Nebula
where stars are born

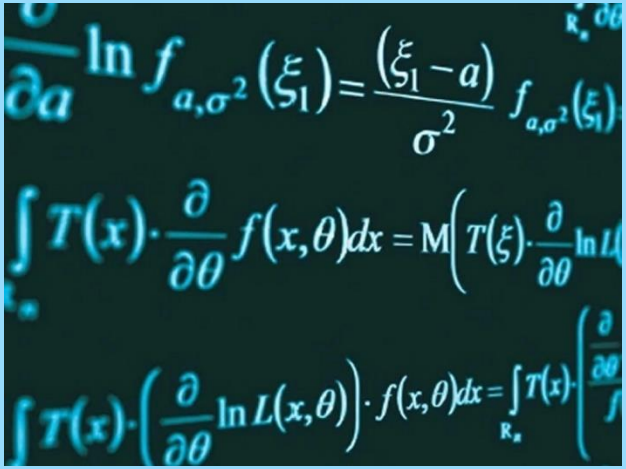
2024/2025

Curriculum Skills and Progression Mathematics

Old Catton C of E Junior School's Mathematics' Christian Distinctiveness Statement

At Old Catton C of E Junior School, we ensure, through a varied and thorough curriculum, that all pupils have the opportunity to study the world around them and ask questions and challenge pre-conceived ideas. Within our Maths curriculum, we inspire children to become excited by numbers, their patterns and the role they play in our everyday lives. Old Catton Junior School's key values of Love, Hope and Joy are present within our Maths curriculum: encouraging a love of numbers and their patterns; hope that a problem can be solved, no matter how difficult it may seem and joy for challenge and being able to apply skills and knowledge in order to solve these problems. Through the teaching of our school's Bible story of The Lost Sheep, children are encouraged to help one another when needed and to celebrate individual strengths. These attributes are present in our Maths curriculum through paired work, group tasks and a celebration of everyone's successes such as Times Table Masters and Rockstars.

'Spirituality is the bitter-sweet yearning for beauty, truth, love and wonder beyond ourselves. It is a longing we pursue together and a treasure we glimpse in ourselves and one another and seek beyond us into eternity. It is life in all its fullness.'



The Nebula Federation

Old Catton C of E Junior School

SKILLS MAP Mathematics – Year 2 (for reference and back-filling)	
Expected	**Greater Depth**
Pupils can … • Partition two-digit numbers into different combinations of tens and ones. This may include using apparatus (e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones) • Recall all number bonds to and within 10 and use these to reasons with and calculate bonds to and within 20. Know that is 7 + 3 = 10, then 17 + 3 = 20 • Can add and subtract 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate and explain their method using concrete apparatus or pictorial representations. • Can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary (e.g. knowing they can make 7 groups of 5 from 35 blocks and writing 35 ÷ 5 = 7; sharing 40 cherries between 10 people and writing 40 ÷ 10 = 4; stating the total value of six 5p coins) • Can identify 1/3, 1/4, 1/2, 2/4, 3/4 of a length, shape, set of objects or quantity and knows that all parts must be equal parts of the whole. • Can use different coins to make the same amount (e.g. pupil uses coins to make 50p in different ways; pupil can work out how many £2 coins are needed to exchange for a £20 note) • Can read and draw hands on the time on the clock to the nearest 15 minutes. • Can describe properties of 2-D and 3-D shapes (e.g. the pupil describes a triangle: it has 3 sides, 3 vertices and 1 line of symmetry; the pupil describes a pyramid: it has 8 edges, 5 faces, 4 of which are triangles and one is a square) • Read scales in divisions of ones, twos, fives and tens	**Pupils can …** • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking. • Read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given and estimate points in between. • Use multiplication facts to make deductions outside known multiplication facts (e.g. a pupil knows that multiples of 5 have one digit of 0 or 5 and uses this to reason that 18 × 5 cannot be 92 as it is not a multiple of 5) • Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. E.g. solve more complex missing number problems (e.g. 14 + □ – 3 = 17; 14 + Δ = 15 + 27) • Solve unfamiliar word problems that involve more than one step (e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?) • Read and draw on hands to show the time on the clock to the nearest 5 minutes. • Describe similarities and differences of shape properties (e.g. finds 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices but can describe what is different about them)

Key Vocabulary						
Number and place value	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics	General/problem solving
Numbers to one hundred Hundreds Partition, recombine Hundred more/less	Quarter past/to m/km, g/kg, ml/l Temperature (degrees)	Rotation Clockwise, anticlockwise Straight line Ninety-degree turn, right angle	Size Bigger, larger, smaller Symmetrical, line of symmetry Fold Match Mirror line, reflection Pattern, repeating pattern	Three quarters, one third, a third Equivalence, equivalent	Count, tally, sort Vote Graph, block graph, pictogram, Represent Group, set, list, table Label, title Most popular, most common, least popular, least common	Predict Describe the pattern, describe the rule Find, find all, find different Investigate

SKILLS MAP Mathematics – Year 3	
Expected	**Greater Depth**
Pupils can … • Compare and order numbers up to 1000 • Read and write numbers up to 1000 in numerals and words • Count in multiples of 4, 8, 50 and 100 • Find 10 or 100 more or less than a given number • Recognise the place value of each digit in a three digit number (hundreds, tens, ones) • Solve number problems and practical problems involving place value • Add and subtract numbers mentally, including: a 3 digit number and ones, a 3 digit number and tens, a 3 digit number and hundreds • Add and subtract numbers with up to 3 digits using formal written methods of column addition and subtraction – see school calculation policy • Solve problems including missing number problems using number facts, place value and more complex addition and subtraction • Recall and use multiplication and division facts for the 3, 4 and 8 times 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 • Count up and down in tenths: recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Recognise and show, using diagrams, equivalent fractions with small denominators • Compare and order unit fractions and fractions with the same denominators • Add and subtract fractions with the same denominator within one whole	**Pupils can …** • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking • Reason and represent place value in different ways using mathematical language • Partition a 3-digit number and use that to work out its compliment to 1000, explaining their reasoning using the language of place value • Calculate mentally using efficient strategies • Solve missing numbers problems such as 384 = 171 + ? • Use formal methods to solve problems, including multi-step and apply skills to create own multi-step problems using mathematical language: • Solve problems such as 'A fish weighs 50g, another fish weighs 8 times as much, how much does the larger fish weigh?' • Solve problems such as, 'Dad drives a truck. Last week he drove 267 miles on Monday, 186 on Tuesday and 198 on Wednesday. This week Dad drove 282 miles in total. What is the difference in mileage between this week and last week.' • Recognise relationships between fractions and decimals and express them as equivalent quantities - Jimmy has 6 marbles. This is 0.4 or 2/5s of the total number. What is the total number of marbles • Calculate using fractions and decimals • Calculate 2/4 + 3/4 = 5/4 and 5/4 – 3/4 = 2/4. They realise that 5/4 is greater than one and can suggest ways to record this • Calculate with measures (time, capacity, length, mass) - 6 toy cars balance 2 dolls. 4 dolls balance 1 toy robot. If the robot weighs 3 kg, what does each toy car weigh? • Use mathematical reasoning to compare angles - Can you draw a quadrilateral with: 1 right angle? 2 right angles? 5 right *angles? No right angles?* Can you draw a triangle with 1 right angle? 2 Right angles?

• Measure, compare, add and subtract: lengths (m/cm/mm): mass (kg/g) volume/capacity (l/ml) including measuring the perimeter of simple 2D shapes • Add and subtract amounts of money to give change using both £ and p in practical contexts • Tell and write the time from an analogue clock, including using Roman numerals from 1 to X11 and 12 hour and 24 hour clocks • Record and compare time in respect to seconds, minutes and hours • Know the number of days in a month, the number of months in a year and the number of days in a year – including a leap year • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn: identify whether angles are greater than or less than a right angle • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines • Interpret and present data using bar charts, pictograms and tables, including solving one step and 2 step questions using information presented in scales bar charts and pictograms and tables • Draw 2D shapes using mathematical language • Recognise 2D and 3D shapes in different positions and orientation and describe them	Are some of these are impossible, can you explain why?

Key Vocabulary

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics
Numbers to one thousand	Column addition and subtraction	Product Multiples of four, eight, fifty and one hundred Scale up	Leap year Twelve-hour/twenty-four- hour clock	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	Chart, bar chart, frequency table, Carroll diagram, Venn diagram Axis, axes

			Roman numerals I to XIII			Tenths Chart	Diagram

SKILLS MAP Mathematics – Year 4	
Expected	**Greater Depth**
Pupils can … • Count in multiples of 6, 7, 9, 25 and 1000 • Count backwards through zero to include negative numbers • Order and compare numbers beyond 1000, including up to 2 decimal places • Find a 100 more or less than a given number • Recognise the place value of each digit in a four digit whole number • Round any number to the nearest 10, 100 or 1000 • Read roman numerals up to 100 • Add and subtract numbers up to 4 digit using formal written methods – see school calculation policy • Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why • Recall multiplication and division facts of multiplication tables up to 12 x 12 • Multiply 2 and 3 digit numbers by 1 digit number using a formal written layout – see school calculation policy • Recognise and show, using diagrams (e.g. fraction walls), common equivalent fractions, including adding and subtracting fractions • Can find fractions of a given quantity • Count up and down in hundredths: recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten, including representing as a decimal • Round decimals with one decimal place to the nearest whole number • Solve simple measure and money problems involving fractions and decimals to two decimal places, including formal column method where appropriate	**Pupils can …** • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking. • Reason about place value: *How many different ways can you write 5510. Pupils suggest ways such as 551 tens, 55 hundreds and 1 ten 5510 ones* • *Arrange the digit cards 1 4 5 and 8 to make the number closest to 6000 and can justify their choice using the language of place value.* • Calculate mentally using efficient strategies: *Write 3 calculations in which you would use mental calculation strategies and 3 where you would apply a column method and explain the decision you made with each calculation* *Can work out 345 x 6 mentally by calculating 300 x is 1800 40 x 6 is 240 and 5 x 6 is 30 to get 2070* • Apply formal methods to solve multi-step problems: *Sarah buys 5 pens at £1.25 each, 3 pencils at 38p each and a ruler for 85p. How much change does she get from £10?* • Recognise relationships between fractions and decimals and express them as equivalent quantities: *Can you order these decimals and fractions on a number line? 0.35 3/4 0.5 1/5 4/9* • Calculate using fractions and decimals: *A soup recipe uses 3/4 as many onions as carrots. Jo is making the soup and has 8 carrots. How many onions does Jo use? Explain how you worked out the number of onions? Did you use the same method each time?* • Substitute values into a simple formula to solve problems: *3 x a + 2 = 17 What is the value of a?*

• Convert between different units of measure (kilometre to metre: hour to minute) • Solve problems involving converting time between analogue and digit 12 and 24 hour clocks • Compare and classify geometric shapes, using the language of orientation, including quadrilaterals and triangles, based on their properties and sizes, including Identifying acute, obtuse angles and right angles • Measure and calculate the perimeter and area of rectilinear shapes – including squares in m and cm • Identify lines of symmetry in 2D shapes presented in different orientations • Plot specified points and draw sides to complete a given polygon • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • Describe and plot positions on 2D grids as co-ordinates, including describing movements as translation	• Calculate with measures (time, capacity, length, mass): *Converting and ordering across a range of measures* • Use mathematical reasoning to compare and order angles • Compare angles in order to decide whether a polygon is regular

Key Vocabulary

Number and place value	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics
Tenths, hundredths Decimal (places) Round (to nearest) Thousand more/less than Negative integers	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

Count through zero Roman numerals (I to C)						

Years 3 and 4 CROSS-CURRICULAR LINKS

English

A number of the Power of Reading units require children to read and construct graphs of emotions.

Science:

Year 3 – Animals, including Humans
- Data Handling

Year 3 – Forces
- Units of Measure

Year 3 – Light
- Data Handling
- Units of Measure

Year 3 Plants
- Data Handling
- Units of Measure

Year 3 – Rocks
- Data Handling

Year 4 – States of Matter

- Data Handling
- Units of Measure

Year 4 - Animals including Humans: Eating and Digestion
- Data Handling

Year 4 - Living Things and their Habitats
- Data Handling

Geography:

Year 3 – Passport to Europe
- Data Handling

Year 3 – No Planet B
- Data Handling
- Direction

Year 3 – On Our Doorstep
- Time
- Coordinates

Year 4 – Rainforests
- Data Handling
- Temperature

History:

Year 3 – Ancient Egypt
- Nets

Year 4 – Ancient Maya

- Mayan calendar
- Number system

PE:

Year 3 and 4 - Measure: in athletics and cross-country distances and times are measured and compared

Computing Units:

Year 3

- The use of rotation, transformation and symmetry (3.1) links in to Maths lessons on shape. Children can draw on their previous skills and knowledge from these areas and link them to this Computing unit and some Maths units.
- The use of 3D modelling (3.6) can aid children's understanding of 2D and 3D shapes and the uses they have.

Year 4:

- Children have the opportunity to create games and activities linked to their times tables (4.4).
- Data is a key part of the Maths curriculum. Work across Computing (4.4) and Maths can link back and forth here.
- Unit 4.4 (Data handling) has been specifically created to match up with the Maths Curriculum and aid in the coverage of the statistics objectives.

MFL - Spanish:

- Counting numbers in Spanish

RE:

- Dates and timelines are crossed with a link to History. Understanding the number of centuries that pass.
- For the SEND pupils there is an examination and an association to number of the lists of laws and rules like the 10 Commandments, the Five Pillars,
  the eightfold path.

PSHE:

- Data handling – interpreting data and using this to back up opinion.
- Reasoning and problem-solving skills used in discussion based lessons.

Music:

- **Year 3:** Glockenspiel Stage 1: Fractions; Sequences and Patterns.
- **Year 4:** Glockenspiel Stage 2: Fractions; Sequences and Patterns.

SKILLS MAP Mathematics – Year 5	
Expected	**Greater Depth**
Pupils can … • Read, write, order and compare numbers to at least 1000000 and determine the value of each digit, including up to 3 decimal places • Round any number up to 1000000 to the nearest 10, 100, 100, 10,000 and 100,000, including rounding to the nearest whole number and one decimal place • Interpret negative numbers in context • Count forwards and backwards with positive and negative whole numbers, including through zero • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) – solve multi-step problems • Add and subtract whole numbers with more than 4 digits mentally • Solve problems involving multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Including prime numbers, composite numbers, squares and cubes • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates (See calculation policy)	**Pupils can …** • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking • Reason and represent place value in different ways using mathematical language: *Pupils can work the connection between finding the difference between negative numbers and subtracting them* • Calculate mentally using efficient strategies: *Pupils can write a variety of calculations derived from 15 + 63 = 78 and generalize to describe further calculations 20x 7 x 5 = 20 x 5 x 7 = 100 x 7 = 700* • Use formal methods to solve problems, including multi-step: *Sam and Tom have £67.80 between them. If Sam has £6.20 more than Tom, how much does Tom have?* • Solve problems between fractions and decimals and percentages and express them as equivalent quantities: *Jack and Jill each go out shopping. Jack spends $\frac{1}{4}$ of his money. Jill spends 20% of her money. Frank says Jack spent more because $\frac{1}{4}$ is greater than 20%. Alice says you cannot tell who spent more. Who do you agree with, Frank or Alice? Explain why?*

• Multiple and divide whole numbers and those involving decimals by 10, 100 and 1000 • Compare and order fractions whose denominators are all multiples of the same number • Read and write decimal numbers as fractions • Recognise fractions and decimal equivalents of percent • Read, write, order and compare numbers with up to three decimal places • Solve problems which require knowing percentage and decimal equivalents of a half, quarter, a fifth, two fifths and four fifths and those fractions with a denominator of a multiple of 10 or 25 • Recognise mixed numbers and improper fractions and convert them from one form to the other • Add and subtract fractions with the same denominators and with denominators with the same multiples • Multiply proper fractions and mixed numbers by whole numbers • Convert between different units of metric measure (k/m) (cm/ml) (g/kg) (l/ml) • 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 cm and square m and estimate the area of irregular shapes • Estimate and identify the volume • Draw given angles and measure them in degrees • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles, including finding missing lengths and angles • Identify angles at a point, straight line and a quarter turn • Identify and describe and represent the position of shapes after reflection and translation • Identify 3D shapes from 2D representations • Complete, read and interpret information in tables, including timetables and line graphs-identifying patterns and trends	• Use the numbers 3 4 5 and 6 makes this sum have the smallest possible answer: *I spent 3/5s of my money and had £1.40 left to buy lunch. How much money did I have to begin with?* • Substitute values into a simple formula to solve problems • Find the perimeter of a rectangle or the area of a triangle: *A rectangle has a perimeter of 20. What is the largest possible area it could have?* • Calculate with measures (time, capacity, length, mass) - *True or false? 1.5kg + 600 g = 2.1kg + 300g 32 cm + 1.05m = 150 cm – 0.13 m 3/4 L + 0.05 L = half of 1.6 L Explain your reasoning* • Apply angle properties in different contexts • Construct a triangle with angles of 48 degrees 60 degrees and 72 degrees and draw any rectilinear shape, with given dimensions, to the nearest millimetre
Key Vocabulary	

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions, decimals and percentages
Powers of 10	Efficient written method	Factor pairs 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

SKILLS MAP Mathematics – Year 6	
Expected	**Greater Depth**
Pupils can … • Demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,541?; find the difference between the largest and smallest whole numbers that can be made from using three digits; 8.09 = 8 + 9 ?; 28.13 = 28 + + 0.03) • Round any whole numbers to a given degree of accuracy • Use negative numbers in context including calculating intervals across zero • Perform mental calculations including mixed operations and large numbers, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation *(e.g. 53 – 82 + 47 = 53 + 47 – 82 =*	**Pupils can …** • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking • Have sufficient depth of knowledge and understanding to reason and explain mathematical concepts and procedures and use them to solve a variety of problems, using mathematical language

100 – 82 = 18; 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; 53 ÷ 7 + 3 ÷ 7 = (53 +3) ÷ 7 = 56 ÷ 7 = 8) • Use formal methods to solve multi-step problems *(e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?) Follow calculation policy* • Use knowledge of the order of operations to carry out calculation using the four operations (BODMAS) • Recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1 5 or 0.2 or 20% of the whole cake) • Express a remainder as a decimal or fraction • Add and subtract fractions with different denominations and mixed numbers • Multiply pairs of proper fractions and divide fractions by whole numbers • Use common factors to simplify fractions, compare and order fractions including fractions greater than one • Calculate using fractions, decimals or percentages *(e.g. knowing that 7 divided by 21 is the same as 7 21 and that this is equal to 1 3; 15% of 60; 11 2 + 3 4; 7 9 of 108; 0.8 x 70).* • Substitute values into a simple formula to solve problems *(e.g. perimeter of a rectangle or area of a triangle).* • Generate and describe linear number sequences • Express missing number problems algebraically • Find pairs of numbers that satisfies an equations with 2 unknown • Enumerate possibilities of combinations of 2 variables	

• Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm) • Convert between miles and km • Calculate and compare volumes of cubes and cuboids • Solve problems involving ratio and scale factor • Reason why shapes with the same area can have different perimeters (and vice versa) • Calculate areas of parallelograms and triangles	

Key Vocabulary

Number and place value	Addition and subtraction	Multiplication and division	Geometry (position and direction)	Geometry (properties of shape)	Fractions, decimals and percentages	Algebra	Data/statistics
Numbers to ten million	Order of operations	Order of operations 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

Years 5 and 6 CROSS-CURRICULAR LINKS

English Units:

- Power of Reading: The Promise – Data Handling: line graphs of emotions over time

Science:

Year 5 – Living Things and their Habitats: Life Cycles
- Data Handling

Year 5 – Earth and Space
- Shape
- Units of measure

Year 5 – Properties and changes to materials
- Data Handling

Year 5 – Forces
- Data Handling
- Units of measure

Year 5 – Animals including humans: Changes and Reproduction
- Data Handling

Year 6 – Animals including humans: Healthy Bodies
- Data Handling

Year 6 – Electricity
- Data Handling

Year 6 – Living Things and their Habitats: Classifying Organisms
- Data Handling

- Patterns

Year 6 - Light

- Data Handling

PE:

- Year 5 and 6 - Measure: in athletics and cross-country distances and times are measured and compared.
-

Geography:

Year 5 – The Amazing Americas

- Timetables

Year 5 – Marvelous Maps

- Time
- Timetables
- Distance
- Graphs
- Coordinates
- Measurement

Year 5 – The United Kingdom

- Statistics
- Pie Charts
- Distance
- Scale

Year 6 – Exploring Scandinavia

- Statistics
- Graphs
- Temperature

History:

Year 5 – Anglo-Saxons vs Viking

- Venn and Carroll diagrams

Computing Units:

Year 5:

- Children use their sequencing skills to create a written program (5.3)
- Data is a key part of the Maths curriculum. Work across Computing (5.4) and Maths can link back and forth here.
- Unit 5.4 (Data handling) has been specifically created to match up with the Maths Curriculum and aid in the coverage of the statistics objectives.

Year 6:

- Children learn how to convert binary code to denary (decimal) numbers and vice versa (6.3)
- Unit 6.10 (Data handling) has been specifically created to match up with the Maths Curriculum and aid in the coverage of the statistics objectives.

MFL - Spanish:

- Spanish Numbers, dates

RE:

- Dates and timelines are crossed with a link to History. Understanding the number of centuries that pass.
- Under the human and social lens children will be looking at surveys, graphs and data when examining the impact of belief and non-belief in the real world.
- In year 5 there is an examination of geometric tessellating patterns in Islamic art.

• For the SEND pupils there is an examination and an association to number of the lists of laws and rules like the 10 Commandments, the Five Pillars,
the eightfold path.

PSHE:

- Data handling – interpreting data and using this to back up opinion.
- Reasoning and problem-solving skills used in discussion-based lessons.

Music:

- Year 5: Classroom Jazz 1: Fractions; Sequences and Patterns
- Year 6: Classroom Jazz 2: Fractions; Sequences and Patterns; Ratio

SEN Adaptations for all Subjects

- Word Banks for pre-learning and to support during topics and themes
- Cutting and Sticking Key Words on to work as prompts
- Print out portions of work and learning objectives to minimise writing
- Coloured Paper or recycled paper to minimise visual stress
- Breaking down lessons into short, manageable chunks
- Mixed ability groups – using peers as support and role models
- Adult assistance nearby
- Using another student as a reader/support
- Knowledge map/Mind Maps
- Recording ideas on whiteboards as an aide memoire
- Recording devices to record their answers/sentences – talking tins, iPad
- Clipboards - flexibility of where to sit
- Printing work larger and in smaller chunks
- Cloze passages/activities to check learning
- Draw answers or explanations
- Songs and rhymes/mnemonics – Horrible Histories
- Actions – telling the story of a lesson
- My Turn/Your Turn
- Breaks
- Targets made clear for lessons and learning – linked to IEP
- Now/Next

Reasonable Adjustments in the classroom

- Weighted lap/shoulder blanket
- Visual Timetables – class and individual
- Fidget toys available
- Coloured Paper for visual stress
- Cushions for seats – wobble and wedge cushions
- Coloured Overlays
- Headphones/ear defenders
- Gloves/Plastic Paper (So don't have to touch paper)
- Remembering/'to do' lists
- iPad as a translator
- iPad to record ideas
- Dictation apps and programs
- 'Memory' buddy – prompt each other
- Equipment adapted for needs (books, scissors, pencils, whiteboard)
- Enlarged typefaces
- Open Dyslexia font used as standard practice
- Coloured exercise books (Crossbow Education)
- Changing font size
- Writing frames and scaffolding
- Word lists of key vocabulary for pre-learning and as prompts
- Relevant word banks of common language for different subjects
- Trying a 1:1 adult/adult nearby
- Having a study buddy
- Checking seating position – sight problems – near the back for sensory needs
- Writing slopes

- Whiteboards for practising writing or note taking (flowing)
- A safe/quiet space in or near the classroom
- Special interest projects linked to and alongside class learning
- Sensory time/circuits
- Sitting on a chair or specific spot on carpet or for Assembly/Collective Worship
- Reduced timetable
- Sensory room
- Proud/success book
- Read ahead in class stores or texts for over learning
- Extra break time-or break at a different time
- Zoning the playground or field for containment and added sense of safety
- ATT
- Behaviour plans
- One Page Pupil Profiles
- Resistance bands
- Social stories
- Extra time for the trickier tasks
- Use of concrete resources in Maths
- Visual and Picture aids
- Emotion fans/PATHS cards
- Extra RSE learning/PANTS video to understand appropriate behaviour and emotions
- Allow talk time for those who find recording difficult
- Use of a scribe
- Worry monsters and boxes
- Place value and times tables resources
- Close to adult support

- Time-outs
- Simplified work
- Keeping instructions short and one at a time
- Access to note taking materials
- Adjust attainment expectations – P levels, AET targets
- Seating plans are clear for all pupils
- Personal calendar/ knowledge planner
- Checklists (e.g., going home)
- Laptop dictation
- Learning some basics of a language for an EAL pupil
- Pencil grippers – variety of pens and pencils
- Variety of pens/writing implements
- Lunch time and break time adult support
- Greeting at the door to aid transition into school and lessons
- Success book
- Workstation
- Ask the child what they need
- Sensory tent/area
- Communication cards/non-verbal prompts -e.g., toilet
- Clapping quietly
- Nature sounds or quiet classical music when working/coming into class
- Music for different transitions
- Not having a white background on whiteboard
- Success Book
- Ensuring a wide variety of reading material is available
- Tall tables where children can stand and work

- Mapping 'hotspots' for children around the class and school which may trigger heightened anxiety
- Mapping safe and calm spots around school – you may be surprised!

Long Term Maths Plan

Year 3 Objective

Term	1st half-term		2nd half-term	
Autumn	**Place Value:** • Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit numbers • Count from 0 in multiples of 4, 8, 50 and 100 • Compare and order numbers up to 1000 • Read and write numbers to 100 in numerals and words • Find 10 or 100 more or less than a given number • Recognise the place value of each digit in a 3-digit number (HTU) • Solve number problems and practical problems involving the above	**Addition and Subtraction:** • Calculate complements to 100 • Add and subtract numbers mentally (HTU±U, HTU ± T, HTU ± H) • Add numbers with up to 3-digits using formal written methods • Subtract numbers with up to 3-digits using formal written methods • Estimate and use inverse operations • Solve addition and subtraction 2-step problems in context (choose and explain methods)	**Number Properties:** • Recall and use multiplication and division facts for the 3, 4- and 8-times tables • Write and calculate mathematical statements for multiplication and division using times tables that they know (including TU x U) • Divide 100 into 2, 4, 5 and 10 equal parts and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts	**Multiplication and Division:** • Begin to use formal methods of multiplication and division (based on times table knowledge) • Solve problems involving multiplication and division in context (including missing number problems)
Spring	**Properties of Fractions and Decimals:** • Count up and down in tenths • Recognise that tenths arise from dividing a number/object into 10 equal parts • Recognise, find and write fractions of a set of objects • Recognise and use fractions as numbers • Recognise, and show with diagrams, equivalent fractions with small denominators • Compare and order fractions with the same denominator • Add and subtract fractions with the same denominator within one whole (5/7 + 1/7 = 6/7) • Solve problems that involve the above	**Time:** • Tell and write the time from: analogue clocks (including Roman Numerals), 12-hour clocks, 24-hour clocks • Estimate and read time to the nearest minute • Use vocabulary such as: o'clock, a.m./p.m., morning, afternoon, noon, midnight • Know the number of seconds in a minute, the number of days in each month, year and leap year • Compare how long two things have taken	**Properties of Shape:** • Identify horizontal, vertical lines and pairs of perpendicular and parallel lines • Draw 2-D shapes • Make 3-D shapes using modelling materials • Recognise 3-D shapes and describe them	**Angles:** • Recognise that angles are a property of a shape or a description of a turn • Identify right-angles • Recognise that 2 right-angles make a half-turn, three make three quarters and four a complete turn • Identify whether angles are greater than or less than a right angle

Term	1st half-term			2nd half-term
Summer	**Data Handling:** • Interpret and present data using bar charts, pictograms and tables • Solve one- and two-step problems using information from bar charts, pictograms and tables (How many more? How many fewer?)	**Money:** • Add and subtract amounts of money to give change (£ and p in practical contexts)	**Solving Problems with Measure:** • Compare lengths (m/cm/mm) • Compare mass (kg/g) • Compare volume (l/ml) • Measure lengths (m/cm/mm) • Measure mass (kg/g) • Measure volume (l/ml) • Add and subtract lengths, mass and capacity • Measure perimeters of simple 2-D shapes	**Revisions/Tests/Addressing Weaknesses**

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Year 4 Objective

Term	1st half-term			2nd half-term		
Autumn	**Place Value:** • Know that 10 hundreds are equivalent to 1 thousand, and that 100 is 10 times the size of 10; apply this to identify and work out how many 100s there are in other four-digit numbers • Count in multiples of 6, 7, 9, 25 and 1000 • Order and compare numbers beyond 1000 • Find 1000 more or less than a given number • Recognise the value of each digit in a 4-digit number (ThHTU) • Read R.N.s to 100 • Round any number to the nearest 10, 100, 1000 • Count backwards through 0 to include negative numbers • Solve number and practical problems involving the above with increasingly large numbers	**Addition and Subtraction:** • Add and subtract numbers with up to 4-digits using formal written methods • Estimate and use inverse operations to check answers to a calculation • Solve addition and subtraction 2-step problems in context (choose methods, explain why)	**Perimeter:** • Measure and calculate the perimeter of a rectilinear shape (including squares) in cm and m	**Number Properties:** • Recall multiplication and division facts for tables up to 12 x 12 • Use place value, known and derived facts to multiply and divide mentally (including multiplying by 0 and 1; dividing by 1; multiplying 3 numbers) • Recognise and use factor pairs and commutative in mental calculations • Divide 1000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1000 with 2, 4, 5 and 10 equal parts	**Multiplication and Division:** • Find the effect of multiplying and dividing a 1- or 2-digit number by 10 and 100 (identify value of digits in answers as ones, tenths, hundredths) • Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written methods • Divide 2-digit numbers by 1-digit numbers using tables knowledge and bus-stop method • Solve problems involving multiplication and division • Solve division problems, with 2-digit dividends and 1-digit divisors, that involve remainders, and interpret remainders appropriately according to the context • Understand and apply the distributive property of multiplication	**Area:** • Find the area of rectilinear shapes by counting squares

Curriculum Skills and Progression Map

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<table>
<tr><th>Term</th><th colspan="5">1st half-term</th><th colspan="3">2nd half-term</th></tr>
<tr><td>Spring</td><td colspan="2"><u>Properties of Fractions and Decimals:</u>
Count up and down in hundredths
Recognise that hundredths arise from dividing an object by 100 and dividing tenths by 10
Round decimals with 1d.p. to the nearest whole number
Compare numbers with the same number of dp.
Recognise and show, using diagrams, families of common equivalent fractions (1/2, 2/4, 3/6, 4/8)</td><td><u>Fractions:</u>
Add and subtract fractions with the same denominator
Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
Recognise and write decimal equivalents of any number of tenths and hundredths
Solve problems involving calculating quantities and fractions to divide quantities
Solve simple measure and money problems involving fractions and decimals to 2 d.p.</td><td colspan="2"><u>Time:</u>
Read, write and convert time between analogue and digital clocks (12 hour and 24 hour)
Solve problems involving converting from hours to minutes; minutes and seconds; years to months; weeks to days</td><td><u>Properties of Shape:</u>
Compare and classify geometric shapes (including quadrilaterals and triangles) based on their properties
Identify lines of symmetry in 2-D shapes
Complete a simple symmetric figure across a line a symmetry</td><td><u>Angles:</u>
Identify acute, obtuse, and reflex angles
Compare and order angles by size</td><td><u>Coordinates:</u>
Describe positions on a 2-D grid as coordinates in the first quadrant
Plot specified points draw sides to complete a given polygon</td></tr>
<tr><td>Summer</td><td><u>Data Handling:</u>
Interpret and present discrete and continuous data using bar charts
Solve problems using information presented in bar charts, pictograms, tables and other graphs (comparison, sum and difference)</td><td><u>Transformation:</u>
Describe movements between positions as translations of a given unit to the left/right and up/down</td><td><u>Units of Measure:</u>
Convert between different units of measurement (km/m, hour/minute)</td><td><u>Solving Problems with Measures:</u>
Compare different measures, including money
Estimate different measures, including money</td><td colspan="4">Revisions/Tests/Addressing Weaknesses</td></tr>
</table>

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Year 5 Objective

Term	1st half-term			2nd half-term		
Autumn	**Place Value:** • To know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 • Count forward or backward in steps of 10 from any number (up to 1000000) • Know value of each digit up to 1000000 • Read, write, order and compare numbers to at least 1000000 • Rounding (to the nearest 10, 100, 1000, 10000, 100000) • Negative number counting • Solve practical number problems involving the above	**Addition and Subtraction:** • Commutativity • Add and subtract numbers mentally • Column addition (4+digit numbers) • Column subtraction (4+digit numbers) • Solve multi-step addition and subtraction problems (choose methods and explain why)	**Perimeter:** • Measure and calculate the perimeter of composite rectilinear shapes	**Number Properties:** • Secure fluency in multiplication table facts, and corresponding division facts, through continued practice • Prime numbers, prime factors and composite numbers • Square numbers and cubed numbers (including notation) • Identify multiples and factors (including common factors) • Multiply and divide by 10, 100, 1000 including decimals • Read Roman Numerals up to 1000 • Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts	**Multiplication and Division:** • Multiply and divide numbers mentally drawing upon known facts • Multiply using a written method (up to 4-digit x 2-digit numbers) • Divide numbers using written method (up to 4-digit ÷ 1-digit numbers) • Solve problems involving multiplication and division (including simple scaling)	**Area:** • Calculate and compare the area of rectangles (cm^2, m^2) • Estimate the area of irregular shapes • Estimate volume ($1cm^3$ blocks) and capacity (water)

Curriculum Skills and Progression Map

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<table>
<tr><th>Term</th><th colspan="5">1st half-term</th><th colspan="5">2nd half-term</th></tr>
<tr><td>Spring</td><td colspan="2"><u>Properties of Fractions and Decimals:</u>
Recognise and use tenths, hundredths and thousandths
Round decimal with 2d.p. to nearest whole number and 1d.p.
Read, write, order and compare numbers with up to 3d.p.
Read and write decimal numbers as fractions (0.71 = 71/100)
Identify and write equivalent fractions
Cancel fractions
Solve problems involving numbers up to 3d.p.</td><td colspan="2"><u>Fractions:</u>
Add and subtract fractions with the same denominator and denominators that are multiples of the same number
Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers
Compare and order fractions (whose denominators are multiples of the same number)
Multiply proper fractions and mixed numbers by whole numbers
Recognise mixed numbers and improper fractions and convert from one to the other
Find fractions of amounts</td><td><u>Percentage:</u>
Recognise the % symbol
Understand that percentage relates to ‘number of parts per 100’
Write percentage as a fraction and as a decimal
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, 1/5, 2/5, 4/5 and fractions with denominators of 10 or 25</td><td colspan="2"><u>Properties of Shape:</u>
Use properties of rectangles to identify missing lengths/angles
Identify regular and irregular polygons
Properties of 2-D shapes
Properties of 3-D shapes</td><td><u>Angles:</u>
Estimate and compare acute, obtuse and reflex angles in degrees
Draw given angles and measure in degrees
Angles in a triangle (180˚)
Angles on a straight line (180˚)
Angles round a point (360˚)</td><td><u>Coordinates:</u>
Identify and plot coordinates
Plot specified points to complete polygons</td></tr>
<tr><td>Summer</td><td><u>Data Handling:</u>
Complete, read and interpret information from tables (including timetables)
Solve problems using information from bar charts,</td><td><u>Transformation:</u>
Identify, describe and represent the position of a shape following a reflection or a translation</td><td><u>Units of Measure:</u>
Convert between different metric units of measure
Understand and use approximate equivalence between metric and imperial (inches, pounds, pints)</td><td><u>Solving Problems with Measures:</u>
Use all 4 operations to solve problems involving money, length, mass and volume (including scaling)</td><td><u>Time:</u>
Solve problems converting between units or time</td><td><u>Sequences:</u>
Recognise and describe number sequences (including fractions and decimals)
Identify term-to-term rule in the sequence</td><td colspan="3">Revisions/Tests/ Addressing Weaknesses</td></tr>
</table>

	pictograms or line graphs						

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Year 6 Objective

Term	1st half-term			2nd half-term		
Autumn	**Place Value:** • Read, write, order and compare numbers to 10000000 and determine the value of each digit in numbers up to 10000000 • Round any whole number to required degree of accuracy • Use negative numbers in context, calculate across zero • Multiply and divide by 10, 100, 1000 giving answers to 3 d.p. • Solve practical number problems involving the above	**Addition and Subtraction:** • Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number) • Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse operations and place-value understanding • Solve addition and subtraction multi-step problems (decide which operations/methods to use and explain why)	**Multiplication and Division:** • Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number) • Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse operations and place-value understanding • Multiply using the formal written method (up to 4-digit x 2-digit numbers) • Multiply 1-digit numbers with up to 2d.p. by whole numbers • Divide numbers using written method (up to 4-digit ÷ 2-digit numbers) and interpret remainders as appropriate for context (whole, fraction, rounding) • Use written division for answers with up to 2dp • Solve problems involving +, -, x and ÷ using knowledge of order of operations	**Number Properties:** • Identify common factors, common multiples and prime numbers • Perform mental calculations, including with mixed operations and large numbers • Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts	**Properties of Fractions and Decimals:** • Use common factors to simplify fractions • Use common multiples to express fractions in the same denomination • Compare and order fractions (including fractions >1) • Identify the value of each digit to 3 d.p.	**Fractions and Percentage:** • Recognise when fractions can be simplified, and use common factors to simplify fractions • Express fractions in a common denomination and use this to compare fractions that are similar in value • Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy • Add and subtract fractions with different denominators and mixed numbers (using concept of equivalent fractions) • Multiply simple pairs of proper fractions writing answers in simplest form • Associate fractions with division to calculate decimal fraction equivalents • Recall and use equivalence between simple fractions, decimals and percentages (including in different contexts)

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Curriculum Skills and Progression Map

Nebula
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<table>
<tr><th>Term</th><th colspan="3">1st half-term</th><th colspan="3">2nd half-term</th></tr>
<tr><td>Spring</td>
<td><u>Algebra:</u>
Express missing number problems algebraically
Use simple formulae
Generate and describe linear number sequences
Find pairs of numbers that satisfy an equation with 2 unknowns
Enumerate possibilities of combinations of 2 variables</td>
<td><u>Area and Volume:</u>
Recognise shapes with the same area can have different perimeters and vice versa
Calculate the area of parallelograms and triangles
Recognise when it is possible to use formulae for the area of shapes
Calculate, estimate and compare volume of cubes and cuboids (cm^3, m^3, km^3)
Recognise when it is possible to use the formulae for the volume of shapes</td>
<td><u>Ratio and Proportion:</u>
Solve problems involving the relative size of 2 quantities (missing values found using x and ÷ facts)
Solve problems involving the calculation of percentages
Solve problems involving similar shapes where scale factor is known or can be found
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</td>
<td><u>Angles:</u>
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</td>
<td><u>Properties of Shape:</u>
Compare and classify geometric shapes based on their properties and sizes
Describe simple 3-D shapes
Draw 2-D shapes given dimensions and angles
Recognise, describe and build simple 3-D shapes, including making nets
Illustrate and name parts of a circle, including radius, diameter and circumference
Know diameter is twice the radius</td>
<td><u>Coordinates and Transformations:</u>
Draw and translate simple shapes on the coordinate plane, and reflect them in axes
Describe positions on full coordinate grid (all 4 quadrants)</td></tr>
<tr><td>Summer</td>
<td colspan="2"><u>Data Handling:</u>
Interpret and construct pie charts and line graphs and use these to solve problems
Calculate and interpret the mean as an average</td>
<td><u>Solving Problems with Measures:</u>
Use, read and convert between standard units (length, mass, volume, time) from smaller units to larger and vice versa (up to 3 d.p.)
Convert between miles and kilometres
Solve problems involving the conversion of measure (up to 3 d.p.)</td>
<td colspan="2">Revisions/Tests/
Addressing Weaknesses</td>
<td>Transition work</td></tr>
</table>

Calculation Hand-out for Parents

Addition

the process of calculating the total of two or more numbers or amounts.

The horizontally expanded addition method:

Not crossing the ten-barrier:	Crossing the ten-barrier:
72 + 25 =	58 + 64 =
70 + 2 20 + 5 90 + 7 = 97	50 + 8 60 + 4 110 + 12 = 122

The vertically expanded method of addition:

Using whole numbers:	Using decimals:
58 + 64 =	54.38 + 76.94 =
58 + 64 12 110 122	54.38 + 76.94 0.12 1.20 10.00 120.00 131.32 Zeros are used as place holders

Compact column method of addition:

Using whole numbers:	Using decimals:
58 + 64 =	54.38 + 76.94 =
58 + 64 122 1	54.38 + 76.94 131.32 11 1

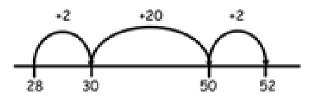
Subtraction

Taking one quantity away from another

Finding the difference between two quantities

The numberline method of subtraction:

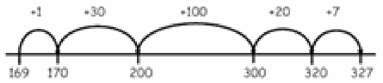
52 – 28 =



52 – 28 = 20 + 2 + 2 = 24

The numberline method of subtraction using larger numbers:

327 – 169 =



327 – 169 = 100 + 30 + 20 + 1 + 7 = 158

Horizontally expanded decomposition method of subtraction:

327 – 169 =

	~~300~~ 200	+	~~20~~ 110	+	17	
-	100	+	60	+	9	
	100	+	50	+	8	= 158

Decomposition method of subtraction:

327 – 169 =

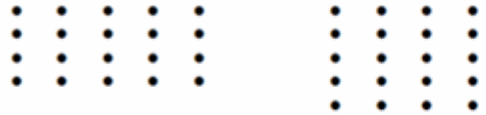
	~~3~~ 2	~~2~~ 11	17
-	1	6	9
	1	5	8

Multiplication

Repeated addition, e.g. a x b, means add b lots of a

Arrays

4 x 5 = 20



The grid method for multiplication:

34 x 21 =

	30	4
20	20 x 30 = 600	20x4 = 80
1	1 x 30 = 30	1x4 = 4

So, 34 x 21 = 600 + 80 + 30 + 4 = 714

Expanded multiplication (grid method without the grid):

34 x 21 = 714

$$\begin{array}{r} 34 \\ \times\ 21 \\ \hline 680 \\ +\ 34 \\ \hline 714 \\ {\scriptstyle 1} \end{array}$$

(34 x 20)
(34 x 1)

Short multiplication:

24 x 9 = 216

$$\begin{array}{r} 24 \\ \times\ 9 \\ \hline 216 \\ {\scriptstyle 3} \end{array}$$

Long multiplication:

34 x 21 = 714

$$\begin{array}{r} 34 \\ \times\ 21 \\ \hline 680 \\ +\ 34 \\ \hline 714 \\ {\scriptstyle 1} \end{array}$$

(34 x 20)
(34 x 1)

Division

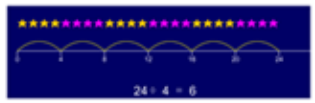
Sharing, e.g. 12 ÷ 3, means 12 shared equally between 3 people

Grouping, e.g. 12 ÷ 3, means how many groups of 3 can you make out of 12

Grouping on a numberline method of division:

Using the Grouping ITP:

24 ÷ 4 =



182 ÷ 8 =

So, 182 ÷ 8 = 10 + 10 + 2, remainder 6 = 22 r.6

The bus-stop method of division (short division):

825 ÷ 3 = 275

$$\begin{array}{r} 275 \\ 3\overline{)8^{2}2^{1}5} \end{array}$$

647 ÷ 3 = 182 r.1

$$\begin{array}{r} 182\ \text{r.}1 \\ 3\overline{)5\ ^{2}4\ 7} \end{array}$$

Long-division:

425 ÷ 25 = 17

$$\begin{array}{r} 017 \\ 25\overline{)425} \\ 0\downarrow \\ 42 \\ -\ 25 \\ 175 \\ -\ 175 \\ 000 \end{array}$$

How Maths Looks at OCJS

All children are timetabled an hour-a-day of maths; years 3 and 4 also receive half-an-hour of timetables lesson, where they are taught ways to remember their tables and given time to learn and practise their tables, this helps to increase their fluency and prepare them for the Year 4 Times Table Test. Years 5 and 6 have half-an-hour arithmetic lesson to help them practise and consolidate the written methods for the four operations and prepare them for the Key Stage 2 SATs arithmetic paper.

To prepare children for the year 4 Times Tables test and aid them in other areas of mathematics we have a whole school focus on times tables. To help us do this we use Times Tables Rock Stars and the Times Table Challenge:

- **Times Table Rock Stars**

Times Tables Rock Stars is a carefully sequenced programme of daily times tables practice.

Each week concentrates on a different times table, with a recommended consolidation week for rehearsing the tables that have recently been practised every third week or so.

This format has very successfully boosted times tables recall speed for hundreds of thousands of pupils over the last 8 years in over 14,000 schools - both primary and secondary - worldwide.

Old Catton Junior School has bought into Times Table Rock Stars and every child has a licence to use it both in school and at home.

- **Times Table Challenge**

Throughout the school, in sets where it is needed, children have daily times table practise and try to complete the Times table challenge. If they complete 3 tests (20 questions in 2 minutes) for a times table, they get a sticker and once they complete all times tables up to 12x12 and multiple tables test they are awarded with a badge in celebration assembly.

Sets

Maths at Old Catton is taught in ability sets, this enables us to provide lessons that ensure challenge for all children. The top sets enable higher attainers greater challenge, with higher level teaching, at a quicker pace and the lower sets enable lower ability learners to slow down to the pace they may need to catch up and grasp the basic concepts they may be lacking. However, in all sets the curriculum for each year is covered. Additional adults are also employed in the lower sets to provide extra support to those who need it, plus one-to-one and one-to-two provision for SEND children where necessary.

Year 3 and 4

Year 4 Top Set

Year 4 Bottom Set

Year 3 Top Set

Year 3 Bottom Set

Year 5 and 6

Year 5 Top Set

Year 5 Middle Set

Year 5 Bottom Set

Year 6 Top Set

Year 6 Middle Set

Year 6 Bottom Set

Working Walls

All classrooms have a maths working wall for children to use as a resource. It may include, key vocabulary related to the area that they are currently working on, examples of methods that they may need to use, WAGOLLs (what a good one looks like) completed by either teacher or students, equipment or resources that they may need to use.

Intervention

Half-termly Pupil Progress meetings between teachers and senior teachers identify both children who need extra help and support to fill-in gaps in their learning and children who have the potential to exceed their year group's expected level and these children may receive intervention with either teachers or teaching assistants.

Every year, in the Spring Term/Summer Term we identify Year 6 children who may benefit from additional intervention through teacher tuition. This allows teachers to offer small groups, intensive support in the run up to SATs. The sessions are provided after school with the permission from parents.

Homework

In years 3 and 4 weekly maths homework is set on Times Table Rockstars in order for children to learn and consolidate their timetables in preparation for the year 4 MTC and to give a solid base for further mathematics.

In year 5 are set weekly homework on Prodigy. Prodigy is an online program where children embark on a journey filled with quests, battles, spells and rewards. Every battle brings more skill-building math questions for students to solve.

In Year 6, children are set weekly maths homework that gives them a chance to consolidate what they have been learning in lessons and also provides parents with the opportunity to see what their child has been learning in maths and the potential for them to work with their child to assist them with their learning. In the Spring and Summer Term we replace Maths homework with Revision Guide work. We use the CGP Revision Guides, which school fund, with a voluntary donation from parents, to supplement their preparation for the end of KS2 tests.

Assessment

Children are assessed in a variety of ways. Using Rising Stars tests at the end of each term and sometimes a shorter Rising Star test at half-terms, (with only three official data drops per year). Year 6 take a past SATs paper every half-term to both help inform teachers of their progress and give them practise and to prepare them for the SATs at the end of the year.

Teachers also continually assess children in their groups, from their performance and the work that they complete in lessons.

Both of these assessments are recorded on Pupil Asset, the test results in the results area and the teacher assessment using DNA ticks to cover progress within units of work.

Analysis of test data is broken down to identify areas of strength and weakness in order to feed into next steps for teaching and fill gaps.

In order to move the children's learning on, we use next step marking and greater depth questions in pupil's books. These are designed to assess where the children have got to, with a clear next step set in order to progress their learning. This is completed independently to show the teacher individual understanding.