Mathematical Vocabulary



Mathematical vocabulary

As we know, it is often the vocabulary of mathematics that trips children up when problem solving. The only way to address this is to ensure a consistent approach to reinforcing the use of key vocabulary throughout all units of work and through using and applying challenges.

Vocabulary needs to be:

- explicitly taught;
- reinforced through children being expected to use it in their answers; and
- reinforced through challenges & problems.

The charts on the following pages outline the key vocabulary for each year group, with the bold words/terms being those that should be specifically taught and used. The charts are cumulative, in other words teachers need to revisit and require children to use vocabulary which should have been learned in earlier year groups.

| Number - Number and place value | | | | | | | |
|---------------------------------|-------------------|--------------------|--------------------|--------------------|---------------------|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | |
| Count | Count | Count | Count | Count | Count | | |
| | Count in steps | Count in steps | Count in steps | Count in steps | Count in steps | | |
| | | Count in multiples | Count in multiples | Count in multiples | Count in multiples | | |
| | | | Count backwards | Count backwards | Count backwards | | |
| | | | Negative numbers | Negative numbers | Negative numbers | | |
| | | | | | Calculate intervals | | |
| | | | | | Whole number | | |
| Forwards | Forwards | Forwards | Forwards | Forwards | Forwards | | |
| Backwards | Backwards | Backwards | Backwards | Backwards | Backwards | | |
| Numerals | Numerals | Numerals | Numerals | Numerals | Numerals | | |
| Multiples | Multiples | Multiples | Multiples | Multiples | Multiples | | |
| One more | One more | One more | One more | One more | One more | | |
| One less | One less | One less | One less | One less | One less | | |
| | | 10 or 100 more | | |
| | | 10 or 100 less | | |
| | | | 1000 more | 1000 more | 1000 more | | |
| | | | 1000 less | 1000 less | 1000 less | | |
| Equal to | Equal to | Equal to | Equal to | Equal to | Equal to | | |
| More than | More than | More than | More than | More than | More than | | |
| Less than (fewer) | Less than (fewer) | Less than (fewer) | Less than (fewer) | Less than (fewer) | Less than (fewer) | | |
| | Place value | Place value | Place value | Place value | Place value | | |
| | Digit | Digit | Digit | Digit | Digit | | |
| | Two digit | Two digit | Two digit | Two digit | Two digit | | |
| | | Three digit | Three digit | Three digit | Three digit | | |
| | | | Four digit | Four digit | Four digit | | |
| | Estimate | Estimate | Estimate | Estimate | Estimate | | |
| | Compare | Compare | Compare | Compare | Compare | | |
| | | | Round | Round | Round | | |
| | | | Roman numerals | Roman numerals | Roman numerals | | |
| | | | | Powers of | Powers of | | |

| Number – addition and subtraction | | | | | | | |
|-----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | |
| Add | Add | Add | Add | Add | Add | | |
| Subtract | Subtract | Subtract | Subtract | Subtract | Subtract | | |
| Equals | Equals | Equals | Equals | Equals | Equals | | |
| Number bonds | Number bonds | Number bonds | Number bonds | Number bonds | Number bonds | | |
| | Facts | Facts | Facts | Facts | Facts | | |
| Problems | Problems | Problems | Problems | Problems | Problems | | |
| Missing number problems | Missing number problems | Missing number problems | Missing number problems | Missing number problems | Missing number problems | | |
| | 2 digit number | | |
| | | 3 digit number | 3 digit number | 3 digit number | 3 digit number | | |
| | | | 4 digit number | 4 digit number | 4 digit number | | |
| | Commutative | Commutative | Commutative | Commutative | Commutative | | |
| | Inverse | Inverse | Inverse | Inverse | Inverse | | |
| | | Columnar addition | Columnar addition | Columnar addition | Columnar addition | | |
| | | Columnar subtraction | Columnar subtraction | Columnar subtraction | Columnar subtraction | | |
| | | Estimate | Estimate | Estimate | Estimate | | |
| | | | Operations | Operations | Operations | | |
| | | | Methods | Methods | Methods | | |
| | | | | Rounding | Rounding | | |
| | | | | | Accuracy | | |

| Number – multiplication o | Number – multiplication and division | | | | | | | |
|---------------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | | |
| Multiplication | Multiplication | Multiplication | Multiplication | Multiplication | Multiplication | | | |
| Division | Division | Division | Division | Division | Division | | | |
| Arrays | Arrays | Arrays | Arrays | Arrays | Arrays | | | |
| | Multiplication tables | Multiplication tables | Multiplication tables | Multiplication tables | Multiplication tables | | | |
| | Odd numbers | Odd numbers | Odd numbers | Odd numbers | Odd numbers | | | |
| | Even numbers | Even numbers | Even numbers | Even numbers | Even numbers | | | |
| | Commutative | Commutative | Commutative | Commutative | Commutative | | | |
| | Repeated addition | Repeated addition | Repeated addition | Repeated addition | Repeated addition | | | |
| | | Mathematical statements | Mathematical statements | Mathematical statements | Mathematical statements | | | |
| | | Missing number problems | Missing number problems | Missing number problems | Missing number problems | | | |
| | | Integer scaling problems | Integer scaling problems | Integer scaling problems | Integer scaling problems | | | |
| | | Correspondence problems | Correspondence problems | Correspondence problems | Correspondence problems | | | |
| | | n objects | n objects | n objects | n objects | | | |
| | | | Place value | Place value | Place value | | | |
| | | | Derived facts | Derived facts | Derived facts | | | |
| | | | Factor pairs | Factor pairs | Factor pairs | | | |
| | | | Formal written layout | Formal written layout | Formal written layout | | | |
| | | | Distributive law | Distributive law | Distributive law | | | |
| | | | | Multiples | Multiples | | | |
| | | | | Factors | Factors | | | |
| | | | | Prime numbers | Prime numbers | | | |
| | | | | Short division | Short division | | | |
| | | | | Remainders | Remainders | | | |
| | | | | Decimals | Decimals | | | |
| | | | | | Multi digit numbers | | | |
| | | | | | Long multiplication | | | |
| | | | | | Long division | | | |

| Number – Fractions (ir | Number – Fractions (including decimals and percentages) | | | | | | | |
|------------------------|---|----------------------|----------------------|----------------------|----------------------|--|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | | |
| Half | Half | Half | Half | Half | Half | | | |
| Quarter | Quarter | Quarter | Quarter | Quarter | Quarter | | | |
| | Three quarters | Three quarters | Three quarters | Three quarters | Three quarters | | | |
| | Third | Third | Third | Third | Third | | | |
| | | | | Fifth | Fifth | | | |
| Equal parts | Equal parts | Equal parts | Equal parts | Equal parts | Equal parts | | | |
| | Equivalence | Equivalence | Equivalence | Equivalence | Equivalence | | | |
| | | | Decimal equivalence | Decimal equivalence | Decimal equivalence | | | |
| | | Tenths | Tenths | Tenths | Tenths | | | |
| | | | Hundredths | Hundredths | Hundredths | | | |
| | | | | Thousandths | Thousandths | | | |
| | | Unit fractions | Unit fractions | Unit fractions | Unit fractions | | | |
| | | Non unit fractions | Non unit fractions | Non unit fractions | Non unit fractions | | | |
| | | Denominators | Denominators | Denominators | Denominators | | | |
| | | Equivalent fractions | Equivalent fractions | Equivalent fractions | Equivalent fractions | | | |
| | | One whole | One whole | One whole | One whole | | | |
| | | | | Convert | Convert | | | |
| | | | | Proper fractions | Proper fractions | | | |
| | | | | Mixed numbers | Mixed numbers | | | |
| | | | | Per cent % | Per cent % | | | |
| | | | | | Factors | | | |

| Ratio and proportion | Ratio and proportion | | | | | | | |
|----------------------|----------------------|--------|--------|--------|----------------------------|--|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | | |
| | | | | | Relative size | | | |
| | | | | | Missing values | | | |
| | | | | | Integer multiplication | | | |
| | | | | | Percentages | | | |
| | | | | | Scale factor | | | |
| | | | | | Unequal sharing & grouping | | | |

| Algebra | | | | | | | |
|---------|--------|--------|--------|--------|-------------------------|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | |
| | | | | | Formulae | | |
| | | | | | Linear number sequences | | |
| | | | | | Algebraically | | |
| | | | | | Equation | | |
| | | | | | Unknowns | | |
| | | | | | Combinations | | |
| | | | | | Variables | | |

| Measurement (1) | | | | | |
|-----------------|----------------|----------------|--------------------|-----------------------------|-----------------------------|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Measure | Measure | Measure | Measure | Measure | Measure |
| | Standard units | Standard units | Standard units | Standard units | Standard units |
| | Estimate | Estimate | Estimate | Estimate | Estimate |
| | Measure | Measure | Measure | Measure | Measure |
| | Compare | Compare | Compare | Compare | Compare |
| | Order | Order | Order | Order | Order |
| | Record results | Record results | Record results | Record results | Record results |
| | | | | Decimal notation | Decimal notation |
| | | | | Scaling | Scaling |
| | | | | Metric units | Metric units |
| | | | | Imperial units | Imperial units |
| | | | | Inches | Inches |
| | | | | Pounds | Pounds |
| | | | | Pints | Pints |
| | | | | | Conversion |
| Length | Length | Length | Length | Length | Length |
| | Centimetre cm | Centimetre cm | Centimetre cm | Centimetre cm | Centimetre cm |
| | Metre m | Metre m | Metre m | Metre m | Metre m |
| | | Millimetre mm | Millimetre mm | Millimetre mm | Millimetre mm |
| | | Perimeter | Perimeter | Perimeter | Perimeter |
| | | | | | Miles |
| | | | | | Kilometres km |
| | | | Rectilinear figure | Rectilinear figure | Rectilinear figure |
| | | | Area | Area | Area |
| | | | | Composite rectilinear shape | Composite rectilinear shape |
| | | | | Irregular shapes | Irregular shapes |
| | | | | Square centimetres | Square centimetres |
| | | | | Square metres | Square metres |
| | | | | | Formulae |
| | | | | | Parallelograms |
| | | | | | Triangles |

| Measurement (2) | | | | | |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Height | Height | Height | Height | Height | Height |
| Long(er)/short(er) | Long(er)/short(er) | Long(er)/short(er) | Long(er)/short(er) | Long(er)/short(er) | Long(er)/short(er) |
| Tall(er)/short(er) | Tall(er)/short(er) | Tall(er)/short(er) | Tall(er)/short(er) | Tall(er)/short(er) | Tall(er)/short(er) |
| Double/half | Double/half | Double/half | Double/half | Double/half | Double/half |
| Mass | Mass | Mass | Mass | Mass | Mass |
| Weight | Weight | Weight | Weight | Weight | Weight |
| Heavy/light | Heavy/light | Heavy/light | Heavy/light | Heavy/light | Heavy/light |
| Heavier than |
| Lighter than |
| | Kilogram kg |
| | Gram g |
| Capacity | Capacity | Capacity | Capacity | Capacity | Capacity |
| Volume | Volume | Volume | Volume | Volume | Volume |
| Full/empty | Full/empty | Full/empty | Full/empty | Full/empty | Full/empty |
| More than |
| Less than |
| Half/half full/quarter |
| | Litres I |
| | Millilitres ml |
| | | | | Volume | Volume |
| | | | | Cubic centimetre | Cubic centimetre |
| | | | | | Cubic metre |
| | | | | | Cubic millimetre |
| | | | | | Cubic kilometre |
| | Temperature | Temperature | Temperature | Temperature | Temperature |
| | Celsius | Celsius | Celsius | Celsius | Celsius |

| Measurement (3) | | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | |
| Time | Time | Time | Time | Time | Time | | |
| Quicker | Quicker | Quicker | Quicker | Quicker | Quicker | | |
| Slower | Slower | Slower | Slower | Slower | Slower | | |
| Earlier | Earlier | Earlier | Earlier | Earlier | Earlier | | |
| Later | Later | Later | Later | Later | Later | | |
| Chronological order | | |
| Before | Before | Before | Before | Before | Before | | |
| After | After | After | After | After | After | | |
| First | First | First | First | First | First | | |
| Next | Next | Next | Next | Next | Next | | |
| Today | Today | Today | Today | Today | Today | | |
| Yesterday | Yesterday | Yesterday | Yesterday | Yesterday | Yesterday | | |
| Tomorrow | Tomorrow | Tomorrow | Tomorrow | Tomorrow | Tomorrow | | |
| Morning | Morning | Morning | Morning | Morning | Morning | | |
| Afternoon | Afternoon | Afternoon | Afternoon | Afternoon | Afternoon | | |
| Evening | Evening | Evening | Evening | Evening | Evening | | |
| Days of the week | | |
| Months of the year | | |
| Day | Day | Day | Day | Day | Day | | |
| Week | Week | Week | Week | Week | Week | | |
| Month | Month | Month | Month | Month | Month | | |
| Year | Year | Year | Year | Year | Year | | |
| O'clock | O'clock | O'clock | O'clock | O'clock | O'clock | | |
| Half past | | |
| Minute | Minute | Minute | Minute | Minute | Minute | | |

| Measurement (4) | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Intervals of time |
| | Quarter past/to |
| | | Analogue clock | Analogue clock | Analogue clock | Analogue clock |
| | | Roman numerals | Roman numerals | Roman numerals | Roman numerals |
| | | 12-hour clock | 12-hour clock | 12-hour clock | 12-hour clock |
| | | 24-hour clock | 24-hour clock | 24-hour clock | 24-hour clock |
| | | a.m./p.m. | a.m./p.m. | a.m./p.m. | a.m./p.m. |
| | | Noon | Noon | Noon | Noon |
| | | Midnight | Midnight | Midnight | Midnight |
| | | Leap year | Leap year | Leap year | Leap year |
| | | Duration | Duration | Duration | Duration |
| | | | Digital | Digital | Digital |
| | | | Convert | Convert | Convert |
| Money | Money | Money | Money | Money | Money |
| Coins | Coins | Coins | Coins | Coins | Coins |
| Notes | Notes | Notes | Notes | Notes | Notes |
| Chronological order |
| | Pounds £ |
| | Pence p |
| | Value | Value | Value | Value | Value |
| | Change | Change | Change | Change | Change |
| | Combinations | Combinations | Combinations | Combinations | Combinations |

| Geometry – Properties | Geometry – Properties of shape (1) | | | | | | | |
|-----------------------|------------------------------------|------------------|------------------|-------------------|-------------------|--|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | | |
| 2-D shapes | 2-D shapes | 2-D shapes | 2-D shapes | 2-D shapes | 2-D shapes | | | |
| Rectangle | Rectangle | Rectangle | Rectangle | Rectangle | Rectangle | | | |
| Square | Square | Square | Square | Square | Square | | | |
| Circle | Circle | Circle | Circle | Circle | Circle | | | |
| Triangle | Triangle | Triangle | Triangle | Triangle | Triangle | | | |
| | Sides | Sides | Sides | Sides | Sides | | | |
| | Line of symmetry | Line of symmetry | Line of symmetry | Line of symmetry | Line of symmetry | | | |
| | | | Geometric shapes | Geometric shapes | Geometric shapes | | | |
| | | | Quadrilaterals | Quadrilaterals | Quadrilaterals | | | |
| | | | Properties | Properties | Properties | | | |
| 3-D shapes | 3-D shapes | 3-D shapes | 3-D shapes | 3-D shapes | 3-D shapes | | | |
| Cuboids | Cuboids | Cuboids | Cuboids | Cuboids | Cuboids | | | |
| Cubes | Cubes | Cubes | Cubes | Cubes | Cubes | | | |
| Pyramids | Pyramids | Pyramids | Pyramids | Pyramids | Pyramids | | | |
| Spheres | Spheres | Spheres | Spheres | Spheres | Spheres | | | |
| | Cylinder | Cylinder | Cylinder | Cylinder | Cylinder | | | |
| | Pyramid | Pyramid | Pyramid | Pyramid | Pyramid | | | |
| | Edges | Edges | Edges | Edges | Edges | | | |
| | Vertices | Vertices | Vertices | Vertices | Vertices | | | |
| | Faces | Faces | Faces | Faces | Faces | | | |
| | | | | | Radius | | | |
| | | | | | Diameter | | | |
| | | | | | Circumference | | | |
| | | | | Regular polygon | Regular polygon | | | |
| | | | | Irregular polygon | Irregular polygon | | | |
| | | | | | Quadrilateral | | | |
| | | | | | Dimensions | | | |
| | | | | | Net | | | |

| Geometry – Properties of shape (2) | | | | | | | |
|------------------------------------|--------|--------------------------|--------------------------|--------------------------|--------------------------|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | |
| | | Orientations | Orientations | Orientations | Orientations | | |
| | | Angles | Angles | Angles | Angles | | |
| | | | Acute angle | Acute angle | Acute angle | | |
| | | | Obtuse angle | Obtuse angle | Obtuse angle | | |
| | | | | Reflex angles | Reflex angles | | |
| | | | | Degrees | Degrees | | |
| | | | | One whole turn | One whole turn | | |
| | | | | Angles on straight line | Angles on straight line | | |
| | | | | | Vertically opposite | | |
| | | | | | Missing angles | | |
| | | Turn | Turn | Turn | Turn | | |
| | | Right angles | Right angles | Right angles | Right angles | | |
| | | Half turn | Half turn | Half turn | Half turn | | |
| | | Three quarters of a turn | | |
| | | Greater than right angle | | |
| | | Less than right angle | | |
| | | Horizontal lines | Horizontal lines | Horizontal lines | Horizontal lines | | |
| | | Vertical lines | Vertical lines | Vertical lines | Vertical lines | | |
| | | Perpendicular lines | Perpendicular lines | Perpendicular lines | Perpendicular lines | | |
| | | Parallel lines | Parallel lines | Parallel lines | Parallel lines | | |

| Geometry – Position and direction | | | | | | | | |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|--|--|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | | | |
| Position | Position | Position | Position | Position | Position | | | |
| Direction | Direction | Direction | Direction | Direction | Direction | | | |
| Movement | Movement | Movement | Movement | Movement | Movement | | | |
| Whole turn | Whole turn | Whole turn | Whole turn | Whole turn | Whole turn | | | |
| Half turn | Half turn | Half turn | Half turn | Half turn | Half turn | | | |
| Three quarter turn | Three quarter turn | Three quarter turn | Three quarter turn | Three quarter turn | Three quarter turn | | | |
| | Straight line | | | |
| | Rotation | Rotation | Rotation | Rotation | Rotation | | | |
| | Order | Order | Order | Order | Order | | | |
| | Arrange | Arrange | Arrange | Arrange | Arrange | | | |
| | Patterns | Patterns | Patterns | Patterns | Patterns | | | |
| | Sequences | Sequences | Sequences | Sequences | Sequences | | | |
| | | | Co-ordinates | Co-ordinates | Co-ordinates | | | |
| | | | First quadrant | First quadrant | First quadrant | | | |
| | | | | | Four quadrants | | | |
| | | | Translation | Translation | Translation | | | |
| | | | Plot | Plot | Plot | | | |
| | | | Polygon | Polygon | Polygon | | | |
| | | | | Reflection | Reflection | | | |
| | | | | | Co-ordinate plane | | | |
| | | | | | Axes | | | |

| Statistics | | | | | |
|------------|---------------|------------------|--------------------|--------------------|--------------------|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Pictograms | Pictograms | Pictograms | Pictograms | Pictograms |
| | Tally chart | Tally chart | Tally chart | Tally chart | Tally chart |
| | Block diagram | Block diagram | Block diagram | Block diagram | Block diagram |
| | Simple table | Simple table | Simple table | Simple table | Simple table |
| | | Table | Table | Table | Table |
| | | | | Timetable | Timetable |
| | | Bar chart | Bar chart | Bar chart | Bar chart |
| | | | Time graph | Time graph | Time graph |
| | | | Discrete data | Discrete data | Discrete data |
| | | | Continuous data | Continuous data | Continuous data |
| | | | | Line graph | Line graph |
| | | | | | Pie chart |
| | Category | Category | Category | Category | Category |
| | Sorting | Sorting | Sorting | Sorting | Sorting |
| | Totalling | Totalling | Totalling | Totalling | Totalling |
| | Comparing | Comparing | Comparing | Comparing | Comparing |
| | | | Comparison problem | Comparison problem | Comparison problem |
| | | | Sum problem | Sum problem | Sum problem |
| | | | Difference problem | Difference problem | Difference problem |
| | | One step problem | One step problem | One step problem | One step problem |
| | | Two step problem | Two step problem | Two step problem | Two step problem |
| | | | | | Calculate |
| | | | | | Interpret |
| | | | | | Mean as an average |