GREENVALE PRIMARY SCHOOL

Progression of Knowledge and Skills

Mathematics		
Early Years		
3 & 4-year-olds will be learning to:	**Children in Reception will be learning to:**	**ELG:**
Mathematical Vocabulary		
Communication and Language • Use a wider range of vocabulary. Understand 'why' questions, like: "why do you think the caterpillar is so fat?"	**Communication and Language** • Learn new vocabulary. Use new vocabulary throughout the day.	**Communication and Language – Speaking** Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.
Number and Place Value: Counting		
Mathematics • Recite numbers past 5. • Say one number name for each item in order: 1, 2, 3, 4, 5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').	**Mathematics** • Count objects, actions and sounds. • Count beyond ten.	**Mathematics – Numerical Patterns** • Verbally count beyond 20, recognising the pattern of the counting system.
Number and Place Value: Identifying, Representing and Estimating numbers		
Mathematics • Fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Show 'finger numbers' up to 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Experiment with their own symbols and marks as well as numerals.	**Mathematics** • Subitise. • Link the number symbol (numeral) with its cardinal number value.	**Mathematics - Number** • Subitise (recognising quantities without counting) up to 5.
Number and Place Value: Reading and writing numbers		
Mathematics • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	**Mathematics** • Link the number symbol (numeral) with its cardinal number value.	

Mathematics		
• Experiment with their own symbols and marks as well as numerals.		
Number and Place Value: Compare and Order Numbers		
Mathematics • Compare quantities using language: 'more than', 'fewer than'.	**Mathematics** • Compare numbers.	**Mathematics – Numerical patterns** • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
Number and Place Value: Understanding Place Value		
	Mathematics • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10.	**Mathematics - Number** • Have a deep understanding of numbers to 10, including the composition of each number.
Solve Problems		
Mathematics • Solve real world mathematical problems with numbers up to 5.		
Addition and Subtraction: Mental Calculations		
	Mathematics • Automatically recall number bonds for numbers 0-10.	**Mathematics - Number** • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
Addition and Subtraction: Solve Problems		
	Mathematics • Subitise. • Link the number symbol (numeral) with its cardinal number value.	**Mathematics – Numerical Patterns** • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.
Measurement – Describe, measure, compare and solve (all strands)		
Mathematics • Make comparisons between objects relating to size, length, weight and capacity.	**Mathematics** • Compare length, weight and capacity.	
Measurement – Telling the time		

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Mathematics		
Mathematics Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then…'		
Properties of shapes: Recognise 2D and 3D shapes and their properties		
Mathematics • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. • Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc.	**Mathematics** • Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	
Properties of shapes: Compare and Classify shapes		
	Mathematics • Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.	
Position and Direction: Position, Direction and Movement		
Mathematics • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'.	**Understanding the World** • Draw information from a simple map.	
Patterns		
Mathematics • Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. • Extend and create ABAB patterns – stick, leaf,	**Mathematics** • Continue, copy and create repeating patterns.	

Mathematics		
stick, leaf. Notice and correct an error in a repeating pattern.		
Statistics		
Mathematics • Experiment with their own symbols and marks, as well as numerals.		

Progression of Skills KS1 and KS2

Mathematics					
Mathematical Vocabulary					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at year 1.	• Read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.	• Read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.	• Read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.	• Read, spell and pronounce mathematical vocabulary correctly.	• Read, spell and pronounce mathematical vocabulary correctly.

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Mathematics					
Number and Place Value: Counting					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Identify one more and one less than a given number. • Count numbers to 100 in numerals: count in multiples of two's, fives and tens.	• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. • Continue to count in ones and tens, so that pupils become fluent in the order and place value of numbers to 100 and beyond.	• Continue to count in ones, tens and hundreds, so that pupils become fluent in the order and place value of numbers to 1000. • Count from 0 in multiples of 4, 8, 50 and 100 • Find 10 or 100 more or less than a given number.	• Count in tens and hundreds, and maintain fluency in other multiples through varied and frequent practice. • Count in multiples of 6, 7, 9, 25 and 1000. • Count backwards through zero to include negative numbers. • Find 1000 more or less than a given number.	• 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.	

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Mathematics					
Numbers and place Value: Represent					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Identify and represent numbers using objects and pictorial representations. • Read and write numbers to 100 in numerals. • Read and write numbers from 1-20 in numerals and words.	• Read and write numbers to at least 100 in numerals and words. • Identify, represent and estimate numbers using different representations including the number line.	• Identify, represent and estimate numbers using different representations. • Read and write numbers up to 1000 in numerals and in words.	• Identify, represent and estimate numbers using different representations. • Read Roman numerals to 100 (I to C) and know that over time, the numerical system changed to include to 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. • Read Roman numerals to 1000 (M) and recognise years when written in Roman numerals.	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.

Mathematics					
Numbers and place Value: Use Place Value and Compare					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Given a number identify one more and one less.	• Recognise the place value of each digit in a two-digit number (tens and ones). • Compare and order numbers from 0 up to 100: use <> and = signs.	• Recognise the place value of each digit number (hundreds, tens, ones). • Compare and order numbers up to 1000.	• Find 1000 more or less than a given number. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). • Order and compare numbers beyond 1000.	• Read, write, order and compare numbers to 1 000 000 and determine the value of each digit.	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.

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Mathematics					
Numbers and place Value: Problems and Rounding					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• Use place value and number facts to solve problems.	• Solve number problems and practical problems involving these ideas.	• Round any number to the nearest 10, 100 or 1000. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	• Interpret negative numbers in context. • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. • Solve number problems and practical problems that involve all of the above.	• 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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Mathematics					
Addition and Subtraction: Recall, represent, Use					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • 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. • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	• Estimate the answer to a calculation and use inverse operations to check answers.	• Estimate and use inverse operations to check answers to a calculation.	• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	•

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Mathematics					
Addition and Subtraction: Calculations					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Add and subtract one- digit and two digit numbers to 20, including 0.	• Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: • A two- digit number and ones. • A two- digit number and tens. • Two two-digit numbers. • Adding three one-digit numbers.	• Add and subtract numbers mentally, including: • 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.	• Add and subtract numbers with up to 4 digits using the formal written method 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). • Add and subtract numbers mentally with increasingly large numbers.	• Perform mental calculations, including with mixed operations and large numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations.

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Mathematics					
Addition and Subtractions: Solve Problems					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	• 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.	• 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. • 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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Mathematics					
Multiplication and Division: Recall, Represent, Use					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	• Recall multiplication and division facts for multiplication tables up to 12 x 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.	• 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 (non-prime) number. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}).	• Identify common factors, common multiples and prime numbers. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

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Mathematics					
Multiplication and Division: Calculations					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), 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 formal written layout.	• Multiply numbers up to 4 digits by a 0ne- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • 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.	• 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 to 4 digits by a two-digit number using the formal written method of short division where appropriate interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers.

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Mathematics					
Multiplication and Division: Solve Problems					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• 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.	• Solve problems involving multiplication and division, using arrays repeated addition, mental methods, 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 factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	• Solve problems involving addition, subtraction, multiplication and division.

Mathematics					
Multiplication and Division: Combined Operations					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
				• 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.

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Mathematics					
Fractions: Recognise and Write					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Recognise, find and name half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	• Recognise, find, name and write fractions 1/3, ¼, 2/4, and ¾ 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. • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • 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 dividing tenths by 10.	• Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • 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 = $1^{1/5}$)	•

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Mathematics					
Fractions: Compare					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• Recognise the equivalence of 2/4 and ½ .	• Recognise and show, using diagrams, equivalent fractions with small denominators. • 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 dame numbers.	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions >1.

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Mathematics					
Fractions: Calculations					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• Write simple fractions for example, ½ of 6 = 3.	• Add and subtract fractions with the same denominator within one whole (for example, 5/7 + 1/7 = 6/7	• Add and subtract fractions with the same denominator.	• Add and subtract fractions with the same denominator and denominators that are multiples of the same number. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	• Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, ¼ x ½ =1/8. • Divide proper fractions by whole numbers (for example, 1/3 ÷2 = 1/6).

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Mathematics					
Fractions: Solve Problems					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		• 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.		

Mathematics					
Decimals: Recognise and Write					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			• Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to ¼, ½, ¾.	• Read and write decimal numbers as fractions (for example, 0.71 = 71/100). • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	• Identify the value of each digit in numbers given to three decimal places.

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Mathematics					
Decimals: Compare					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			• Round decimals with one decimal place to the nearest whole number. • 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. • Read, write, order and compare numbers with up to three decimal places.	

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Mathematics					
Decimals: Calculations and Problems					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			• 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 100 giving answers up to three decimal places. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy.

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Mathematics					
Fractions, Decimals and Percentages					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			• Solve simple measures and money problems involving fractions and decimals to two decimal places.	• Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. • Solve problems which require knowing percentage and equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	• Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375 for a simple fraction (for example 3/8). • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

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Mathematics					
Ratio and Proportion					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
					• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison. • Solve problems involving similar shapes where the scale factor is known or can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

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Mathematics					
Algebra					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• 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 the 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. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables.

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Mathematics					
Measurement: Using Measures					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Compare, describe and solve practical problems for: • lengths and heights (for example long/short, longer/shorter, tall/short, double/half). • Mass/weight (for example, heavy/light, heavier than, lighter than). • Capacity and volume (for example full/empty, more than, less than, half, half full, quarter). • Time (For example, quicker, slower, earlier, later). • Measure and begin to record the following: • lengths and heights. • Mass and weight. • Capacity and volume. • Time (hours, minutes, seconds).	• Choose and use appropriate standard units to estimate and measure; • length/height in any direction (m/cm). • mass (Kg/g). • temperature (°C) • capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels. • 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 units of measure (for example, kilometre to metre; hour to minute) • Estimate, compare and calculate different measures.	• Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • 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. • 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. • Convert between miles and kilometres.

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Mathematics					
Measurement: Money					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Recognise and know the different denominations of coins and notes.	• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. • Find different combinations of coins that equal the same amounts of money. • 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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Mathematics					
Measurement: Time					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening). • Recognise and use language relating to dates, including days of the week, weeks, months and years. • 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. • 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. • 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. • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary Know the number of seconds in a minute and the number of days such as o'clock, am/pm, morning, afternoon, noon and midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events (for example to calculate the time taken by a particular event or task).	• Read, write and convert time between analogue and digital 12- and 24-hour clocks. • 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.

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Mathematics					
Measurement: Perimeter, Area, Volume					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		• Measure the perimeter of simple 2-D shapes. • Find the area of rectilinear shapes by counting squares.	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	• Measure and calculate the perimeter of composite shapes in centimetres and metres. • 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. • Estimate volume (for example, using $1cm^3$ blocks to build cuboids) and capacity (for example, using water).	• Recognise that shapes with the same areas can have different perimeters and vice versa. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of parallelograms and triangles. • 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 example, mm^3 and km^3.

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Mathematics					
Geometry: 2-D Shapes					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Recognise and name common 2-D shapes (for example 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. • Identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid). • Compare and sort 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. • 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. • Use the properties of rectangles to deduce related facts and find missing lengths and angles.	• Draw 2-D shapes using given dimensions and angles. • Compare and classify geometric shapes based on their properties and sizes. • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

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Mathematics					
Geometry: Angles and Lines					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		• Recognise angles as a property of shape or a description of a turn. • 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. • 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. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete 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. • Draw given angles, and measure them in degrees. • Identify; • angles at a point and one whole turn (total 360°). • angles at a point on a straight line and ½ a turn (total 180°). • other multiples of 90°.	• Find unknown angles in any triangles, quadrilaterals, and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

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Mathematics					
Geometry: Position and Direction					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
• Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	• Order and arrange combinations of mathematical objects in patterns and sequences. • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between 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. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Plot specified points and draw sides to complete a given polygon.	• 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.	• Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axis.

GREENVALE PRIMARY SCHOOL

Mathematics					
Statistics: Present and Interpret					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• 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.

Statistics: Solve Problems					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	• 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.	• 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.	• 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.