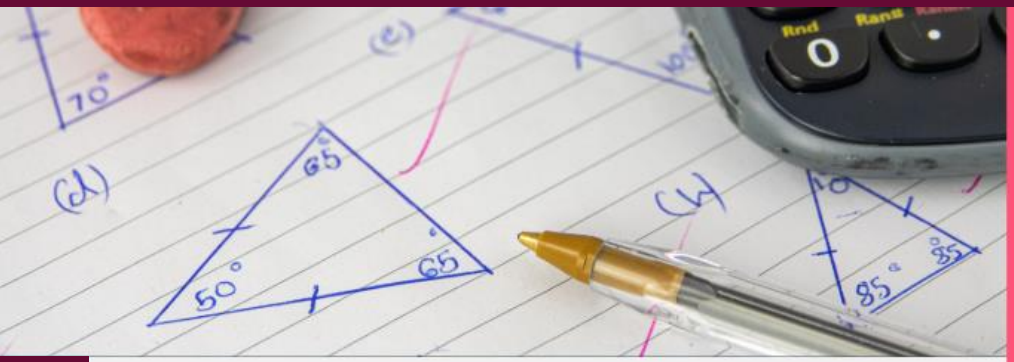
MATHEMATICS



OUR APPROACH

At Columbus, we believe that every child can enjoy and succeed in mathematics when supported with the right tools, environment, and encouragement. Our Maths curriculum is carefully designed to meet the diverse learning needs of our pupils, providing a personalised, meaningful, and engaging experience for all.

Introduction to the aims of the curriculum

The aim of our Mathematics curriculum is to provide a tailored bespoke approach that meets the diverse needs, abilities, and learning styles of our students. While aligned with broader educational goals, it prioritises functional understanding, independence, and confidence in using mathematical concepts in real-life contexts.

MATHEMATICS

Below are some key aims:

1. Develop Functional Numeracy
   - Equip students with practical mathematical skills they can apply in everyday life (e.g., handling money, telling time, measuring ingredients).
   - Focus on number sense, estimation, and basic arithmetic tailored to individual capabilities.

2. Promote Independence and Life Skills
   - Use mathematics as a tool to enhance personal autonomy (e.g., shopping, budgeting, travel planning).
   - Support decision-making and problem-solving in real-world scenarios.

3. Foster Confidence and Enjoyment
   - Build a positive attitude toward mathematics through achievable goals and engaging activities.
   - Encourage perseverance, curiosity, and willingness to take risks in a safe learning environment.

4. Support Communication and Understanding
   - Use math as a medium to improve language, reasoning, and communication skills (e.g., using mathematical vocabulary, explaining processes).
   - Incorporate visual aids, manipulatives, and technology to enhance conceptual understanding.

5. Cater to Individual Learning Needs
   - Provide a differentiated curriculum that is flexible and responsive to students' developmental levels and learning profiles.
   - Use personalized targets and assessments to track progress and inform teaching.

6. Encourage Mathematical Thinking
   - Develop skills in pattern recognition, sequencing, logic, and classification.
   - Encourage students to ask questions, make predictions, and reflect on their thinking.

7. Prepare for Transitions and Future Pathways
   - Support students in gaining qualifications where appropriate (e.g., Entry Level Certificates, Functional Skills).
   - Prepare students for further education, employment, or independent living through relevant math experiences.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Number	I know how to count to 50, forwards and backwards, beginning with 0 or 1, or from any given number.	• Pupils will use some number names and number language spontaneously. • Pupils will recite numbers in order to 10. • Pupils will show an interest in numerals in the environment. • Pupils will demonstrate 1:1 touch correspondence when counting. Extension • Pupils will count beyond 20 • Pupils will realise that the last number counted is the number in the set. • Pupils will subitise. • Pupils will count out objects to at least 10	• Pupils will recognise some numerals of personal significance. • Pupils will count reliably with numbers from one to 20, beginning with 0 or 1, or from any given number. Extension - • Pupils will count 0-50 forwards • Pupils can count out objects/pictures/sounds accurately. • Pupils will demonstrate conservation number.	• Pupils will use number names in everyday Situations. • Pupils will count reliably with numbers from one to 30, beginning with 0 or 1, or from any given number. Extension • Pupils will use whole numbers to count out items from 0-20.	• Pupils will count reliably with numbers from one to 50, beginning with 0 or 1, or from any given number. Pupils will count backwards from 50 to 0 or from any given number.Extension - Pupils will count reliably up to 100 items.Pupils will recognise and sequence odd and even numbers up to 100.
	I know one more and one less from any number to 50.	• Pupils will demonstrate an understanding of the concept of 'many' and 'few' i.e. choosesmany crisps rather than one or two.Pupils will count a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'Extension - Pupils will be able to say how many objects are there altogether when one object is added or taken away to 10.	Pupils will be able to say how many objects are there altogether when one object is added or taken away to 20. Pupils will use some language of quantities, such as 'more' and 'a lot'Pupils will recognise that the number of objects in a set is not affected by their size or position.Extension -Pupils will be able to say one more or one less for any number to 30	Pupils will be able to add one more or take one away from a group of objects to 30 counting the total. Pupils will use a number line to find one more or one less for numbers to 30.Extension Pupils will be able to say one more or one less for any number to 50.	Pupils will say which number is one more or one less than a given number. Pupils will be able to state one more or one less than any given number to 50.Extension -Pupils will be able to say one more or less than any number to at least 100Pupils will be able to say two more or two less for any number to 100.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Number	I know how to identify and represent numbers using objects and pictorial representations including the number line.	• Pupils show an interest in numerals in the environment. Pupils show an interest in representing numbers.Pupils know that numbers identify how many objects are in a set.Extension 1- Pupils can recognise and order numerals to at least 20.Pupils can write numerals to 10 , following a model.	Pupils select the correct numeral to represent 1 to 5, then 1 to 10 objects.Pupils record, using marks that they can interpret and explainExtension 1- Pupils can write numerals to 20.Pupils can recognise numbers to 50.	Pupils know that a number represents a specific amount of objects regardless of their other properties.Pupils select the correct numeral to represent more than 20 objects.Extension -Pupils will be able to select the correct numeral to represent 50 objects.	Pupils can count out any number of objects to represent a given number.Pupils can identify the correct number on a number line corresponding to a given number of items.Extension 1- Pupils will write numerals to 100 Pupils will match numerals to 100 to the written word.
	I can write the numerals to a total of 50 and write the word for numbers to 20.	• Pupils will explore and overwrite/write numerals to 5.Extension - Pupils will overwrite/write numbers to 10.Pupils will be able to match numbers to 20	Pupils will write numerals to 10Pupils will begin to match the numeral to the written word. Extension 1-Pupils can write numerals to 20.	Pupils will write numerals to 20..Pupils will match numerals to the written word for numbers to 20Extension 1-Pupils will write numerals to 50	Pupils will write numerals to at least 50.Pupils will be able to read and identify/match written numbers to their numeral. Extension- Pupils will be able to write the numeral to at least 100

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Number	I know how to add and subtract one-digit and two-digit numbers to 30, including zero	• Pupils know that a group of things changes in quantity when something is added or taken away. Pupils can add one more to a set or take one from a set on request using the vocabulary more or lessExtension 1- Pupils can add two groups of objects and count them to get the correct total	Pupils will begin to use the vocabulary "add" and "take away" in practical situations.Pupils will find the total number of items in two groups by counting all of them.Extension 1- Pupil can recall number bonds to a total of 10.Pupils can add on by counting from the larger number. Pupils can subtract by taking objects from a group and counting the remainder.	Pupils can add two numbers together to a total of 20.Pupils can subtract numbers from 20 by counting back or using a numberline.Pupils can add on by counting from the larger number. Extension 1- Pupils can recognise and interpret +, - and = in a number sentence.	Pupils can add together two numbers to a total of 30.Pupils can subtract numbers from 30 by counting back or using a numberline.Pupils can recall number bonds to a total of 20Pupils can add and subtract using a learnt strategy.Extension 1- Pupils can recall number bonds to Pupils can add and subtract using three digit whole numbers.
Shape, space and measure	I know and can name the most common 2D and 3D shapes.	• Pupils will categorise objects according to properties such as shape or size • Pupils will experience 2D and 3D shapes in a range of practical situations. • Extension- Pupils will match and sort basic 2D shapes- square, circle, triangle, rectangle. • Pupils will be able to name square, circle, triangle, rectangle.	• Pupils talk about the shapes of everyday objects, e.g. 'round' and 'tall'. • Pupils pick out named 2D shapes from a collection. • Pupils are beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. • Extension- Pupils can match and sort 3D shapes • Pupils can describe simple properties of 2D shapes- e.g.corners, sides etc • Pupils will identify simple 2D shapes in the environment.	• Pupils pick out a named 2D and 3D shape from a collection. • With adult prompts pupils begin to explore • the properties of 2D and 3D shapes e.g. corners, straight, flat, curved, solid. • Pupil can identify shapes in the environment / real life activities eg. My plate is round. • Extension-Pupils will identify common 2D and 3D shapes . • Pupils will describe the properties of common 2D shapes, e.g. sides, corners, faces	• Pupils begin to describe the properties of shapes e.g. flat, curved, and solid. • Pupils identify and describes 2D and 3D • shapes in the environment e.g. "The washing machine is a cuboid with circle door" • Extension- Pupils will recognise 2D shapes including pentagons, hexagons etc. • Pupils will describe the properties of common 3D shapes, sides, edges, corners , faces, angles and base. • Pupils will 2D and 3D shapes according to symmetry, length,right angles and angles in rectangles and triangles.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
	I know how simple fractions are represented	• Pupils will be able to share items practically when requested. • Extension- Pupils will be able to share items into 2 equal groups. • Pupils will know that 2 halves equal.	• Pupils will begin to explore half of a whole in practical situations. • Extension- Pupils will be able to use halves and quarters in practical situations.	• Pupils can represent half of a whole in a whole in practical situations. • Pupils will begin to explore quarters in practical situations. • Extension- Pupils will be able to express a fraction in written form for halves and quarters.Pupils will be able to use thirds in practical situations.	• Pupils can represent simple fractions in practical situations. • Pupils can write half and quarter in written forms. • Extension- Pupils will be able to use fractions such as thirds, fifths and eighths in a practical situation.Pupils will be able to express a fraction in written form.
Shape, space and measure	I know some mathematical vocabulary to describe position, direction and movement	• Pupils understand and follow simple positional language. • Pupils can follow simple directional language with some gestures and prompts. • Extension- Pupils can follow simple directional instructions which describe position, movement and and direction. • Pupils will follow direction arrows and use left/right language with prompts.	• Pupils begin to respond to instructions containing direction and movement words, signs, symbols – forwards, backwards, up,down, sideways. • Pupils will be able to follow simple instructions on/in, under/over, top/bottom, up/down. • Pupils can use left and right language with some prompts • Extension- Pupils can give simple instructions according to position, direction and movement. Pupils will use left/right language	• Pupils will follow vocabulary "between, in front of, in the middle, next to" describe position. • Pupils can give simple instructions according to position, direction and movement. • Pupils will be able to use left, right, turn, clockwise and anti-clockwise when following and giving directions • Extension- Pupils will use positional language such as between, inside/outside, below, forwards, backwards when describing an object's position.	• Pupils can accurately describe the position, direction and movement of an item using mathematical vocabulary. • Pupils are able to place an object in a position described by mathematical vocabulary. • Extension- Pupils can describe movement, position and direction using whole, half, quarter and three-quarter turns.Pupils can use vocabulary such as straight line, clockwise and anti-clockwise to describe position, direction and movement.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Shape, space and measure	I know how to choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); capacity and volume (litres/ml) to the nearest appropriate unit, using rulers, scales, and measuring vessels	• Pupils experience working with an adult filling and emptying a variety of containers with a range of materials, using the vocabulary full, empty the same. • Pupils will experience working with an adult lifting a range of objects/materials with a clear contrast in weight- introduce heavy/light • Pupils will experience working with an adult to explore the length, weight and capacity of a range of objects using non standard measures. • Pupils will experience weighing and using capacity in practical activities. • Extension-Pupils can order three objects by height or length. • Pupils can describe volume as full, empty or the same.	• Pupils can measure short periods of time in simple ways. • Pupils will record and experiment with using non-standard measures to measure length and height. • Pupils can order two or three items by length or height, weight or capacity. • Pupils will compare 2 different weights using balance scales with adult support. • Students will compare contrasting • volumes and describes as "full/ empty / the same" • Extension-Pupils can measure length, weight and capacity using non-standard measures independently. • Pupils can measure length, weight, and capacity using standard measures with support. • Pupils can find objects which are bigger/smaller, longer/shorter, heavier/lighter than a given one.	• Pupils will use standard / non-standard measures of volume with adult support – scoopfuls, spoonfuls, cupfuls etc. • Pupils can measure the length, weight and capacity of an object using standard measures and appropriate measuring equipment. • Pupils will use a range of apparatus to measure weight with adult support. • Pupilscan link appropriate measuring units to equipment and type of measurement with support. • Extension-Pupils can use language of measurement to describe and make comparisons, e.g length, width, size, height weight and capacity. • Pupils can use the units cm,g and ml when using standard measures.	• Pupils can measure length/height, mass, capacity/volume by selecting an appropriate tool to take a measurement and using appropriate units. • Pupils can estimate the size/volume/mass of an item in terms of standard units of measurement. • Pupils can estimate whether one item will be larger/heavier than another without measuring. • Extension-Pupils can use metric measures of length, mm, cm, m, km. • Pupils can use measures of weight g and kg. • Pupils can use measures of capacity, ml and l. • Pupils can read scales in twos, fives, and tens.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Shape, space and measure	I know how to collect data and record it in a variety of ways, for example pictagram / block diagram / tally chart	• Pupils can group items by similarities, e.g. colour, function etc. • Pupils can collect items that share similar properties. • Pupils will record data as part of circle time.g. Weather, feelings, dinner etc. • Extension- Pupils can sort into different groups with different categories with support. • Pupils will collect and record data as part of a routine and use it to answer a question with support.	• Pupils can describe the different properties of objects and group them by those properties. • Pupils can ask questions to find out information. • Pupils can record the answers to questions. • Extension-Pupils can construct and begin to answer simple questions about basic charts and graphs.	• Pupils can record information about the properties of objects or people. • Pupils can group that information by property. • Pupils can record and read back the different numbers of people or objects with similar properties. • Extension-Pupils can read and draw simple charts and diagrams, including a tally chart, block diagram /graph • Pupils can extract information from lists, tables, diagrams and barcharts.	• Pupils can collect different types of information and record it in an appropriate format • Pupils can collate and display information in a manner appropriate for the data and easy to interpret. • Pupils can use different methods to display the data to determine which is the best. • Extension-Pupils can use spreadsheets to record and interpret data related to everyday life • Pupils can find and interpret data relating to their personal needs e.g. bus timetables, weather apps etc
Money	I know how to combine amounts of money to make a particular value	• Pupils are beginning to use everyday language related to money. • Pupils will exchange coins for items. • Pupils can match coins • Extension-Pupils exchange money for items understanding the need to pay. • Pupils can match and sort coins and recognise some of them by sight.	• Pupils understand that money can be ex changed for goods. • Pupils can count out coins to reach a specified value. • Pupils are able to identify different coins and their values. • Extension- Pupils can recognise all coins and notes on both faces and can order all coins and notes by value.	• Pupils use money to obtain goods. • Pupils understand that any item will have a specific price and that is the amount of money required to buy that item. • Pupils can pay for items needing exact combinations of coins and use strategies such as rounding up to the nearest pound. • Extension- Pupils can recognise coins and notes and write them in numbers with the correct symbols (£ and p) where these involve numbers to 20.	• Pupils can count out an exact amount of money to pay for an item. • Pupils can select from a number of different coins to make a specified value. • Pupils can work out change due for simple amounts. • Extension-Pupils can add and subtract manageable amounts of money and give change using £ and p in real life contexts

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Time	I know how to sequence events in chronological order using language (eg. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.	• Pupils understand some talk about immediate past and future, e.g. 'before', 'later' or 'soon'. • Pupils order and sequences familiar events. • Pupils will learn the days of the week • Extension-Pupils will know the days of the week and the months of the year. • Pupils will understand the immediate past, before, later and soon	• Pupils will experience carrying out • activities for a length of time measured by standard /non-standard measures. • Pupils can recount the order of a small number of short term events. First, next, finally. • Pupils will learn the months of the year. • Extension-Pupils will know the date • Pupils will recount an event representing the chronological order of each action accurately.	• Pupils can use their knowledge and experience to accurately order story cards in a logical sequence. • Pupils can describe their daily routine using chronological vocabulary. • Pupils will use a calendar with support • Extension-Pupils will be able to use a calendar with independence. • Pupils will know the number of days in the week, months and seasons in sequential order.	• Pupils can recount an event representing the chronological order of each action accurately. • Pupils can recount events occurring over a period of days and project into the future. Yesterday, today, tomorrow. • Extension- Pupils can read and record the date in different formats • Pupils can use relative time to refer to events that have or are going to take place.
	I can tell the time to o'clock, half past, quarter to and quarter past on an analogue and a digital clock.	• Pupils know what a clock is and use these in roleplay. • Pupils will be able to link a specific time to an event in the day with support- e.g. playtime is at 10.00 etc • Extension- Pupils will be able to link familiar events to a time of day	• Pupils are aware of key times of the day. • Pupils will tell the time to o'clock • Extension- Pupils will be able to tell the time to o'clock and half past.	• Pupils are able to label a clock, hour, half past. • Pupils can tell the time to o'clock and half past. • Pupils can match some daily events to times. • Extension- Pupils can tell the time to o'clock, half past, quarter to, and quarter past • Pupils will be able to recognise o'clock and half past on a digital clock.	• Pupils can tell the time, o clock, half past, quarter to, quarter past. • Pupils can match some analogue times to digital times. • Extension- Pupils can read the time in 5 minute increments, past and to the hour. • Pupils will use am and pm alongside the 12 hour clock. • Pupils will understand hours from a 24 hour digital clock.

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
Patterns	I know how to create a repeating pattern.	• Pupils will use familiar objects and common shapes to create and recreate patterns and build models • Pupils will copy a simple pattern/sequence of two elements using one criterion e.g. colour, shape, rhythm • Extension-Pupils will continue a simple 2 step pattern.	• Pupils can create a simple pattern using a range of given resources. • Pupils can identify whether a pattern repeats. • Extension-Pupils will create their own repeating pattern using 2 different elements.	• Pupils can create a pattern / sequence using three elements with a range of criteria • Pupils will continue repeating patterns given to them • Extension-Pupils will begin to create their repeating pattern and describe how they repeat.	• Pupils can identify the common elements of patterns, for instance all flat, solid. • Pupils can identify non-linear repeating patterns, such as floor tiles. • Pupils will create their own repeating patterns, share them and describe them. • Extension-Pupils will create more complex patterns which are rotational, spiral or geometric. • Pupils will create their own art, display or decoration using their own repeating pattern

The Bridge Trust Columbus

MATHEMATICS

CURRICULUM OVERVIEW

Subject Specific Skill	Intent	EYFS / KS1	KS2	KS3	KS4 / KS5
		Key Vocabulary • Many • Fewer • Add • Take away • Size • 2D • 3D • Flat • Solid • Measure • Length • Pound • Pence • Before • After • Later • Soon • Clock • Heavy • Light • Tall • Short	**Key Vocabulary** • Remain • More • Less • Total • Shape characteristics • 2D Shape names • 3D Shape names • Forwards • Backwards • Upwards • Downwards • Sideways • Second • Minute • Hour • Height • Width • Weight • Capacity • Scales • Gram • Kilogram • Volume • Enough • First • Next • Finally • Repeat	**Key Vocabulary** • Subtract • Between • In front • Behind • Middle • Price • Amount • Order	**Key Vocabulary** • Direction • Speed • Fast • Slow • Mass • Estimate • Compare • Yesterday • Today • Tomorrow