

Mathematical Vocabulary Progression document

This document is designed to assist with the teaching of vocabulary across EYFS, KS1 and KS2 and is aligned with the White Rose schemes of learning. This document identifies in which year group vocabulary should be explicitly taught and introduced. However, language should be revisited in subsequent year groups, retrieved regularly and quizzed often to ensure children are consolidating their understanding. Some vocabulary might be introduced earlier (shapes for instance) if necessary or as part of an activity, however this document ensures coverage is progressive.

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and place value	count subitise order/ordinal compare forwards backwards numerals digit one more one less equal to more than less than (fewer)	sort represent multiples partitioning ones tens	count in steps count in multiples place value estimate compare	ascending descending 10 or 100 more 10 or 100 less hundreds	negative numbers roman numerals 1000 more 1000 less thousands round	ten thousands one hundred thousands powers of integer	millions ten millions
Addition and subtraction	add plus altogether total take away/minus number bonds part whole digit	addition/add subtraction difference equals facts problems missing number problems 2-digit number inverse	sum 3-digit number commutative	column addition column subtraction exchange estimate	4-digit number operations methods		

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Multiplication and division	double half twice as many equal unequal share group odd even	multiplication division arrays	commutative repeated addition times tables	exchange mathematical statements missing number problems integer scaling problems correspondence problems derived facts	factor pairs formal written layout distributive law remainders	multiples factors prime numbers square numbers cube numbers short division product dividend divisor quotient operations	multi-digit numbers long division
Fractions/ decimals/ percentages		whole half quarter equal parts	three quarters third equivalent fractions unit fractions non unit fractions numerator denominator one whole	tenths	decimal equivalence hundredths convert proper fractions improper fractions decimal point	fifth thousandths mixed numbers percent factors integer complements	

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Measurement (measure and length)	measure wide(er) narrow(er) compare long(er)(est) short(er)(est) length	compare	standard units estimate order record results centimetre cm metre m	millimetre mm perimeter	kilometres km rectilinear figure area	decimal notation scaling metric units imperial units inches compound shape irregular shape square centimetres square metres	conversion miles formulae parallelograms triangles feet
Measurement (height, weight and capacity)	height long(er)/short(er) tall(er)/short(er) weight capacity heavy/light heavier than lighter than big/bigger/biggest full/empty more than less than half/half full	mass volume	kilogram kg gram g quarter full three quarters full liters l millilitres ml temperature celsuis			cubic centimetre pounds pints	cubic metre cubic millimetre cubic kilometre gallons stones ounces

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Measurement (time)	time quicker slower earlier later before after first next today yesterday tomorrow morning afternoon evening day week hour minutes	chronological order month year o'clock half past second	intervals of time quarter past/to duration	analogue clock roman numerals 12/hour clock 24-hour clock a.m./pm. noon midnight leap year digital	convert		
Measurement (money)		money coins notes pounds £ pence p	value change				

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Geometry - properties of shape	2-d shapes rectangle square circle triangle characteristics 3-d shapes cuboids cubes cone spheres curved straight flat	sides corners properties pyramids faces	pentagon hexagon line of symmetry properties cylinder edges vertices vertex	right-angle triangle heptagon octagon polygon properties prism orientations angles acute angle obtuse angle turn right angles half turn $\frac{3}{4}$ of a turn greater than right angle less than right angle horizontal lines vertical lines perpendicular lines parallel lines	isosceles equilateral scalene trapezium rhombus parallelogram kite geometric shapes quadrilaterals	regular polygon irregular polygon reflex angles degrees one whole turn angles on straight line angles around a point vertically opposite missing angles	radius diameter circumference dimensions
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Position and direction	over under between around through on into next to behind beneath order repeat patterns on top of	position direction movement whole turn quarter turn half turn three-quarter turn	clockwise anti-clockwise straight line rotation arrange sequences		co-ordinates first quadrant grid translation plot polygon axis	reflection	four quadrants co-ordinate plane
Statistics			pictograms tally chart block diagram category sorting totalling comparing horizontal vertical	table bar chart one-step problem two-step problem	time graph discrete data continuous data line graph comparison problem sum problem difference problem calculate interpret	timetable two-way tables	pie chart mean



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Ratio and proportion							relative size missing values integer multiplication percentages scale factor unequal sharing and grouping
Algebra							formulae linear number sequences algebraically equation unknowns combinations variables

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Here's a breakdown of the **Mathematical Vocabulary Progression** by year level, as outlined in the document. This year-by-year structure highlights the gradual introduction and reinforcement of math vocabulary across foundational areas:

Reception

- **Number and Place Value:** count, subitise, order/ordinal, compare, forwards, backwards, numerals, digit, one more, one less, equal to, more than, less than (fewer)
- **Addition and Subtraction:** add, plus, altogether, total, take away/minus, number bonds, part, whole
- **Multiplication and Division:** double, half, twice as many, equal, unequal, share, group, odd, even
- **Fractions:** whole, half, quarter, equal parts
- **Measurement (Length/Height/Weight/Capacity):** measure, wide(er), narrow(er), compare, long(er), short(er), height, weight, capacity, heavy, light, full, empty, more than, less than
- **Measurement (Time):** time, quicker, slower, earlier, later, before, after, today, yesterday, tomorrow, morning, afternoon, evening, day
- **Geometry - Shapes:** 2D shapes, rectangle, square, circle, triangle
- **Position and Direction:** over, under, between, around, through, on, next to, behind

Year 1

- **Number and Place Value:** sort, represent, multiples, partitioning, ones, tens
- **Addition and Subtraction:** addition/add, subtraction, difference, equals, problems, missing number
- **Multiplication and Division:** multiplication, division, arrays
- **Fractions:** three-quarters, third
- **Measurement (Length):** standard units, estimate, centimetre (cm), metre (m)
- **Measurement (Weight/Capacity):** kilogram (kg), gram (g), half full, quarter full
- **Measurement (Time):** o'clock, half past
- **Geometry - Shapes:** 3D shapes, cuboids, cubes, cones, spheres
- **Position and Direction:** position, direction, movement, whole turn, half turn

Year 2

- **Number and Place Value:** count in steps, count in multiples, place value, estimate, compare, ascending, descending
- **Addition and Subtraction:** 2-digit number, inverse, commutative
- **Multiplication and Division:** commutative, repeated addition, times tables
- **Fractions:** equivalent fractions, unit fractions, non-unit fractions, numerator, denominator
- **Measurement (Length):** order, record results, perimeter
- **Measurement (Time):** intervals of time, quarter past/to

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- **Geometry - Shapes:** pentagon, hexagon, line of symmetry, cylinder
- **Position and Direction:** quarter turn, clockwise, anti-clockwise, straight line

Year 3

- **Number and Place Value:** hundreds, negative numbers, Roman numerals
- **Addition and Subtraction:** 3-digit number, column addition, column subtraction, exchange, estimate
- **Multiplication and Division:** factor pairs, formal written layout, distributive law, remainders
- **Fractions/Decimals:** tenths, decimal equivalence, hundredths, convert
- **Measurement (Area):** rectilinear figure, area
- **Measurement (Time):** analogue clock, digital, Roman numerals
- **Geometry - Shapes:** right-angle, triangle, heptagon, polygon, acute angle, obtuse angle
- **Position and Direction:** rotation, arrange, sequences

Year 4

- **Number and Place Value:** thousands, round
- **Addition and Subtraction:** 4-digit number, methods
- **Multiplication and Division:** multiples, factors, prime numbers, square numbers, short division
- **Fractions/Decimals/Percentages:** proper fractions, improper fractions, decimal point
- **Measurement (Length/Area):** scaling, metric units, inches
- **Measurement (Time):** leap year, noon, midnight
- **Geometry - Shapes:** isosceles, equilateral, scalene, trapezium, rhombus, angles on a straight line
- **Position and Direction:** coordinates, first quadrant, grid, translation

Year 5

- **Number and Place Value:** ten thousands, one hundred thousands, integer
- **Addition and Subtraction:** operations
- **Multiplication and Division:** cube numbers, long division
- **Fractions/Decimals/Percentages:** thousandths, mixed numbers, percent
- **Measurement (Conversion):** metric units, imperial units, square centimetres/metres
- **Measurement (Time):** convert, 24-hour clock
- **Geometry - Shapes:** quadrilaterals, regular/irregular polygons, reflex angles, angles around a point, vertically opposite
- **Position and Direction:** four quadrants, coordinate plane
- **Statistics:** bar chart, two-step problems, line graph

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Year 6

- **Number and Place Value:** millions, ten millions
- **Addition and Subtraction:** consolidation of all vocabulary
- **Multiplication and Division:** multi-digit numbers, long division
- **Fractions/Decimals/Percentages:** complements, conversions
- **Measurement (Complex Shapes):** formulae for area of parallelograms, triangles, irregular shapes
- **Geometry - Shapes:** radius, diameter, circumference, dimensions
- **Position and Direction:** reflection, coordinate plane
- **Statistics:** pie chart, mean, interpretation
- **Ratio and Proportion:** relative size, scale factor
- **Algebra:** formulae, equations, variables

This year-by-year progression ensures students build on foundational concepts, reinforcing and expanding vocabulary in a structured way as they advance.

Maths Definitions:

Number and Place Value

- **Count:** Say numbers in order to find out how many there are.
- **Subitise:** Recognize the number of items in a small group without counting.
- **Order/Ordinal:** Put things in order or sequence (like 1st, 2nd, 3rd).
- **Compare:** Look at two numbers or amounts to see which is bigger, smaller, or if they're the same.
- **Forwards:** Moving or counting in the direction of larger numbers.
- **Backwards:** Moving or counting in the direction of smaller numbers.
- **Numerals:** Symbols we use to write numbers (like 1, 2, 3).
- **Digit:** A single number from 0 to 9.
- **One more/less:** One more means adding one to a number; one less means taking one away.
- **Equal to:** When two amounts or numbers are the same.
- **More than:** A bigger amount or number.
- **Less than/Fewer:** A smaller amount or number.

Addition and Subtraction

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- **Add:** Combine two groups of things to find out how many there are in total.
- **Plus:** The symbol (+) we use when adding numbers.
- **Altogether:** The total when you add everything.
- **Total:** The end amount after adding things together.
- **Take away/Minus:** Remove some things from a group to find out how many are left.
- **Number bonds:** Pairs of numbers that add up to a certain number (like 5 and 5 make 10).
- **Part:** A piece of a whole.
- **Whole:** All of something.
- **Difference:** The amount left when you subtract one number from another.

Multiplication and Division

- **Double:** Add a number to itself.
- **Half:** Split something into two equal parts.
- **Twice as many:** A number that is double another number.
- **Equal:** The same amount or size.
- **Unequal:** Not the same in size or amount.
- **Share:** Divide things into equal parts for everyone.
- **Group:** Put things together into sets or collections.
- **Odd:** Numbers that can't be split evenly into pairs (like 1, 3, 5).
- **Even:** Numbers that can be split evenly into pairs (like 2, 4, 6).

Fractions, Decimals, and Percentages

- **Whole:** All of something, with no parts missing.
- **Half:** One of two equal parts of a whole.
- **Quarter:** One of four equal parts of a whole.
- **Equal parts:** Dividing something so all pieces are the same size.
- **Numerator:** The top number in a fraction that tells how many parts you have.
- **Denominator:** The bottom number in a fraction that shows how many parts the whole is divided into.
- **Decimal:** A way of showing part of a whole using a dot (like 0.5).

Measurement (Length, Height, Weight, Capacity)

- **Measure:** Find out the size, amount, or weight of something.
- **Wide/Wider:** The distance from side to side; something is wider if it has more distance across.

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- **Narrow/Narrower:** Small distance from side to side.
- **Long/Longer:** How far something goes from end to end.
- **Short/Shorter:** Smaller in length.
- **Height:** How tall something is.
- **Weight:** How heavy something is.
- **Capacity:** The amount something can hold inside.
- **Heavy/Heavier:** Weighing more.
- **Light/Lighter:** Weighing less.
- **Full/Empty:** Full means it has as much as it can hold; empty means it has nothing inside.

Measurement (Time)

- **Time:** Tells us when things happen.
- **Earlier:** Happens before something else.
- **Later:** Happens after something else.
- **Before:** Happening first.
- **After:** Happening next.
- **Today:** The current day.
- **Yesterday:** The day before today.
- **Tomorrow:** The day after today.
- **Hour:** 60 minutes.
- **Minute:** 60 seconds; one small part of an hour.
- **Second:** A short amount of time; 60 of them make a minute.
- **Clock:** Shows the time of day.

Geometry – Properties of Shapes

- **2D Shapes:** Flat shapes like circles, squares, and triangles.
- **3D Shapes:** Solid shapes like cubes, cones, and spheres.
- **Rectangle:** A shape with four sides and four right angles.
- **Square:** A shape with four equal sides and four right angles.
- **Circle:** A round shape with no corners or edges.
- **Triangle:** A shape with three sides and three corners.
- **Corner:** Where two sides of a shape meet.
- **Edge:** The line where two faces meet on a shape.
- **Face:** The flat surface of a 3D shape.

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- **Side:** The line or edge of a 2D shape.

Position and Direction

- **Over:** Above something.
- **Under:** Below something.
- **Between:** In the middle of two things.
- **Around:** Moving in a circular way.
- **Through:** Moving from one side to the other.
- **Next to:** Right beside something.
- **Behind:** At the back of something.
- **In front of:** Ahead of something.
- **Clockwise:** Moving in the same direction as the hands on a clock.
- **Anti-clockwise:** Moving in the opposite direction of the clock hands.

Statistics

- **Pictogram:** A chart that uses pictures to show data.
- **Tally Chart:** A way to count by marking lines.
- **Block Diagram:** A chart made with blocks or bars.
- **Bar Chart:** A graph that uses bars to show data.

Ratio and Proportion

- **Relative Size:** Comparing sizes to see which is bigger or smaller.
- **Missing Values:** A number that is not shown and needs to be found.
- **Percentages:** Parts out of 100.

Algebra

- **Formula:** A rule or equation written with numbers and symbols.
- **Equation:** A math sentence that shows two things are equal (like $5 + 3 = 8$).
- **Variable:** A letter or symbol that stands for a number that can change.