

GREENFIELDS COMMUNITY PRIMARY SCHOOL VALUES:

Be Amazed - Stay curious and follow your dreams. Never lose your sense of wonder.

Be Brave - Confront your fears and take a chance. Mistakes are the best lessons.

Be Original - Never stop asking questions. Seek out the answers.

Be Bold - You are capable of changing a situation. Become the explorer of tomorrow.

GREENFIELDS COMMUNITY PRIMARY SCHOOL INTENT:

The Greenfields curriculum is driven by our school values. There are clear links between what we say the ambition for our children is and how we intend to achieve it. It is our aim to enable our children to stand on the shoulders of those that have gone before and create things which may well help them fuel solutions to society's problems. In selecting specific content, staff celebrates and embraces the different backgrounds, heritage, language and traditions of all the children living in this country as well as introducing them to the best that has been thought and said in the past and present. Over the course of the academic year, children will have the opportunity to explore more deeply each of our school values in a planned and progressive way.

GREENFIELDS COMMUNITY PRIMARY SCHOOL IMPLEMENTATION:

How the Greenfields curriculum works: Our curriculum is unique to our school and our children. Our values underpin the curriculum at Greenfields which allows our children to understand in explicit detail our ambition for them; what it means to be a part of our school. Teachers use the national curriculum objectives as a starting point to design the curriculum for their year groups, all the while thinking about how best to connect different content and skills in a meaningful way. This enables teachers to use the very best examples from across each subject discipline to foster the curiosity and fire ambition within our children.

Making meaningful links: Teachers use the overarching value for that term to link children's learning. Staff use our values as the starting point when making decisions about the lens through which very deliberate and specific content is viewed in individual subjects, ensuring that our children have the opportunity to develop progressive knowledge, skills and behaviours, and that these assimilate over time through many different experiences and opportunities offered across school; we are building schemas.

The extended Greenfields curriculum: Across the school, from Pre-school to Year 6, embedded within the Greenfields curriculum is the understanding that 'real life' experiences and outdoor learning are vital to children achieving their best. Experiences and visits are planned in a progressive way across school, ensuring that there is a core offer across children's career at Greenfields.

... be amazed...

This value in our curriculum is all about fostering a sense of curiosity by introducing our children to the widest of worlds including the most spectacular that the human and natural world has to offer. In the Early Years, this begins by looking at finding wonder in the everyday; changing of the seasons, a growing plant, simple cause and effect. With our eldest children, we expose children to the finest examples of academia, the creative arts, science, sports, society and exploration; giving our children the very best and varied examples from which to aspire.

Subjects are linked in progressively and conceptually through our 'be amazed' value in the following way:

EYFS	KS1	LKS2	UKS2	AMAZED (Autumn 1)	
love, dreams, beauty	love, dreams, beauty	love, dreams, beauty	love, dreams, beauty		
	passion, creativity,	passion, creativity	passion, creativity		
		diversity, belief	diversity, belief		diversity, belief
			equality, values		equality, values

...be brave...

This value in our curriculum is to instil in our children the confidence to take a chance. Our children know that making mistakes are fundamental to learning. Resilience is not taught; it is a retrospective skill that is developed over time. Our curriculum gives our children the opportunity to build resilience by being confident to take the first step. In the Early Years, this begins by being willing to have a go at something new. In our eldest children, we prepare our children for the pressures of life beyond our school, both academic, social and personal, equipping them with skills to become strong and mentally healthy young adults with high self-esteem.

Subjects are linked progressively and conceptually through our 'be brave' value in the following way:

EYFS	KS1	LKS2	UKS2	BRAVE (Autumn 2)
empathy, fears	empathy, fears	empathy, fears	empathy, fears	
	consequence, mistake, strength	consequence, mistake, strength	consequence, mistake, strength	
		power, conflict	power, conflict	

			adversity, protest	
--	--	--	--------------------	--

...be original...

This value in our curriculum is all about fostering our children to be questioning and evaluative of all they see and hear. Our children are encouraged to think originally about what they have learnt and how to apply their learning between different situations. In the Early Years, this begins by establishing a voice for children who feel undaunted by sharing what they know, as only by developing what you know can you begin to question. In our eldest children, we look for opportunities to think of solutions that might not always be obvious; being selective and having the skills to prioritise information so that they can be effective in their efforts.

Subjects are linked progressively and conceptually through our 'be original' value in the following way:

EYFS	KS1	LKS2	UKS2	ORIGINAL (Spring)
change, identity	change, identity	change, identity	change, identity	
	individuality, freedom	individuality, freedom	individuality, freedom	
		wisdom, reform	wisdom, reform	
			morality, truth, faith	

...be bold...

This value in our curriculum encourages the skills of reflection to ensure children understand how they have gained the knowledge they have. Our children know that their learning is not defined by content but by developing the skill of using what they know. It is a combination of confidence and caution in the right measures and at the right time. In the Early Years, this begins by children initiating their own learning. In our eldest children, it is developing subtlety in their opinions and thoughts; understanding that others may hold different viewpoints, but that they are able to act with respect and tolerance.

Subjects are linked progressively and conceptually through our 'be bold' value in the following way:

EYFS	KS1	LKS2	UKS2	BOLD (Summer)
choice, responsibility	choice, responsibility	choice, responsibility	choice, responsibility	
	fairness, loyalty	fairness, loyalty	fairness, loyalty	
		influence, democracy	influence, democracy	
			justice, opportunity	

Across the school year, we have grouped together subjects that form the focus for the term or half term. We know that by giving children the time to immerse themselves in a subject in an experiential way which allows them to make purposeful connections and associations with prior knowledge, allows them to learn better. In essence, children who are given the opportunity to live and breath a subject as they are learning it, remember more. The children are given the opportunity to consolidate their learning over multiple sessions, rather than concentrating the same amount of practice into one session. We ensure that children are given the opportunity to recall information from previous lessons, previous weeks and terms, all which together helps to support rich, deep learning embedded with a child's longer term memory.

AUTUMN 1	AUTUMN 2	SPRING	SUMMER
<i>...be amazed</i>	<i>...be brave</i>	<i>...be original</i>	<i>...be bold</i>
FOCUS SUBJECTS ~ Art, D&T	FOCUS SUBJECTS ~ Geography & History	FOCUS SUBJECTS ~ Geography, D&T, Music	FOCUS SUBJECTS ~ History, Art, Music
ONGOING SUBJECTS ~ English, Maths, Science, PSHE & RSE, MfL, RE, PE, Computing	ONGOING SUBJECTS ~ English, Maths, Science, PSHE & RSE, MfL, RE, PE, Computing	ONGOING SUBJECTS ~ English, Maths, Science, PSHE & RSE, MfL, RE, PE, Computing	ONGOING SUBJECTS ~ English, Maths, Science, PSHE & RSE, MfL, RE, PE, Computing

GREENFIELDS COMMUNITY PRIMARY SCHOOL:

The expectation of the Greenfields curriculum: The content of the Greenfields curriculum is rooted in the National Curriculum. By the time children reach the end of each year group, our children will have developed a rich body of knowledge in all subjects and had the opportunity to practise skills that will enable them to enter the next stage of their education successfully. It is our expectation that children will have broad

and wide ranging knowledge, understanding and examples from which to begin to form opinions about their preferences and aspirations into adulthood. It is our fierce determination that regardless of a child's background, they will have had the same opportunities and exposed to the best examples from all subject disciplines, capturing their desire to continue learning as they become adults.

All learning leads towards an end point. The Greenfields curriculum has been designed both to offer progression from year to year, but also across a year. The content of each subject has been deliberately ordered to best support children's understanding.

MATHS CURRICULUM:

By breaking learning down into small steps we aim to ensure that every child gains a good understanding of mathematical concepts which they can then apply to different situations. Following a tried and tested method beginning with the manipulation of concrete materials we enable our children to understand their learning process and apply it appropriately. Once they are confident with the process they can then apply this pictorially, beginning to talk about their learning and explain it to others. Only once our children have mastered those initial stages do we move them to more abstract learning processes, challenging them to reason and problem solve to show their understanding and build on the skills they have previously mastered. Following this approach not only ensures our children see their learning in practical context but that they fully understand each step within their learning allowing them to master skills at a greater level.

In curriculum design, we revisit the same concepts each term allowing children the opportunity to build on previous knowledge and begin to master the acquired skills in different contexts. Through continuous assessment for learning, teachers ensure that children progress quickly at pace, address misconceptions and are challenged to grapple with new contexts. Year on year, our children can build on their skills, developing resilience within their learning and have the confidence to start a new year with the knowledge they have already gained, ready for new challenges ahead.

Each day, every child has the opportunity to revisit previous learning and develop fluency in their number skills. Within our timetable each class has an oral maths blast daily, focusing their mind for the lessons ahead and developing rapid recall of maths facts and numerical patterns.

The aim of our maths curriculum is to ensure that all pupils:

- acquire the skills and knowledge to apply their mathematical skills in the wider world
- develop fluency and rapid recall of maths facts and numerical patterns
- develop a love of maths
- ensure key concepts are embedded so that all children are able to move on confidently to the next stage

- understand the place of Maths in everyday life and in the World of Work and how this can impact them in making choices for their future

At Greenfields, we ensure that children are at the heart of our teaching and learning in Maths. We aim to make Maths an inspiring, creative, rigorous, and practical subject. We want to ensure every child has the understanding and processes embedded to draw on in everyday contexts. The implementation of fun and exciting resources ensures that our children are keen Mathematicians. Drawing on our outdoor learning we ensure we embrace learning in maths in a range of context in the outside environment, making memorable experiences for the children investigating and problem solving outside.

MATHS:

At Greenfields, we teach Maths through our Greenfields curriculum. Each subject stands alone in it's own right allowing teachers to select the very best examples of the subject discipline. Subjects are linked by our overarching school value for that term, allowing breadth and depth of subject content to be explored. Where natural links can be made, teachers can group teaching of specific content to allow children the context for the content.

Maths Curriculum plans- whole school overview

Each term we revisit each block of learning, to build upon previously taught content at a deeper level. How these outcomes are decided on and broken down can be seen by each year groups medium term planning. An overview of this can be seen below in the long term plan.

	1	2	3	4	5	6
Place Value, ordering, rounding Properties of numbers and number sequences	10 weeks 1x4 week block 2x3 week blocks	9 weeks 3x3 week blocks	6 weeks 3x2 week blocks			
Fractions decimals and percentages	4 weeks 2x2 week blocks	3 weeks 3x1 week blocks	4 weeks 2x2 week blocks	4 weeks 2x2 week blocks	4 weeks 2x2 week blocks	3 weeks 3x1 week blocks
Ratio and proportion						2 weeks 2x2 week blocks

Algebra						2 weeks 2x2 week blocks
Addition and Subtraction	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks
Multiplication and Division	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks
Measurement	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks
Properties of Shapes	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks	6 weeks 3x2 week blocks
Position and Direction	3 weeks 3x1 week blocks	3 weeks 3x1 week blocks		3 weeks 3x1 week blocks	3 weeks 3x1 week blocks	3 weeks 3x1 week blocks
Statistics Interpreting, Constructing and Presenting Data	2 weeks 2x1 week blocks *Not on NC	3 weeks 3x1 week blocks				

Maths CURRICULUM :

In Maths the end points for each year group are as follows:

MATHS subject statement- At Greenfields we want the children to acquire a love of Maths by developing a good understanding and key skills which can then enhance their opportunities in the wider world and prepare them for an exciting future.

Pre-school	Nursery	Reception	READY FOR KS1
Number <ul style="list-style-type: none"> ● Take part in finger rhymes with numbers. ● Counting-like behaviour, such as making sounds, 	Number <ul style="list-style-type: none"> ● Fast recognition of up to 3 objects, without having to count them individually (subitising). 	Number <ul style="list-style-type: none"> ● Count objects, actions and sounds. ● Link the number symbol (numeral) with its 	Number <ul style="list-style-type: none"> ● Have a deep understanding of number to 10, including the composition of each number.

<p>pointing or saying some numbers in sequence.</p> <ul style="list-style-type: none"> ● Count in everyday contexts, sometimes skipping numbers - '1-2-3-5. <p>Numerical Patterns</p> <ul style="list-style-type: none"> ● Combine objects like stacking blocks and cups. ● Put objects inside others and take them out again. ● React to changes of amount in a group of up to three items. ● Compare amounts, saying 'lots', 'more' or 'same'. ● Climb and squeezing selves into different types of spaces. ● Build with a range of resources. ● Complete inset puzzles. ● Compare sizes, weights etc. using gesture and language - 'bigger/ little/smaller', 'high/low', 'tall', 'heavy'. ● Notice patterns and arrange things in patterns. 	<ul style="list-style-type: none"> ● Recite numbers past 5. ● Say one number 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) ● Show 'finger numbers' up to 5. ● Link numerals and amounts. ● Experiment with their own symbols and marks as well as numerals. ● Solve real world mathematical problems with numbers up to 5. <p>Numerical Patterns</p> <ul style="list-style-type: none"> ● Compare quantities using language 'more than' 'fewer than'. ● Talk about and explore 2D and 3D shapes using informal and mathematical language such as sides, corners straight, flat and round. ● Understand position through words alone with no pointing. ● Describe a familiar route. ● Discuss routes and locations, using words like in front of and behind. ● Make comparisons between objects relating to size, length, weight and capacity. ● Select shapes appropriately (flat surfaces for building, a triangular prism for a roof) ● Combine shapes to make new ones. ● Talk about and identify the patterns around them. For example, stripes on clothes. ● Use informal language like 'pointy', 'spotty', and 'blobs'. ● Begin to describe a sequence of events, real or fictional, using words such as first, then. 	<p>cardinal number value.</p> <ul style="list-style-type: none"> ● Count beyond 10 ● Compare numbers ● Understand the 'one more than/one less than' relationship between consecutive numbers. ● Explore the composition of numbers to 10. <p>Numerical Patterns</p> <ul style="list-style-type: none"> ● Automatically recall number bonds for numbers 0-10. ● Select, rotate and manipulate shapes in order to develop spatial reasoning skills. ● Compose and decompose shapes so that children recognise that a shape can have other shapes within it, just as numbers can. ● Continue, copy and create repeating patterns. ● Compare length, weight and capacity. 	<ul style="list-style-type: none"> ● Subitise (recognise quantities without counting) up to 5. ● 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. <p>Numerical Patterns</p> <ul style="list-style-type: none"> ● Verbally count beyond 20, recognising the pattern of the counting system. ● Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. ● Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
--	--	--	--

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number - number and place value	-count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number -count, read and write	-count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward -recognise the place value	-count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number - recognise the place	-count in multiples of 6, 7, 9, 25 and 1000 - find 1000 more or less than a given number count backwards through	-read, write, order and compare numbers to at least 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 round any whole number

	<p>numbers to 100 in numerals; -count in multiples of twos, fives and tens given a number, identify one more and one less</p> <p>- 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</p> <p>-read and write numbers from 1 to 20 in numerals and words.</p>	<p>of each digit in a two-digit number (tens, ones) identify,</p> <p>-represent and estimate numbers using different representations, including the number line</p> <p>-compare and order numbers from 0 up to 100; use <, > and = signs</p> <p>-read and write numbers to at least 100 in numerals and in words</p> <p>-use place value and number facts to solve problems</p>	<p>value of each digit in a three-digit number (hundreds, tens, ones)</p> <p>-compare and order numbers up to 1000</p> <p>-identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words</p> <p>- solve number problems and practical problems involving these ideas.</p>	<p>zero to include negative numbers</p> <p>-recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</p> <p>- order and compare numbers beyond 1000</p> <p>-identify, represent and estimate numbers using different representations</p> <p>-round any number to the nearest 10, 100 or 1000</p> <p>-solve number and practical problems that involve all of the above and with increasingly large positive numbers</p> <p>-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.</p>	<p>- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</p> <p>- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</p> <p>- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</p> <p>- solve number problems and practical problems that involve all of the above</p> <p>- read Roman numerals to 1000 (M) and recognise years written in Roman numerals</p>	<p>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</p>
<p>Number - addition and subtraction</p>	<p>-read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</p> <p>- represent and use number bonds and related subtraction facts within 20</p> <p>-add and subtract one-digit and two-digit numbers to 20, including zero solve -one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.</p>	<p>-solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures</p> <p>-applying their increasing knowledge of mental and written methods</p> <p>-recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p>- 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</p>	<p>-add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds</p> <p>-add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>-estimate the answer to a calculation and use inverse operations to check answers</p> <p>-solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>-add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>-estimate and use inverse operations to check answers to a calculation</p> <p>-solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>-add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>- add and subtract numbers mentally with increasingly large numbers</p> <p>- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>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</p>

		<p>numbers adding three one-digit numbers</p> <p>-show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</p> <p>-recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>				<p>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 solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p>
<p>Number - multiplication and division</p>	<p>-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</p>	<p>-recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</p> <p>-calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs</p> <p>-show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</p> <p>-solve problems involving multiplication and division, using materials,</p>	<p>-recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>-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</p> <p>- 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</p>	<p>-recall multiplication and division facts for multiplication tables up to 12×12</p> <p>- 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</p> <p>recognise and use factor pairs and commutativity in mental calculations</p> <p>-multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>-solve problems involving multiplying and adding, including using the distributive law to</p> <p>-multiply two digit</p>	<p>-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</p> <p>- establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>-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 multiply and divide numbers mentally drawing upon</p>	<p>use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 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, $4 \frac{1}{2} \times 2 \frac{1}{2} = 8 \frac{1}{2}$]</p> <p>divide proper fractions by whole numbers [for example, $3 \frac{1}{2} \div 2 = 6 \frac{1}{4}$]</p> <p>associate a fraction with division and calculate decimal fraction</p>

		arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	m objects.	numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	<p>known facts</p> <ul style="list-style-type: none"> -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 - 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 	<p>equivalents [for example, 0.375] for a simple fraction [for example, $\frac{8}{3}$] 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 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 recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</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 solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360]</p>

						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.
Algebra						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.
Fractions	<p>-recognise, find and name a half as one of two equal parts of an object, shape or quantity</p> <p>-recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p>	<p>-recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ of a length, shape, set of objects or quantity</p> <p>-write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$</p>	<p>-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</p> <p>-recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators 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, $\frac{5}{7}$</p>	<p>-recognise and show, using diagrams, families of common equivalent fractions</p> <p>- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>-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</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>-compare and order fractions whose denominators are all multiples of the same number</p> <p>- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</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, $\frac{3}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$]</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</p>	<p>use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 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, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] associate a fraction with division and calculate decimal fraction</p>

			<p>+ 1/7 = 6/7]</p> <p>-compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above.</p>	<p>- recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ 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 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>numbers by whole numbers, supported by materials and diagrams 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</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</p> <p>-write percentages as a fraction with denominator 100, and as a decimal</p> <p>- solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{5}$ $\frac{2}{5}$ $\frac{1}{5}$ and those fractions with a denominator of a multiple of 10 or 25</p>	<p>equivalents [for example, 0.375] for a simple fraction [for example, 3/8]</p> <p>identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places</p> <p>multiply one-digit numbers with up to 2 decimal places by whole numbers</p> <p>use written division methods in cases where the answer has up to 2 decimal places</p> <p>solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</p>
Measurement	<p>-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,</p>	<p>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</p>	<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</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>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</p>	<p>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</p>

	<p>quarter] time [for example, quicker, slower, earlier, later]</p> <p>- measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) - recognise and know the value of different denominations of coins and notes</p> <p>-sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <p>recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p>-tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p>	<p>lengths, mass, volume/capacity and record the results using >, < and =</p> <p>-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</p> <p>-solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change compare and sequence intervals of time</p> <p>-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</p> <p>- know the number of minutes in an hour and the number of hours in a day.</p>	<p>numerals from I to XII, and 12-hour and 24-hour clocks estimate and read time with increasing accuracy to the nearest minute;</p> <p>-record and compare time in terms of seconds, minutes and hours;</p> <p>-use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <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, compare and calculate different measures, including money in pounds and pence</p> <p>-read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>	<p>inches, pounds and pints measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 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 estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] solve problems involving converting between units of time use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	<p>larger unit, and vice versa, using decimal notation to up to three decimal places convert between miles and kilometres 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 (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³].</p>
<p>Geometry - properties of shapes</p>	<p>-recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</p>	<p>-identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p> <p>identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</p> <p>compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<p>-draw 2-D shapes and make 3-D shapes using modelling materials;</p> <p>-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, three make three quarters of a turn and four a complete turn;</p> <p>-identify whether angles are greater than or less than a right angle</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>- complete a simple symmetric figure with respect to a specific line of symmetry.</p>	<p>identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°)</p> <p>identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and 2 1 a turn (total 180°) other multiples of 90° use the properties of rectangles to deduce</p>	<p>draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p>

			-identify horizontal and vertical lines and pairs of perpendicular and parallel lines.		related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Geometry - 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 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 anticlockwise).		-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 axes.
Statistics		interpret and construct simple pictograms, tally charts, block diagrams and simple tables -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.	-interpret and present data using bar charts, pictograms and tables - 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.	-interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. -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 -complete, read and interpret information in tables, including timetables.	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average.