



Westfield Primary School-Math Progression Skills

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. By the end of key stage 2, pupils are expected to know, apply and understand the matters, skills and processes as specified in the document below.

Pupils should be taught:

- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- To solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

| Reception | Across the year leading to Summer term |
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| Number, place value and rounding | <ul style="list-style-type: none"> • count actions or objects that cannot be moved • count an irregular arrangement of up to twenty objects • estimate how many objects they can see and check by counting them • use the language of more or fewer to compare sets • count reliably with numbers from 1 to 20, place them in order and say which number is one more or less than a given number |
| Four operations | <ul style="list-style-type: none"> • find the total number of items in two groups by counting all of them • begin to use the vocabulary involved in adding and subtracting • record using marks that they can interpret and explain • use quantities or objects to add and subtract 2 single digit numbers and count on or back to find the answer • begin to identify own mathematical problems based on own interests and fascinations • explore and solve problems in a range of practical and play contexts utilising own methods • make two equal groups of objects and check they are equal by counting |



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| Measures | <ul style="list-style-type: none"> • solve problems, including doubling, halving and sharing • order two or three items by length or height • order two items by weight or capacity • order and sequences familiar events • measure short period of time in simple ways • use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems |
| Geometry | <ul style="list-style-type: none"> • describe their position such as behind or next to • use familiar objects and common shapes to create and recreate patterns and build models • notice patterns in the environment • make patterns using a range of media and resources • recognise, create and describe patterns • use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes • select a particular named shape • recognise and name common shapes in the environment • explore characteristics of everyday objects and shapes and use mathematical language to describe them |

| | Year 1 | Year 2 |
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| Topics Studied | Number and place value Addition and subtraction Multiplication and division Fractions (including decimals and percentages) Measurement Geometry - Properties of shapes Geometry - Position and direction | Number and place value Addition and subtraction Multiplication and division Fractions (including decimals and percentages) Measurement Geometry - Properties of shapes Geometry - Position and direction Use and Interpret Data |
| Number and Place value | <ul style="list-style-type: none"> • Given a number, identify one more and one less • Count, read and write numbers to 100 in multiples of twos, fives and tens e.g. 22, 24, 26, 28, 30, ... or 90, 80, 70, 60, ... • Count to and across 100, forwards and backwards, | <ul style="list-style-type: none"> • Count in steps of 2, 3 and 5 from 0, and tens from any number, forward or backward e.g. 93, 83, 73, 63, ... • Recognise the place value of each digit in a two-digit number (tens, ones) |



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| | <p>beginning with 0 or 1, or from any given number e.g. 103, 102, 101, 100, 99, 98, ...</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 to, more than, less than (fewer), most, least • Read and write numbers from 1 to 20 in numerals and words. • Use language of ordering e.g. first, second, third • Begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100 supported by objects and pictorial representations • Begin to order numbers to 100 (different tens) • Recognise odd and even numbers | <ul style="list-style-type: none"> • Identify, represent and estimate numbers using different representations, including the number line • Read and write numbers to at least 100 in numerals and in words e.g. forty • Compare and order numbers from 0 up to 100, using $<$ $>$ $=$ signs • Use place value and number facts to solve problems • Partition numbers in different ways e.g. $23 = 20 + 3 = 10 + 13$ |
| Addition and Subtraction | <ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • Add and subtract one-digit and two-digit numbers to 20 ($9 + 9$, $18 - 9$), including zero • Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems e.g. $3 + \quad = 7$ • Problems should include vocabulary such as: put together, add, altogether, total, take away, more than, less than... • Represent, memorise and use number bonds and related subtraction facts within 10, in several forms, and begin to know doubles to 20 e.g. $8 + 8 = 16$ complements to 20 e.g. $8 + 12 = 20$ | <ul style="list-style-type: none"> • Solve problems with addition and subtraction: • Using concrete objects and pictorial representations, including those involving numbers, quantities and measures • Applying their increasing knowledge of mental and written methods • 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: <ul style="list-style-type: none"> ➤ a two-digit number and ones; ➤ a two-digit number and tens; ➤ two two-digit numbers e.g. $34 + 29$; ➤ adding three one-digit numbers e.g. $6 + 5 + 4$ ➤ Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. |



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| | <ul style="list-style-type: none">• Represent, memorise and use number bonds and related subtraction facts within 20, in several forms e.g. $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$• Solve simple one-step problems (in familiar practical contexts, including using quantities) that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems e.g. $7 = \square - 9$ | <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➤ Use the language 'sum' and 'difference' e.g. find two numbers with a difference of 6 (3 and 9, 10 and 16..) |
| Multiplication and Division | <ul style="list-style-type: none">• Double and halve numbers to 20• 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 e.g. share 8 sweets between 2 children | <ul style="list-style-type: none">• Recall doubles and halves to 20• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers• Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs• Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot• Recognise and use the inverse relationship between multiplication and division in calculations• Relate multiplication and division to grouping and sharing discrete e.g. counters and continuous quantities e.g. water, and relating these to fractions and measures e.g. $40\text{cm} \div 2 = 20\text{cm}$; 20cm is $\frac{1}{2}$ of 40cm• Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts e.g. there are 10 pencils in a box, I have 5 boxes and 3 spare pencils, how many do I have altogether? |



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| Fractions (including decimals and percentages) | <ul style="list-style-type: none">• Recognise, find and name a half as one of two equal parts of an object, shape, length or quantity e.g. Find half of a length of string, by folding;• Recognise, find and name a half as one of two equal parts of an object, shape, length or quantity e.g. What is half of 12 counters?• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity e.g. find a quarter of a shape, by folding in half and half again find $\frac{1}{4}$ of 12 beads, practically | <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, set of objects or quantity• Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of two quarters and one half.• Count in fractions e.g. $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$ |
| Measurement | <ul style="list-style-type: none">• Compare, describe and solve practical problems for: lengths and heights<ul style="list-style-type: none">➢ long/short, longer/shorter, tall/short, double/half);➢ mass or weight (e.g. heavy/light, heavier than, lighter than);➢ capacity/volume (full/empty, more than, less than);➢ time (quicker, slower, earlier, later)• Use non-standard measures to measure and begin to record the following:<ul style="list-style-type: none">➢ lengths and heights;➢ mass/weight;➢ capacity➢ volume➢ time• Recognise and know the value of different denominations of coins and notes | <ul style="list-style-type: none">• Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels:<ul style="list-style-type: none">➢ length/height in any direction (m/cm);➢ mass (kg/g);➢ temperature ($^{\circ}$C);➢ capacity (litres/ml)• Compare and order lengths, masses, volume/capacity and record the results using $>$, $<$ and $=$• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value e.g. make 73p using the fewest coins• Find different combinations of coins to equal the same amounts of money• Solve simple problems in a practical context involving addition and subtraction of money of the same unit including giving change e.g. I buy a cake for 60p and a biscuit for 25p, how much change will I get from £1?• Compare and sequence intervals of time• Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to |



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| | <ul style="list-style-type: none"> Sequence events in chronological order using language such as: 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 Tell the time to the hour and half past, and draw the hands on a clock face to show these times. | <p>show these times.</p> <ul style="list-style-type: none"> Know the number of minutes in an hour and hours in a day |
| Geometry - Properties of shapes | <ul style="list-style-type: none"> Recognise and name common 2-D and 3-D shapes, in different orientations and sizes, including: <ul style="list-style-type: none"> ➤ 2-D shapes (e.g. rectangles (including squares), circles and triangles); ➤ 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres). Know that rectangles, triangles, cuboids and pyramids can be different sizes. | <ul style="list-style-type: none"> Identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line Draw lines and shapes using a straight edge Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Compare and sort common 2-D and 3-D shapes and everyday objects e.g. sort 2-D shapes in different ways such as whether they are quadrilaterals and have line symmetry.... Recognise and name quadrilaterals, polygons e.g. pentagon, hexagon, octagon, prisms and cones Identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid |
| Geometry - Position and direction | <ul style="list-style-type: none"> Describe positions, directions and movements using language such as left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside... Describe position, directions and movements, including half, quarter and three-quarter turns, in a clockwise direction | <ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in patterns, including those in different orientations Use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line. |
| Use and interpret data | | <ul style="list-style-type: none"> Interpret and construct simple pictograms e.g. where the symbol represents 2, 5 or 10 units, tally charts, block diagrams and simple tables |



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| | | <ul style="list-style-type: none"> • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • Ask and answer questions about totalling and comparing categorical data. |
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| | Year 3 | Year 4 | Year 5 | Year 6 |
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| Topics studied | Number and place value Addition and subtraction Multiplication and division Fractions Measurement Geometry - properties of shape Statistics | Number and place value Addition and subtraction Multiplication and division Fractions (including decimals) Measurement Geometry - properties of shape Geometry - position and direction Statistics | Number and place value Addition and subtraction Multiplication and division Fractions (including decimals and percentages) Measurement Geometry - properties of shape Geometry - position and direction Statistics | Number and place value Addition and subtraction Multiplication and division Fractions (including decimals and percentages) Measurement Geometry - properties of shape Geometry - position and direction Statistics Ratio and proportion Algebra |
| Number and place value | <ul style="list-style-type: none"> • Count from 0 in multiples of 4, 8, 50 and 100 • find 10 or 100 more or less than a given number. | <ul style="list-style-type: none"> • Count in multiples of 6, 7, 9, 25 and 1000. • Find 1000 more or less than a given number. | <ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. | <ul style="list-style-type: none"> • Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. |



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| | <ul style="list-style-type: none">• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).• Compare and order numbers up to 1000.• Identify, represent and estimate numbers using different representations.• Read and write numbers up to 1000 in numerals and in words.• Solve number problems and practical problems involving these ideas. | <ul style="list-style-type: none">• Count backwards through zero to include negative numbers.• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).• Order and compare numbers beyond 1000.• Identify, represent and estimate numbers using different representations.• Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above | <ul style="list-style-type: none">• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.• Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.• Round any number up to 1 000 000 to the nearest<ul style="list-style-type: none">• 10, 100, 1000, 10 000 and• 100 000.• Solve number problems and practical problems that involve all of the above. | <ul style="list-style-type: none">• Round any whole number to a required degree of accuracy.• Use negative numbers in context, and calculate intervals across zero.• Solve number and practical problems that involve all of the above. |
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| | | <p>and with increasingly large positive numbers.</p> <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. | |
| Number - Addition and subtraction | <ul style="list-style-type: none"> Add and subtract numbers mentally, including: <ul style="list-style-type: none"> ➤ a three-digit number and ones ➤ a three-digit number and tens. ➤ a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. | <ul style="list-style-type: none"> Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. | <ul style="list-style-type: none"> Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and | <ul style="list-style-type: none"> Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. 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. Divide numbers up |



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| | | | why. | to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. |
| | <ul style="list-style-type: none">• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.• | | | |



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| Number - multiplication and division | <ul style="list-style-type: none">• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.• 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.• 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. | <ul style="list-style-type: none">• Recall multiplication and division facts for multiplication tables up to 12×12.➤ 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.• Recognise and use factor pairs and commutativity in mental calculations.• Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.• Solve problems involving multiplying and adding, including using the | <ul style="list-style-type: none">• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.• Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers.• Establish whether a number up to 100 is prime and recall prime numbers up to 19.• 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. | <ul style="list-style-type: none">• Perform mental calculations, including with mixed operations and large numbers.• Identify common factors, common multiples and prime numbers.• Use their knowledge of the order of operations to carry out calculations involving the four operations.• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Mathematics.• Solve problems involving addition, subtraction, multiplication and division. Use estimation to check answers to calculations |
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| | | <p>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.</p> | <ul style="list-style-type: none">• Multiply and divide numbers mentally drawing upon known facts.• 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 and divide whole numbers and those involving decimals by 10, 100 and 1000.• Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).• Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. | <p>and determine, in the context of a problem, an appropriate degree of accuracy.</p> |
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| | | | <ul style="list-style-type: none">• Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | |
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| Fractions, decimals and percentages | <ul style="list-style-type: none">• Fractions.• 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.• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. | <ul style="list-style-type: none">• Fractions (including decimals)• Recognise and show, using diagrams, families of common equivalent fractions.• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.• Solve problems involving increasingly harder fractions to calculate | <ul style="list-style-type: none">• Fractions (including decimals and percentages) Compare and order fractions whose denominators are all multiples of the same number.• Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. | <ul style="list-style-type: none">• Fractions (including decimals and percentages) use common factors to simplify fractions; use common multiples to express fractions in the same denomination.• Compare and order fractions, including fractions > 1. <p>Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.</p> <p>Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$].</p> |
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| | <p>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.</p> <p>Recognise and show, using diagrams, equivalent fractions with small denominators.</p> <p>Add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$].</p> <p>Compare and order unit fractions, and fractions with the same denominators.</p> <p>Solve problems that involve all of the above.</p> | <p>quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.</p> <p>Add and subtract fractions with the same denominator.</p> <p>Recognise and write decimal equivalents of any number of tenths or hundredths.</p> <p>Recognise and write decimal equivalents to $1/4$, $1/2$ and $3/4$.</p> <p>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.</p> <p>Round decimals with one decimal place to the nearest whole number.</p> | <p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$].</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>Read and write decimal numbers as fractions [for example, $0.71 = 71/100$].</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> | <p>Divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]</p> <p>Associate a fraction with division and calculate decimal fraction equivalents.</p> <p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places multiply one-digit numbers with up to two decimal places by whole numbers.</p> <p>Use written division methods in cases where</p> |
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| | | <p>Compare numbers with the same number of decimal places up to two decimal places.</p> <p>Solve simple measure and money problems involving fractions and decimals to two decimal places.</p> | <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Solve problems involving number up to three decimal places.</p> <p>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.</p> <p>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 denominator of a multiple of 10 or 25.</p> | <p>the answer has up to two decimal places.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p> <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> |
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| Measurement | <p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</p> <p>Measure the perimeter of simple 2-D shapes.</p> <p>Add and subtract amounts of money to give change, using both £ and p in practical contexts.</p> <p>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.</p> <p>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.</p> | <p>Convert between different units of measure [for example, kilometre to metre; hour to minute].</p> <p>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.</p> <p>Find the area of rectilinear shapes by counting squares.</p> <p>Estimate, compare and calculate different measures, including money in pounds and pence.</p> | <p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes.</p> | <p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</p> <p>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 to up to three decimal places.</p> <p>Convert between miles and kilometres.</p> <p>Recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>Recognise when it is possible to use formulae for area and volume of shapes.</p> |
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| | <p>Know the number of seconds in a minute and the number of days in each month, year and leap year.</p> <p>Compare durations of events [for example to calculate the time taken by particular events or tasks].</p> | | <p>Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water].</p> <p>Solve problems involving converting between units of time.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p> | <p>Calculate the area of parallelograms and triangles.</p> <p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³].</p> |
| Geometry - properties of shape | <p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.</p> <p>Recognise angles as a property of shape or a description of a turn.</p> <p>Identify right angles, recognise that two right angles make a half-turn,</p> | <p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>Identify acute and obtuse angles and compare and order angles up to two right angles by size.</p> <p>Identify lines of symmetry in 2-D shapes presented in different orientations.</p> | <p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</p> <p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles, and measure them in degrees.</p> | <p>Draw 2-D shapes using given dimensions and angles.</p> <p>Recognise, describe and build simple 3-D shapes, including making nets.</p> <p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles,</p> |



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| | <p>three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> | <p>Complete a simple symmetric figure with respect to a specific line of symmetry.</p> | <p>Identify:</p> <ul style="list-style-type: none">• angles at a point and one whole turn.• angles at a point on a straight line.• $\frac{1}{2}$ a turn. <p>Other multiples of 90°.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> | <p>quadrilaterals, and regular polygons.</p> <p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</p> <p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p> |
| Geometry - position and direction | | <p>Describe positions on a 2-D grid as coordinates in the first quadrant.</p> <p>Describe movements between positions as translations of a given unit to the left/right and up/down.</p> | <p>Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p> | <p>Describe positions on the full coordinate grid (all four quadrants).</p> <p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p> |



Westfield Primary School-Math Progression Skills

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| | | Plot specified points and draw sides to complete a given polygon. | | |
| Statistics | <p>Interpret and present data using bar charts, pictograms and tables.</p> <p>Solve one-step and two- step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</p> | <p>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p> | <p>Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>Complete, read and interpret information in tables, including timetables.</p> | <p>Interpret and construct pie charts and line graphs and use these to solve problems.</p> <p>Calculate and interpret the mean as an average</p> |
| Ratio and proportion | | | | <p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</p> |



Westfield Primary School-Math Progression Skills

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| | | | | <p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> |
| Algebra | | | | <p>Use simple formulae.</p> <p>Generate and describe linear number sequences.</p> <p>Express missing number problems algebraically.</p> <p>Find pairs of numbers that satisfy an equation with two unknowns.</p> <p>Enumerate possibilities of combinations of two variables.</p> |