
- Link numerals and amounts
- Experiment with their own symbols and marks as well as numerals.

Reception

- Subitise
- Link the number symbol with its cardinal number value.

ELG: Subitise (recognising quantities without counting) up to 5.

Compare and order numbers

3-4 year olds

- Compare quantities using language: 'more than', 'fewer than'.

to, more than, less than (fewer), most, least.

- Read and write numbers from 1 -20 in numerals and words.

Other statutory learning objectives that are required

- Compare and order numbers from 0 up to 100, use <, > and = signs.
- Read and write numbers to at least 100 in words.
- Use place value and number facts to solve problems.

<p>Reception</p> <ul style="list-style-type: none">• Compare numbers <p>ELG: Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.</p> <p><u>Understanding Place Value</u></p> <p>Reception</p> <ul style="list-style-type: none">• Understand the 'one more than/one less than' relationship between the consecutive numbers.• Explore the composition of numbers to 10. <p>ELG</p> <p>Have deep understanding of numbers to 10, including the composition of each number.</p>		
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EYFS



Year 1



Year 2



Mental Calculations

Reception

- Automatically recall number bonds for numbers 0-5 and some to 10.

ELG: Automatically recall (without reference to rhymes, counting or other aids) number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Solve Problems

ELG: Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.

Crucial statutory learning objectives

- Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.
- Represent and use number bonds and related subtraction facts within 20.
- Add and subtract one digit and two digit numbers to 20, including zero.

Other statutory learning objectives that are required

- Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = _ - 9$

Crucial statutory learning objectives

- Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
- Add and subtract numbers using concrete objects, pictorial representations and mentally including: *a two digit number and ones, a two digit number and tens, two two digit numbers and adding three one digit numbers.*

Other statutory learning objectives that are required

		<ul style="list-style-type: none">• Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
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Number: Multiplication and Division with Reasoning

EYFS	Year 1	Year 2
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Mental Calculations

ELG: Automatically recall (without reference to rhymes, counting or other aids) number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Solve Problems

ELG: Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.

Crucial statutory learning objectives

- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher (not formal calculations).

Crucial statutory learning objectives


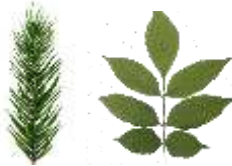

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Other statutory learning objectives that are required

- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.

Number: Fractions (including Decimals and Percentages) with Reasoning

EYFS	Year 1	Year 2
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<p><u>Solve Problems</u></p> <p>ELG: Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Recognise, find and name a half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, and set of objects or quantity. <p><u>Other statutory learning objectives that are required</u></p> <ul style="list-style-type: none"> • Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

Measurement

EYFS	Year 1	Year 2
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Describe, Measure, Compare and Solve (All Strands)

3-4 year olds

- Make comparisons between objects relating to size, length, weight and capacity.

Reception

- Compare length, weight and capacity.

Telling the Time

3-4 year olds

- Begin to describe a sequence of events, real or fictional, using words, such as ‘first, then...’

Crucial statutory learning objectives

- Compare, describe and solve practical problems for:
 - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
 - mass/weight [for example, heavy/light, heavier than, lighter than]
 - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
 - time [for example, quicker, slower, earlier, later]
- Recognise and know the value of different denominations of coins and notes.
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Crucial statutory learning objectives

- 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.
- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.
- Find different combinations of coins that equal the same amounts of money.
- 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.

Other statutory learning objectives that are required

Other statutory learning objectives that are required

- Measure and begin to record the following:
 - lengths and heights
 - mass/weight
 - capacity and volume
 - time (hours, minutes, seconds)
- Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].
- Recognise and use language relating to dates, including days of the week, weeks, months and years.

- Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.
- Compare and sequence intervals of time.
- Know the number of minutes in an hour and the number of hours in a day.

Geometry – Shape

EYFS

Year 1

Year 2





Properties of Shapes

3-4 year olds

- Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'.
- Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc.
- Combine shapes to make new ones – an arch, a bigger triangle, etc.

Reception

- Select, rotate and manipulate shapes in order to develop spatial reasoning skills.

Compare and Classify Shapes

Reception

- Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.

Crucial statutory learning objectives

- Recognise and name common 2-D and 3-D shapes including:
- 2-D shapes for example rectangles, squares, circles and triangles.
- 3-D shapes for example cuboids, cubes, pyramids and spheres.




Crucial statutory learning objectives

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.

Other statutory learning objectives that are required

- Identify 2-D shapes on the surface of 3-D shapes for example, a circle on a cylinder and a triangle on a pyramid.
- Compare and sort 2-D and 3-D shapes and everyday objects.

Geometry – Position and Direction

<p>EYFS</p> 	<p>Year 1</p> 	<p>Year 2</p> 
<p><u>Position, Direction and Movement</u> 3-4 year olds</p> <ul style="list-style-type: none"> • Understand position through words alone – for example, ‘The bag is under the table,’ – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like ‘in front of’ and ‘behind’. <p>Reception</p> <ul style="list-style-type: none"> • Draw information from a simple map <p><u>Patterns</u> 3-4 year olds</p> <ul style="list-style-type: none"> • Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc. • Extend and create ABAB patterns – stick, leaf, stick, leaf • Notice and correct an error in a repeating pattern. <p>Reception</p> <ul style="list-style-type: none"> • Continue, copy and create repeating patterns. 	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Describe position, direction and movement, including whole, half, quarter and three quarter turns. 	<p><u>Crucial statutory learning objectives</u></p> <ul style="list-style-type: none"> • Use the vocabulary right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). <p><u>Other statutory learning objectives that are required</u></p> <ul style="list-style-type: none"> • Order and arrange combinations of mathematical objects in patterns and sequences. • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotations as a turn.

Statistics

EYFS



Year 1



Year 2



Statistics – Record, Present and Interpret Data

3-4 year olds

Experiment with their own symbols and marks, as well as numerals.

Crucial statutory learning objectives

- Identify and represent numbers using objects and pictorial representations including the number line,

Crucial statutory learning objectives

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.

Other statutory learning objectives that are required

- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by the quantity.
- Ask and answer questions about totalling and comparing categorical data.