# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| **Place Value** | | | | | | | |
| **Use Place Value and Compare** | | • Count to and across 100, forwards and backwards beginning with 0 or 1, or from any given number<br>• Count numbers to 100 in numeral; count in multiples of twos, fives and tens | • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward | • Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number | • Count in multiples of 6, 7. 9, 25 and 1000<br>• Count backwards through zero to include negative numbers | • Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000<br>• Count forwards and backwards with positive and negative whole numbers, including through zero | |
| **Place Value: Represent** | | • Identify and represent numbers using objects and pictorial representations<br>• Read and write numbers to 100 in numerals<br>• Read and write numeral from 1 to 20 in numerals and words | • Read and write numbers to at least 100 in numerals and in words<br>• Identify, represent and estimate numbers using different representations including the number line | • Identify, represent and estimate numbers using different representations<br>• Read and write numbers up to 1,000 in numerals and in words | • Identify, represent and estimate numbers using different representations<br>• Read Roman Numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value | • Read, write (order and compare) numbers to at least 1,000,000 and determine the value of each digit<br>• Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals | • Read, write (order and compare) numbers up to 10,000,000 and determine the value of each digit |
| *Vocabulary* | | • *Number*<br>• *Zero, one, two, three to twenty, and beyond*<br>• *Before, after*<br>• *More, less, many, fewer*<br>• *Odd, even*<br>• *Ones, tens* | • *Numbers to one hundred*<br>• *Hundreds*<br>• *Partition, recombine* | • *Numbers to one thousand*<br>• *Integer*<br>• *Interval* | • *Tenths, hundredths*<br>• *Decimal (places)*<br>• *Round (to nearest)*<br>• *Thousand (more/less than)*<br>• *Negative integers*<br>• *Count through zero* | • *Powers of 10*<br>• *Roman numerals* | • *Numbers to ten million* |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| **Addition and Subtraction** | | | | | | | |
| **Recall, Represent, Use** | | • Read, write and interpret Mathematical statements involving addition (+), subtractions (-) and equals (=) signs<br>• Represent and use number bonds and related subtraction facts within 20 | • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100<br>• Show that addition or two numbers can be done in any order (commutative) and subtraction of one number from another cannot<br>• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing problems | • Estimate the answer to a calculation and use the inverse operations to check answers | • Estimate and use the inverse operation to check answers to a calculation | • Use rounding to check answers to calculation and determine, in the context of a problem, levels of accuracy | |
| **Calculations** | | • Add and subtract one-digit and two-digit numbers to 20 including zero | • Add and subtract number using concrete objects, pictorial representations, and mentally including:<br>➢ A two-digit number and ones<br>➢ A two-digit number and tens<br>➢ Two two-digit numbers<br>➢ Adding three one-digit numbers | • Add and subtract numbers mentally, including:<br>➢ A three-digit number and ones<br>➢ A three-digit number and tens<br>➢ A three-digit number and hundreds<br>• Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction | • Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate | • Add and subtract whole numbers with more than 4 digits including using formal written methods (columnar addition and subtraction)<br>• Add and subtract numbers mentally with increasingly large numbers | • Perform mental calculations, including with mixed operations and large numbers<br>• Use their knowledge of the order of operations to carry out calculations involving the four operations |

| Solve Problems | | • Solve one-step problems that involve addition and subtracting, using concrete objects and pictorial representations, and missing number problems | • Solve problems with addition and subtraction<br>➢ Using concrete objects and pictorial representations, including those involving numbers, quantities and measures<br>• Applying their increasing knowledge of mental and written methods | • Solve problems including missing number problems, using number facts, place value, and more complex addition and subtraction | • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why<br>• Solve problems in contexts, deciding which operations and methods to use and why<br>• Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign | • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
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| *Vocabulary* | | • *Number bonds*<br>• *Add, addition, more, plus, sum*<br>• *Subtract, take away, minus*<br>• *Equals* | • *Commutative*<br>• *Inverse*<br>• *Difference between* | • *Column addition and subtraction*<br>• *Exchange* | | • *Efficient written method* | • *Order of operations* |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|-------|------|--------|--------|--------|--------|--------|--------|
| **Multiplication and Division** | | | | | | | |
| **Recall, Represent, Use** | | | • Recall and use multiplication and division facts for 2, 5 and 10 multiplication tables, including recognising odd and even numbers<br>• Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannon | • Recall and use multiplication and division facts for 3, 4 and 8 multiplication tables | • Recall multiplication and division facts for multiplication tables up to 12x12<br>• Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers<br>• Recognise and use factor pairs and commutativity in mental calculations | • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers<br>• Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers<br>• Establish whether a number up to 100 is prime and recall prime numbers up to 19<br>• Recognise and use square numbers and cube numbers, and use the notation for squared and cubed | • Identify common factors, coming multiples and prime numbers<br>• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy |
| **Calculations** | | | • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs | • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods | • Multiply two-digit and three-digit numbers by a one-digit number using a formal written layout | • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers<br>• Multiply and divide numbers mentally drawing upon known facts<br>• Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context | • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication<br>• Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context<br>• Divide numbers up to 4 digits by a two- |

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| | | | | | | • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 <br> • Perform mental calculations, including with mixed operations and large numbers | digit number using the formal written method of short division where appropriate, interpreting remainders according to the context |
| **Solve Problems** | | • Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of a teacher | • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | • Solve problems including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects | • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects | • Solve problems involving multiplication and division including using their knowledge of facts and multiples, squares and cubes <br> • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | • Solve problems involving addition, subtraction, multiplication and division |
| **Combined Operations** | | | | | | • Solve problems involving addition, subtraction, multiplication and division and a combination of these including understanding the meaning of the equals sign | • Use their knowledge of the order of operations to carry out calculations involving the four operations |
| *Vocabulary* | | • *Lots of, groups of* <br> • *Once, twice, three times* <br> • *Multiply* <br> • *Array* | • *Multiple* <br> • *Equal groups of* <br> • *Divide, divided by* <br> • *Group in…* | • *Product* <br> • *Divisibility* <br> • *Divisible by…* <br> • *Remainder* | • *Inverse* <br> • *Derive* <br> • *Multiplication and Division Facts* | • *Factors, Factor pairs* <br> • *Composite numbers, Prime Numbers, Square, cube* <br> • *Dividend, divisor, quotient* <br> • *Multiplicand* | • *Common factors, common multiples* <br> • *Order of operations* <br> • *Highest/Lowest common factor/multiple* |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Fractions, Decimals and Percentages** | | | | | | | |
| **Fractions: Recognise and Write** | | • Recognise, find and name a half as one or two equal parts of an object, shape or quantity<br>• Recognise, find and name a quarter as one of four equal parts of an objects, shape or quantity | • Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity | • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10<br>• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators<br>• Recognise and use fractions as numbers; unit fractions and non-unit fractions with small denominators | • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and diving tenths by ten | • Identify, name and write equivalent fractions of a given fractions, represented visually, including tenths and hundredths<br>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed numbers (for example $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{2}{5}$) | |
| **Fractions: Compare** | | | • Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ | • Recognise and show, using diagrams, equivalent fractions with small denominators<br>• Compare and order unit fractions and fractions with the same denominators | • Recognise and show, using diagrams, families of common equivalent fractions | • Compare and order fractions whose denominators are all multiples of the same number | • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination<br>• Compare and order fractions, including fractions > 1 |
| **Fractions: Solve Problems** | | | | • Solve problems that involve all of the above | • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number | | |
| **Decimals: Recognise and Write** | | | | | • Recognise and write decimal equivalents of any number of tenths or hundredths | • Read and write decimal numbers as fractions (for 0.71 = $\frac{71}{100}$) | • Identify the value of each digit in numbers given to three decimal places |

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| | | | | | | • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{2}{2}, \frac{3}{4}$<br><br>• | • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents | |
| **Decimals: Compare** | | | | | | • Round decimals with once decimal place to the nearest whole number<br>• Compare numbers with the same number of decimal places up to two decimal places | • Round decimals with two decimal places to the nearest whole number and to one decimal place<br>• Read, write, order and compare numbers with up to three decimal places | |
| **Decimals: Calculations and Problems** | | | | | | • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths | • Solve problems involving number up to three decimal places | • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places<br>• Multiply one-digit numbers with up to two decimal places by whole numbers<br>• Use written division methods in cases where the answer has up to two decimal places<br>• Solve problems which require answers to be rounded to specified degrees of accuracy |
| **Fractions, Decimals and Percentages** | | | | | | • Solve simple measure and money problems involving fractions and decimals to two decimal places | • Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal<br>• Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a | • Associate a fraction with division and calculate decimal fraction equivalents (for examples, 0.375) for a simple fraction (for example, $\frac{3}{8}$)<br>• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts |

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| | | | | | | denominator of a multiple of 10 or 25 |
| **Ratio and Proportion** | | | | | | • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts<br>• Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison<br>• Solve problems involving similar shapes where the scale factor is known or can be found<br>• Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples |
| | | • *Whole*<br>• *Equal parts*<br>• *One half/quarter*<br>• *Two halves/quarters* | • *Three quarters, one third, a third*<br>• *Equivalence, equivalent* | • *Numerator, denominator*<br>• *Unit fraction, non-unit fraction*<br>• *Compare and order*<br>• *Tenths* | • *Equivalent decimals and fractions* | • *Proper fractions, improper fractions, mixed numbers*<br>• *Percentage*<br>• *Half, quarter, fifths*<br>• *Ratio, proportion* | • *Degree of accuracy*<br>• *Simplify* |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| **Algebra** | | | | | | | |
| **Algebra** | | ➤ Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = __ - 9 | • Recognise and use inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | • Solve problems, including missing number problems | | | • Use simple formulae <br> • Generate and describe linear number sequences <br> • Express missing number problems algebraically <br> • Find pairs of numbers that satisfy an equation with two unknowns <br> • Enumerate possibilities of combinations of two variables |
| | Note – although algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3 | | | | | | |
| *Vocabulary* | | | | | | | • *Linear number sequence* <br> • Brackets <br> • Substitute <br> • Variables <br> • Symbol <br> • Formula <br> • Equivalent expressions |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| | | **Measurement** | | | | | |
| **Using Measures** | | • Compare, describe and solve practical problems for: <br> ➢ Lengths and heights (for example, long/short, longer/shorter, tell/short, double/half) <br> ➢ Mass/weight (for example, heavy/light, heavier than/lighter than) <br> ➢ Capacity ands volume (for example, full/empty, more than, less than, half, half full, quarter) <br> ➢ Time (for examples, quicker, slower, earlier, later) <br> • Measure and begin to record the following: <br> ➢ Lengths and heights <br> ➢ Mass/weight <br> ➢ Capacity and volume <br> ➢ Time (hours, minutes, seconds) | • Choose and use appropriate standard units to estimate and measure length/height in any directions (m/cm); mass (kg/g); temperature (°Ç; capacity (litres/ml) to the nearest unity, using rulers, scales, thermometers and measuring vessels <br> • Compare and order lengths, mass, volume/capacity and record the results using >,< and = | • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) | • Convert between different unites of measure (for example, kilometre to metre; hour to minute) <br> • Estimate, compare and calculate different measures | • Convert between different units of metric measures (for example km to m, cm to m, cm to mm, g to kg, l to ml) <br> • Understand and use approximate equivalences between metric and common imperial units such as inches, pounds and pints <br> • Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling | • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> • Use, read, write and convert 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 three decimal places <br> • Convert between miles and kilometres |

| Money | | | • Recognise and know the value of different denominations of coins and notes | • Recognise and use symbols (£) and pence (p); combine amounts to make a particular value<br>• Find different combinations of coins that equal the same amounts of money<br>• Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change | • Add and subtract amounts of money to give change, using both £ and p in practical contexts | • Estimate, compare and calculate different measures, including money in pounds and pence | • Use all four operations to solve problems involving measure (for example, money) | |
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| **Time** | | | • Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)<br>• Recognize and use language relating to dates, including days of the week, weeks, months and years<br>• Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times | • Compare and sequence intervals of time<br>• 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<br>• Know the number of minutes in an hour and the number of hours in a day | • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks<br>• 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<br>• Know the number of seconds in a minute and the number od days in each month, year and leap year<br>• Compare durations of events (for example to calculate the time take by particular events or tasks) | • Read, write and convert time between analogue and digit 12- and 24-hour clocks<br>• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days | • Solve problems involving converting between units of time | • 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 |

| Perimeter, Area, Volume | | | | | • Measure the perimeter of simple 2-D shapes | • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres)<br>• Find the area of rectilinear shapes by counting squares | • Measure and calculate the perimeter of composite rectilinear shapes in cm and m<br>• Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres ($cm^2$) and square metres ($m^2$) and estimate the area of irregular shapes<br>• Estimate volume [for examples, using $1cm^3$ blocks to build cuboids (including cubes)] and capacity (for examples, using water)<br>• | • Recognise that shapes with the same areas can have different perimeters and vice versa<br>• Recognise when it is possible to use formulae for area and volume of shapes<br>• Calculate the area of parallelograms and triangles<br>• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ($cm^3$) and cubic metres ($m^3$), and extending to other units (for examples, $mm^3$ and $km^3$) |
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| | | | • *Full, half full, empty*<br>• *Holds*<br>• *Container*<br>• *Weigh, weighs*<br>• *Heavy, heavier, heaviest, light, lighter, lightest*<br>• *Scales*<br>• *Time*<br>• *Days of the week*<br>• *Seasons (spring, summer, autumn, winter)*<br>• *Day, week, month, year, weekend*<br>• *Morning, afternoon, evening, night, midnight*<br>• *Today, yesterday, tomorrow*<br>• *Quick, quickest, fast, fastest, slow, slowest*<br>• *Hour, o'clock, half past* | • *Quarter past/to*<br>• *Capacity*<br>• *m/km, g/kg. ml/l*<br>• *temperature* | • *leap year*<br>• *12-hour/24-hour clock*<br>• *Roman numerals I to XII*<br>• *Perimeter* | • *Convert*<br>• *Area* | • Volume<br>• Imperial unites, metric units<br>• Rectilinear<br>• Compound shape<br>• Composite shape | |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|-------|------|--------|--------|--------|--------|--------|--------|
| **Geometry** | | | | | | | |
| **2-D Shapes** | | • Recognize and name common 2-D shapes (for examples rectangles (including squares), circles and triangles) | • Identify and describe the properties of 2-D shapes, including the number of sides and line of symmetry in a vertical line<br>• Identify 2-D shapes on the surface of 3-D shapes, (for examples a circle on a cylinder and a triangle on a pyramid)<br>• Compare and sort common 2-D shapes and everyday objects | • Draw 2-D shapes | • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes<br>• Identify lines of symmetry in 2-D shapes presented in different orientations | • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles<br>• Use the properties of rectangles to deduce related facts and find missing lengths and angles | • Draw 2-D shapes using given dimensions and angles<br>• Compare and classify geometric shapes based on their properties and sizes<br>• Illustrate and name parts of circles, including radius, diameter and circumference and know that the dimeter is twice the radius |
| **3-D shapes** | | • Recognise and name common 3-D shapes (for example cuboid (including cubes), pyramids and spheres) | • Recognise and name common 3-D shapes (for examples cuboids (including cubes), pyramids and spheres).<br>• Compare and sort common 3-D shapes and everyday objects | • Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them | | • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations | • Recognise, describe and build simple 3-D shapes, including making nets |

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| **Angles and Lines** | | | | • Recognise angles as a property of shape or a description of a turn<br>• Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle<br>• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines | • Identify acute and obtuse angles and compare and order angles up to two right angles by size<br>• Identify lines of symmetry in 2-D shapes presented in different orientations<br>• Compare a simple symmetric figure with respect to a specific line of symmetry | • Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles<br>• Draw given angles, and measure them in degrees<br>• Identify:<br>➤ Angles at a point and one whole turn (total 360°)<br>➤ Angles at a point on a straight line and $\frac{1}{2}$ a turn (180°)<br>➤ Other multiples of 90° | • Find unknown angles in any triangles, quadrilaterals, and regular polygons<br>• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles |
| *Vocabulary* | | • *Cube, cuboid, pyramid, cone, cylinder, circle, triangle, square*<br>• *Shape*<br>• *Flat, curved, straight, round*<br>• *Corner*<br>• *Face, side, edge* | • *Size*<br>• *Bigger, larger, smaller*<br>• *Symmetrical, line of symmetry*<br>• *Mirror line, reflection*<br>• *Octagon, kite, pentagon, prism* | • *Horizontal, diagonal, perpendicular and parallel lines*<br>• *Heptagon, hexagon, parallelogram, rhombus, trapezium* | • *Quadrilaterals*<br>• *Triangles, right angle, scale, equilateral, isosceles*<br>• *Right angle, acute and obtuse angles* | • *Regular and irregular polygons*<br>• *Dodecahedron* | • *Vertically opposite*<br>• *Circumference*<br>• *Radius*<br>• *Diameter* |
| **Position and Direction** | | • Describe position, direction and movement, including whole, half, quarter and three-quarter turns | • Order and arrange combinations of mathematical objects in patterns and sequences<br>• Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) | | • Describe positions on a 2-D grid as coordinates in the first quadrant<br>• Describe movements between positions as translations of a given unit to the left/right and up/down<br>• Plot specified points and draw sides to complete a given polygon | • Identify, describe and represent the position of a shape following a reflection or translations, using the appropriate language, and know that the shape has not changed | • Describe positions on the full coordinate gird (all four quadrants)<br>• Draw and translate simple shapes on the coordinate plane, and reflect them in the axes |

| Vocabulary | | | | | | | |
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| | | • *Position*<br>• *Over, under, underneath, above*<br>• *On, in, outside, inside*<br>• *Around, in front, behind*<br>• *Front, back*<br>• *Before, after*<br>• *Besides, next to, opposite*<br>• *Left, right, up, down, forwards, backwards* | • *Rotation*<br>• *Clockwise, anticlockwise*<br>• *Straight line*<br>• *Ninety degree turn, right angle* | • *Greater/less than ninety degrees*<br>• *Orientation (same orientation, different orientation)* | • *Coordinates*<br>• *Translation*<br>• *Quadrant*<br>• *X-axis, Y-axis* | • *Reflex angle*<br>• *Dimensions*<br>• *Acute, obtuse angle* | • *Four quadrants*<br>• Translation |

# Rusper Primary Maths Skills and Knowledge Progression

| Skill | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| | | | **Statistics** | | | | |
| **Present and Interpret** | | | • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables | • Interpret and present data using bar charts, pictograms and tables | • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs | • Complete, read and interpret information in tables, including timetables | • Interpret and construct pie charts and line graphs and use these to solve problems |
| **Solve problems** | | | • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity<br>• Ask and answer questions about totally and comparing categorical data | • Solve one-step and two-step questions (for examples, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables | • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs | • Solve comparison, sum and difference problems using information presented in a line graph | • Calculate and interpret the mean as an average |
| *Vocabulary* | | | • *Count, tally, sort*<br>• *Vote*<br>• *Graph, block graph, pictogram*<br>• *Represent*<br>• *Label, title*<br>• *Most/least popular, most/least common*<br>• *Carroll diagram*<br>• *Venn diagram* | • *Chart, bar chart, frequency table*<br>• *Carroll diagram*<br>• *Venn diagram*<br>• *Axis, axes*<br>• *Diagram* | • *Continuous data*<br>• *Line graph* | | • *Mean*<br>• *Average*<br>• *Pie chart*<br>• *Construct* |