AVANTI HOUSE
EXCELLENCE · VIRTUE · DEVOTION

Curriculum Progression Map

Subject: Maths

Here at Avanti House Primary School, we believe that our maths curriculum will create enthusiastic, creative and articulate mathematicians. Through a varied and inspiring curriculum, we aim to develop children's problem-solving resilience, and reflective skills – skills that can be easily transferable across the curriculum. The curriculum is designed to provide challenge at all levels, ensuring that all learners continue to build and develop positive attitudes towards maths.

Maths Intent

Our approach to maths is both skills and knowledge based and builds upon children's prior learning from EYFS through to Year 6. In order for children to develop into well rounded and passionate mathematicians, our curriculum exists to achieve this through intellectual, moral and spiritual growth by encouraging children's understanding of the world and arm them with the skills to approach everyday problems and so to make the world a better place.

Our children will become **fluent** in the fundamentals of mathematics, develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. We aspire for all children to **reason mathematically** by following a line of enquiry, conjecturing relationships, and generalisations, and developing an argument, justification or proof using mathematical language.

Our curriculum is designed to allow for children to **solve problems** by applying their mathematics to a variety of problems with increasing confidence, throughout the curriculum and within their daily lives.

Children are encouraged to make mistakes in a safe and supported environment. They are encouraged to discuss misconceptions with their peers and staff alike. At Avanti House Primary, oracy is embedded into the heart of our learning through 'Talk it Solve it' strategies, talk tasks, shared work and class discussions. Use of appropriate vocabulary is modelled throughout lessons by both staff and children, allowing everyone to engage with mathematical language. Once a child can articulate their understanding of a concept, can they truly begin to make connections within their learning.

Key Areas	YR EYFS *** Used Adopter Development Matters Doc & Statutory Framework for EYFS (July 2021)**	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key Knowledge and Skills Number & Place Value	- Counting objects including saying the numbers in order and matching one number name to each item - Subitise (recognise quantities without counting) up to 5) - Link the number symbol (numeral) with its cardinal number value - Have a deep understanding of number to 10, including the composition of each number - Compare numbers - Understand the 'one more than/one less than' relationship	- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - count, read and write numbers to 100 in numerals; - Use a place-value chart to show numbers in tens and ones - recognise the place value of each digit in a two-digit number (tens, ones) - given a number, identify one more and one less - use the language of: equal to, more than, less than (fewer), most, least - Count in twos, fives, and tens to 100.	- Read and write numbers to at least 100 in numerals and in words - Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward - Recognise the place value of each digit in a two-digit number (10s, 1s) - Compare and order numbers from 0 up to 100; use <, > and = signs - identify, represent and estimate numbers using different representations, including the number line - Use place value and number facts to solve problems	- count from 0 in multiples of 4, 8, 50 and 100; - find 10 or 100 more or less than a given number - compare and order numbers up to 1000 - identify, represent and estimate numbers using different representations - read and write numbers up to 1 000 in numerals and in words - *tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks* (copied from Measurement) - recognise the place value of each	- count backwards through zero to include negative numbers - count in multiples of 6, 7, 9, 25 and 1 000 - find 1000 more or less than a given number - order and compare numbers beyond 1000 - *compare numbers with the same number of decimal places up to two decimal places* (copied from Fractions) - identify, represent and estimate numbers using different representations - read Roman numerals to 100 (I to C) and know that	- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero - count forwards or backwards in steps of powers of 10 for any given number up to 1000 000 - 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 written in Roman numerals - *recognise and use thousandths and relate them to tenths, hundredths*	- use negative numbers in context, and calculate intervals across zero - read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers) - *identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places* (copied from Fractions) - round any whole number to a required degree of accuracy

	between consecutive numbers	- identify and represent numbers using objects and pictorial representations including the number line - read and write numbers from 1 to 20 in numerals and words.		digit in a three-digit number (hundreds, tens, ones) - solve number problems and practical problems involving these ideas.	over time, the numeral system changed to include the concept of zero and place value. - round any number to the nearest 10, 100 or 1 000 - *round decimals with one decimal place to the nearest whole number (copied from Fractions)* - solve number and practical problems that involve all of the above and with increasingly large positive numbers	*and decimal* equivalents (copied from Fractions) - round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 - *round decimals with two decimal places to the nearest whole number and to one decimal place (copied from Fractions)* - solve number problems and practical problems that involve all of the above	- *solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions)* - solve number and practical problems that involve all of the above
Key Knowledge and Skills Addition & Subtraction	- Explore the composition of numbers to 10 - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to	- Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs - Represent and use number bonds and related subtraction facts within 20 - add and subtract one-digit and two-	- 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:	- 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	- 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	- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - use rounding to check answers to calculations and de-	- use estimation 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 why

	10, including double facts - 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	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 = ? – 9.	- a two-digit number and 1s - a two-digit number and 10s - 2 two-digit numbers - adding 3 one-digit numbers - Show that addition of 2 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 - solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge	- estimate the answer to a calculation and use inverse operations to check answers - 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	termine, 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 why	- Solve problems involving addition, subtraction, multiplication and division

			of mental and written methods - *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from Measurement)*				
Mental Maths	- Say number names in order to 10	- number pairs (bonds) with a total of 10, e.g. 3 + 7, or what to add to a single digit number to make 10, e.g. 3 + □ = 10 - addition facts for totals to at least 5, e.g. 2 + 3, 4 + 3 - addition doubles for all numbers to at least 10, e.g. 8 + 8 - represent and use number bonds and related subtraction facts within 20	- addition and subtraction facts for all numbers up to at least 10, e.g. 3 + 4, 8 – 5 - number pairs (bonds) with totals to 20 - all pairs of multiples of 10 with totals up to 100, e.g. 30 + 70, or 60 + □ = 100 - what must be added to any two-digit number to make the next multiple of 10, e.g. 52 + □ = 60 - addition doubles for all numbers to 20, e.g. 17 + 17 and multiples of 10 to 50, e.g. 40 + 40	- add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds *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 (appears also*	- 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 (appears also in Properties of Numbers)	- add and subtract numbers mentally with increasingly large numbers - multiply and divide numbers mentally drawing upon known facts - multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	- 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 - perform mental calculations, including with mixed operations and large numbers - *associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$) (copied from Fractions)*

			- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	*in Written Methods)*			
Key Knowledge and Skills Multiplication & Division	*(Nothing specified in the framework.)*	- Make equal groups - Group objects equally - Share things equally - *Count in multiples of twos, fives and tens* *(copied from Number and Place Value)* - 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	- *Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* *(copied from Number and Place Value)* - 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 (×), division (÷) and equals (=) signs - Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1	- *count from 0 in multiples of 4, 8, 50 and 100* *(copied from Number and Place Value)* - 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 (appears also in Mental Methods) - *estimate the answer to a calculation and use inverse*	- *count in multiples of 6, 7, 9, 25 and 1 000* *(copied from Number and Place Value)* - recall multiplication and division facts for multiplication tables up to 12 × 12 - multiply two-digit and three-digit numbers by a one-digit number using formal written layout - recognise and use factor pairs and commutativity in mental calculations (repeated) - *estimate and use inverse operations to check answers to a calculation* (copied from Addition and Subtraction)	- *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* (copied from Number and Place Value) - 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 - divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context 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

			number by another cannot - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	*operations to check answers (copied from Addition and Subtraction)* - 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	- 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) numbers - 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}) - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes - solve problems involving addition, subtraction, multiplication and divi-	*- use written division methods in cases where the answer has up to two decimal places (copied from Fractions (including decimals))* - identify common factors, common multiples and prime numbers *- use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)* *- calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3 (copied from Measures)* - use their knowledge of the

						sion 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	order of operations to carry out calculations involving the four operations - use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy - solve problems involving addition, subtraction, multiplication and division - 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 similar shapes where the scale factor is known or can be found* *(copied from Ratio and Proportion)*
Key Knowledge and Skills **Fractions, Decimals, Percentages**	*Decimals & Percentages (N/A in EYFS & KS1)*	- Recognise, find and name a half as one of two equal parts of an object, shape or quantity	- Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length,	- count up and down in tenths - recognise, find and write fractions of a discrete set of	- count up and down in hundredths - recognise that hundredths arise	- recognise and use thousandths and relate them to tenths, hundredths	- compare and order fractions, including fractions > 1

		- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	shape, set of objects or quantity - Write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½	objects: unit fractions and non-unit fractions with small denominators - recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators - compare and order unit fractions, and fractions with the same denominators - recognise and show, using diagrams, equivalent fractions with small denominators - add and subtract fractions with the same denominator within one whole (e.g. $^{5}/_{7} + {}^{1}/_{7} = {}^{6}/_{7}$) - solve problems that involve all of the above	when dividing an object by one hundred and dividing tenths by ten - compare numbers with the same number of decimal places up to two decimal places - round decimals with one decimal place to the nearest whole number - recognise and show, using diagrams, families of common equivalent fractions - recognise and write decimal equivalents of any number of tenths or hundredths - recognise and write decimal equivalents to $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$ - add and subtract fractions with the same denominator - find the effect of dividing a one- or two-digit number by 10 and 100, identifying the	and decimal equivalents (appears also in Equivalence) - compare and order fractions whose denominators are all multiples of the same number - read, write, order and compare numbers with up to three decimal places - round decimals with two decimal places to the nearest whole number and to one decimal place - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$) - recognise and use thousandths and relate them to tenths, hundredths	- identify the value of each digit in numbers given to three decimal places - solve problems which require answers to be rounded to specified degrees of accuracy - use common factors to simplify fractions; use common multiples to express fractions in the same denomination - associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. - add and subtract fractions with dif-

					value of the digits in the answer as ones, tenths and hundredths - 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 - solve simple measure and money problems involving fractions and decimals to two decimal places.	and decimal equivalents - 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 as a decimal fraction - add and subtract fractions with the same denominator and multiples of the same number - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $^2/_5 + ^4/_5 = ^6/_5 = 1^1/_5$) - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - solve problems involving numbers up	ferent denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $^1/_4 \times ^1/_2 = ^1/_8$) - multiply one-digit numbers with up to two decimal places by whole numbers - divide proper fractions by whole numbers (e.g. $^1/_3 \div 2 = ^1/_6$) - multiply one-digit numbers with up to two decimal places by whole numbers - multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places - identify the value of each digit to three decimal places and multiply

						to three decimal places - solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25.	and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places - associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) - use written division methods in cases where the answer has up to two decimal places - 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 unequal sharing and grouping using knowledge of fractions and multiples.

Key Knowledge and Skills Measurement (Length, Mass, Capacity)	- Compare length, weight, and capacity	* 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/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 =	- compare durations of events, for example to calculate the time taken by particular events or tasks - *estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)* - measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) - measure the perimeter of simple 2-D shapes	- *estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)* - estimate, compare and calculate different measures, including money in pounds and pence (appears also in Comparing) - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - find the area of rectilinear shapes by counting squares	- *calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes (also included in measuring)* - estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water) - use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - calculate and compare the area	- estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water) - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting) - recognise that shapes with the same areas can have different perimeters and vice versa - 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

						of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes - *recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* *(copied from Multiplication and Division)*	other units [e.g. mm3 and km3]. - recognise when it is possible to use formulae for area and volume of shapes
Key Knowledge and Skills Temperature	*N/A for EYFS.*	*N/A for EYFS.*	- Read a thermometer - Measure and write down the temperature			- Tell the temperature - Solve problems involving measurements	
Key Knowledge and Skills Money	- Children use everyday language to talk about money.	- Recognise and know the value of 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	- add and subtract amounts of money to give change, using both £ and p in practical contexts			

			context involving addition and subtraction of money of the same unit, including giving change				
Key Knowledge and Skills Time	- Children use everyday language to talk about time.	- Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] - Measure and begin to record time (hours, minutes, seconds) - 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	- 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, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating) - know the number of seconds in a minute and the number of days in each month, year and leap year	- read, write and convert time between analogue and digital 12 and 24-hour clocks - convert between different units of measure (e.g. kilometre to metre; hour to minute) - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	- convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) - understand and use equivalences between metric units and common imperial units such as inches, pounds and pints - solve problems involving converting between units of time	- 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 - *solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating)* - convert between miles and kilometres

		draw the hands on a clock face to show these times					
Key Knowledge and Skills Statistics	*No Statistics in EYFS and Year 1.*	*No Statistics in EYFS and Year 1.*	- Interpret and construct simple pictograms, tally charts, block diagrams and 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 [e.g. '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.	- complete, read and interpret information in tables, including timetables - solve comparison, sum and difference problems using information presented in a line graph	- interpret and construct pie charts and line graphs and use these to solve problems - calculate and interpret the mean as an average
Key Knowledge and Skills Geometry	- Select, rotate, and manipulate shapes in order to develop spatial reasoning skills - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can	*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]	- 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	- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them - recognise angles as a property of shape or a description of a turn - identify right angles, recognise that two right angles	- 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 - compare and classify geometric shapes, including quadrilaterals and triangles, based on	- identify 3-D shapes, including cubes and other cuboids, from 2-D representations - draw given angles, and measure them in degrees (^{o}) - use the properties of rectangles to deduce related facts and find missing lengths and angles - distinguish between regular and	- recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing) - illustrate and name parts of circles, including radius, diameter and circumference and

	- Continue, copy and create repeating patterns	- Recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other	- Identify 2-D shapes on the surface of 3-D shapes - Compare and sort common 2-D and 3-D shapes and everyday objects	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	their properties and sizes - identify acute and obtuse angles and compare and order angles up to two right angles by size	irregular polygons based on reasoning about equal sides and angles - know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - 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°	know that the diameter is twice the radius - draw 2-D shapes using given dimensions and angles - compare and classify geometric shapes based on their properties and sizes and 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
Key Knowledge and Skills **Position, Direction & Movement**	- Children use everyday language to talk about position.	- Describe position, direction and movement, including whole, half, quarter and three-quarter turns - Make whole, half, quarter and three-quarter turns in both directions and connect turning	- 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		- 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	- 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.

		clockwise with movement on a clock face - Use words such as before, after, next to, last and between to name positions	distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)		- plot specified points and draw sides to complete a given polygon		
Key Knowledge and Skills **Algebra**		*- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9 (copied from Addition and Subtraction)* *- represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)*	*- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. (copied from Addition and Subtraction)* *- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction)*	*- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction)* *- solve problems, including missing number problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)*	*- Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)*	*- use the properties of rectangles to deduce related facts and find missing lengths and angles* (copied from Geometry: Properties of Shapes)	- express missing number problems algebraically - find pairs of numbers that satisfy number sentences involving two unknowns - enumerate all possibilities of combinations of two variables - use simple formulae - generate and describe linear number sequences
Key Vocabulary *(Using Rising Stars Maths Vocabulary Document)*	number count one, two, three, four, five, six, seven, eight, nine, ten	reasoning number, ones, tens, combine, add, addition, altogether, to-	reasoning partitioning dienes one – twenty ones, twos, fives, tens, digits,	Numbers to one thousand Column addition and subtraction	Tenths, hundredths Decimal (places) Round (to nearest)	Powers of 10 Efficient written method Factor pairs	Numbers to ten million Order of operations Order of operations

	is the same as equal to more than less than fewer measure size compare long, short, tall high, low heavy, light heavier than, lighter than money, coin shape, pattern	tal, take away, minus, subtraction, difference, more than, less than rectangles, squares, circles, triangles cuboids, cubes, pyramids, spheres time, analogue clock, o'clock, half past 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	place value, exchange, sequence, predict, estimate, number bonds, calculations, prove it, convince me, greater than, less than, multiplication, multiply, array, row, column, groups of, times, repeated addition, division, divided by, grouping, sharing, share equally, doubling, halving, multiplication fact, division fact fraction, numerator, denominator, half, quarter, third centimetre, metre, length, height, width, depth, kilogram, half kilogram, gram, litre, half litre, millilitre, capacity, volume temperature, degree	Product Multiples of four, eight, fifty and one hundred Scale up Leap year Twelve hour/twenty-four hour clock Roman numerals I to XIII Greater/less than ninety degrees Orientation (same orientation, different orientation) Horizontal, vertical, perpendicular and parallel lines Numerator, denominator Unit fraction, non-unit fraction Compare and order Tenths Chart, bar chart, frequency table, Carroll diagram,	Thousand more/less than Negative integers Count through zero Roman numerals (I to C) Multiplication facts (up to 12x12) Division facts Inverse Derive Convert Coordinates Translation Quadrant x-axis, y-axis Perimeter and area Quadrilaterals Triangles Right angle, acute and obtuse angles Equivalent decimals and fractions Continuous data Line graph	Composite numbers, prime number, prime factors, square number, cubed number Formal written method Volume Imperial units, metric units Reflex angle Dimensions Regular and irregular Polygons Proper fractions, improper fractions, mixed numbers Percentage Half, quarter, fifth, two fifths, four fifths Ratio, proportion	Common factors, common multiples Four quadrants (for coordinates) Vertically opposite (angles) Circumference, radius, diameter Degree of accuracy Simplify Linear number sequence Substitute Variables Symbol Known values Mean Pie chart Construct

			days of the week, Monday, Tuesday … months of the year (January, February ...) seasons: spring, summer, autumn, winter, hour, o'clock, half past, quarter past, quarter to 5, 10, 15 … minutes past statistics, count, tally, sort, graph, block graph, pictogram represent group, set list, table label, title most popular, most common least popular, least common	Venn diagram Axis, axes Diagram			