Curriculum Progression for Maths

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Maths is an essential focus for everyday life which confirms the importance of a high-quality mathematics education for our pupils. At Frodsham CE, we hope to provide our children with all the core skills necessary to make rich connections across mathematical concepts to develop their fluency, reasoning and problem solving in order to apply their mathematical understanding across the curriculum and to everyday situations in the wider world. We know that for our pupils to have the best opportunities possible in later life and future employment, they need to be confident and competent in their understanding of the number system. As such, our intention is to deliver a curriculum that is ambitious for all pupils and successfully adapted, designed and developed to maximise the outcomes for all pupils, including those with SEND. We aim for all our pupils to have positive attitudes about achievement in mathematics so it is a subject which they can enjoy, build resilience and also be challenged in their thinking.

Our aims of teaching mathematics are to:
- promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- provide opportunities to revisit and apply skills in different contexts;
- develop competence and confidence with numbers and the number system;
- develop the ability to solve problems through decision making and reasoning in a range of contexts;
- develop a practical understanding of the ways in which information is gathered and presented;
- explore features of shape and space, and develop measuring skills in a range of contexts;
- help children to understand the importance of mathematics in everyday life;
- develop the cross-curricular use of mathematics in other subjects.

Maths is delivered following the White Rose scheme though teachers can supplement the lessons with ideas and resources from a wider range of platforms to ensure children's learning is varied and challenging. These include, but are not limited to, NRICH, NCETM, Planpanion and First4Maths. Maths should be taught at least 4 times a week with KS1 lessons running to approximately 45-50 minutes and 60 minutes in KS2. A wide range of age-appropriate resources are available for all pupils in order for teachers to better use models and images to support learning in each area and enable the progression from concrete to pictorial to abstract. Curriculum progression is based on the White Rose yearly overviews which set the curriculum out in blocks enabling children to get to grips with different areas of maths through extended periods of time. Teachers implement the schools agreed calculation policies for progression in written and mental calculations and pre and post unit assessments are used where appropriate which help teachers to gather an understanding of their pupil's existing and developing knowledge and skills. Correct mathematical vocabulary is used by all teachers and this is discussed with and explained to children who are then encouraged to use it independently when talking about maths. Key vocabulary is also displayed on working walls along with modelled methods and visual reminders/prompts linked to the current mathematical focus.

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NURSERY

2 year old children can…
- Take part in finger rhymes with numbers. React to changes of amount in a group of up to three items.
- Compare amounts, saying 'lots', 'more' or 'same'. Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.
- Count in everyday contexts, sometimes skipping numbers – '1-2-3-5'.
- Climb and squeeze themselves into different types of spaces.
- Build with a range of resources.
- Complete inset puzzles.
- Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.
- Notice patterns and arrange things in patterns.

3 and 4 year old children can…
- Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
- Recite numbers past 5.
- Say one number for each item in order: 1,2,3,4,5.
- Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
- Show 'finger numbers' up to 5.
- Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
- Experiment with their own symbols and marks as well as numerals.
- Solve real world mathematical problems with numbers up to 5.
- Compare quantities using language: 'more than', 'fewer than'
- Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'
- Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc.
- Understand position through words alone – for example, "The bag is under the table," – with no pointing.
- Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'
- Make comparisons between objects relating to size, length, weight and capacity.
- Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.

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- Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern.
- Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

Key vocabulary:

one, two, three, four, five, six, seven, eight, nine, ten, lots, more, same, big(ger), little, small(er), tall, heavy, patterns, total, more than, fewer than, circle, rectangle, triangle, cuboid, sides, corners, straight, flat, round, under, on, next to, in front of, behind, pointy, spotty, stripy, first, next, then, last

RECEPTION

Children can…

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.
- Understand the 'one more than/one less than' relationship between consecutive numbers.
- Explore the composition of numbers to 10
- Automatically recall number bonds for numbers 0–5 and some to 10.
- Select, rotate and manipulate shapes 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.
- Continue, copy and create repeating patterns.
- Compare length, weight and capacity.

Key vocabulary:

eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, one more, one less, number bonds,

YEAR 1

Autumn Term	Spring Term	Summer Term
Place Value (within 10)	**Place Value (within 20)**	**Multiplication and Division**
• Sort objects	• Count within 20	• Count in 2s
• Count objects	• Understand 10	• Count in 10s
• Count objects from a larger group	• Understand 11, 12 and 13	• Count in 5s
• Represent objects	• Understand 14, 15 and 16	• Recognise equal groups
• Recognise numbers as words	• Understand 17, 18 and 19	• Add equal groups
• Count on from any number	• Understand 20	• Make arrays
• 1 more	• 1 more and 1 less	• Make doubles
• Count backwards within 10	• The number line to 20	• Make equal groups – grouping

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Curriculum Progression for Maths

- 1 less
- Compare groups by matching
- Fewer, more, same
- Less than, greater than, equal to
- Compare numbers
- Order objects and numbers
- The number line

Key vocabulary:
sort, represent, multiples, partitioning, ones, tens

Addition and Subtraction (within 10)
- Introduce parts and wholes
- Part-whole model
- Write number sentences
- Fact families – addition facts
- Number bonds within 10
- Systematic number bonds within 10
- Number bonds to 10
- Addition – add together
- Addition – add more
- Addition problems
- Find a part
- Subtraction – find a part
- Fact families – the eight facts
- Subtraction – take away/cross out (How many left?)
- Take away (How many left?)
- Subtraction on a number line
- Add or subtract 1 or 2

Key vocabulary:

- Use a number line to 20
- Estimate on a number line to 20
- Compare numbers to 20
- Order numbers to 20

Key vocabulary:
Consolidate language from previous units

Addition and Subtraction (within 20)
- Add by counting on within 20
- Add ones using number bonds
- Find and make number bonds to 20
- Doubles
- Near doubles
- Subtract ones using number bonds
- Subtraction – counting back
- Subtraction – finding the difference
- Related facts
- Missing number problems

Key vocabulary:
Consolidate language from previous units

Place Value (within 50)
- Count from 20 to 50
- 20, 30, 40 and 50
- Count by making groups of tens
- Groups of tens and ones
- Partition into tens and ones
- The number line to 50
- Estimate on a number line to 50
- 1 more, 1 less

Key vocabulary:
Consolidate language from previous units

- Make equal groups – sharing

Key vocabulary:
multiplication, division, arrays

Fractions
- Recognise a half of an object or a shape
- Find a half of an object or a shape
- Recognise a half of a quantity
- Find a half of a quantity
- Recognise a quarter of an object or a shape
- Find a quarter of an object or a shape
- Recognise a quarter of a quantity
- Find a quarter of a quantity

Key vocabulary:
whole, half, quarter, equal parts

Position and Direction:
- Describe turns
- Describe position – left and right
- Describe position – forwards and backwards
- Describe position – above and below
- Ordinal numbers

Key vocabulary:
position, direction, movement, whole turn, quarter turn, half turn, three-quarter turn

Place Value (within 100)
- Count from 50 to 100
- Tens to 100
- Partition into tens and ones
- The number line to 100
- 1 more, 1 less

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addition, add, subtraction, difference, equals, facts, problems, missing number problems, 2-digit number, inverse

Shape
- Recognise and name 3-D shapes
- Sort 3-D shapes
- Recognise and name 2-D shapes
- Sort 2-D shapes
- Patterns with 2-D and 3-D shapes

Key vocabulary:
sides, corners, properties, pyramids, faces

Length and Height
- Compare lengths and heights
- Measure length using objects
- Measure length in centimetres

Key vocabulary:
compare

Mass and Volume
- Heavier and lighter
- Measure mass
- Compare mass
- Full and empty
- Compare volume
- Measure capacity
- Compare capacity

Key vocabulary:
mass, volume

- Compare numbers with the same number of tens
- Compare any two numbers

Key vocabulary:
Consolidate language from previous units

Money
- Unitising
- Recognise coins
- Recognise notes
- Count in coins

Key vocabulary:
money, notes, coins, pounds (£), pence (p)

Time
- Before and after
- Days of the week
- Months of the year
- Hours, minutes and seconds
- Tell the time to the hour
- Tell the time to the half hour

Key vocabulary:
chronological order, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, January, February, March, April, May, June, July, August, September, October, November, December, month, year, o'clock, half past, second

YEAR 2		
Autumn Term	**Spring Term**	**Summer Term**
Place Value • Numbers to 20	**Money** • Count money – pence	**Fractions** • Introduction to parts and whole

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Curriculum Progression for Maths

- Count objects to 100 by making 10s
- Recognise tens and ones
- Use a place value chart
- Partition numbers to 100
- Write numbers to 100 in words
- Flexibly partition numbers to 100
- Write numbers to 100 in expanded form
- 10s on the number line to 100
- 10s and 1s on the number line to 100
- Estimate numbers on a number line
- Compare objects
- Compare numbers
- Order objects and numbers
- Count in 2s, 5s and 10s
- Count in 3s

Key vocabulary:
count in steps, count in multiples, place value, estimate, compare

Addition and Subtraction
- Bonds to 10
- Fact families - addition and subtraction bonds within 20
- Related facts
- Bonds to 100 (tens)
- Add and subtract 1s
- Add by making 10
- Add three 1-digit numbers
- Add to the next 10
- Add across a 10
- Subtract across 10
- Subtract from a 10

- Count money – pounds (notes and coins)
- Count money – pounds and pence
- Choose notes and coins
- Make the same amount
- Compare amounts of money
- Calculate with money
- Make a pound
- Find change
- Two-step problems

Key vocabulary:
value, change

Multiplication and Division
- Recognise equal groups
- Make equal groups
- Add equal groups
- Introduce the multiplication symbol
- Multiplication sentences
- Use arrays
- Make equal groups – grouping
- Make equal groups – sharing
- The 2 times-table
- Divide by 2
- Doubling and halving
- Odd and even numbers
- The 10 times-table
- Divide by 10
- The 5 times-table
- Divide by 5
- The 5 and 10 times-tables

Key vocabulary:

- Equal and unequal parts
- Recognise a half
- Find a half
- Recognise a quarter
- Find a quarter
- Recognise a third
- Find a third
- Find the whole
- Unit fractions
- Non-unit fractions
- Recognise the equivalence of a half and two-quarters
- Recognise three-quarters
- Find three-quarters
- Count in fractions up to a whole

Key vocabulary:
three quarters, third, equivalent fractions, unit fractions, non-unit fractions, numerator, denominator, one whole,

Time
- O'clock and half past
- Quarter past and quarter to
- Tell the time past the hour
- Tell the time to the hour
- Tell the time to 5 minutes
- Minutes in an hour
- Hours in a day

Key vocabulary:
intervals of time, quarter past, quarter to, duration

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- Subtract a 1-digit number from a 2-digit number (across a 10)
- 10 more, 10 less
- Add and subtract 10s
- Add two 2-digit numbers (not across a 10)
- Add two 2-digit numbers (across a 10)
- Subtract two 2-digit numbers (not across a 10)
- Subtract two 2-digit numbers (across a 10)
- Mixed addition and subtraction
- Compare number sentences
- Missing number problems

Key vocabulary:
sum, 3-digit number, commutative

Shape
- Recognise 2-D and 3-D shapes
- Count sides on 2-D shapes
- Count vertices on 2-D shapes
- Draw 2-D shapes
- Lines of symmetry on shapes
- Use lines of symmetry to complete shapes
- Sort 2-D shapes
- Count faces on 3-D shapes
- Count edges on 3-D shapes
- Count vertices on 3-D shapes
- Sort 3-D shapes
- Make patterns with 2-D and 3-D shapes

Key vocabulary:
pentagon, hexagon, line of symmetry, properties, cylinder, edges, vertices, vertex

multiplication tables, commutative, repeated addition

Length and Height
- Measure in centimetres
- Measure in metres
- Compare lengths and heights
- Order lengths and heights
- Four operations with lengths and heights

Key vocabulary:
standard units, estimate, order, record results, centimetre (cm), metre (m)

Mass, Capacity and Temperature
- Compare mass
- Measure in grams
- Measure in kilograms
- Four operations with mass
- Compare volume and capacity
- Measure in millilitres
- Measure in litres
- Four operations with volume and capacity
- Temperature

Key vocabulary:
kilogram (kg), gram (g), quarter full, three quarters full, litre (l), millilitre (ml), temperature, Celsius

Statistics
- Make tally charts
- Tables
- Block diagrams
- Draw pictograms (1–1)
- Interpret pictograms (1–1)
- Draw pictograms (2, 5 and 10)
- Interpret pictograms (2, 5 and 10)

Key vocabulary:
pictogram, tally chart, block diagram, category, sorting, totalling, comparing, horizontal, vertical

Position and Direction
- Language of position
- Describe movement
- Describe turns
- Describe movement and turns
- Shape patterns with turns

Key vocabulary:
clockwise, anti-clockwise, straight line, rotation, arrange, sequences

YEAR 3

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Curriculum Progression for Maths

Autumn Term	Spring Term	Summer Term
Place Value	**Multiplication and Division B**	**Fractions B**
• Represent numbers to 100	• Multiples of 10	• Add fractions
• Partition numbers to 100	• Related calculations	• Subtract fractions
• Number line to 100	• Reasoning about multiplication	• Partition the whole
• Hundreds	• Multiply a 2-digit number by a 1-digit number – no exchange	• Unit fractions of a set of objects
• Represent numbers to 1,000		• Non-unit fractions of a set of objects
• Partition numbers to 1,000	• Multiply a 2-digit number by a 1-digit number – with exchange	• Reasoning with fractions of an amount
• Flexible partitioning of numbers to 1,000	• Link multiplication and division	**Key vocabulary:**
• Hundreds, tens and ones	• Divide a 2-digit number by a 1-digit number – no exchange	Consolidate language from previous units
• Find 1, 10 or 100 more or less	• Divide a 2-digit number by a 1-digit number – flexible partitioning	**Money**
• Number line to 1,000		• Pounds and pence
• Estimate on a number line to 1,000	• Divide a 2-digit number by a 1-digit number – with remainders	• Convert pounds and pence
• Compare numbers to 1,000	• Scaling	• Add money
• Order numbers to 1,000	• How many ways?	• Subtract money
• Count in 50s	**Key vocabulary:**	• Find change
Key vocabulary:	Consolidate language from previous units	**Key vocabulary:**
ascending, descending, 10 more, 10 less, 100 more, 100 less, hundreds		Consolidate language from previous units
	Length and Perimeter	**Time**
Addition and Subtraction	• Measure in metres and centimetres	• Roman numerals to 12
• Apply number bonds within 10	• Measure in millimetres	• Tell the time to 5 minutes
• Add and subtract 1s	• Measure in centimetres and millimetres	• Tell the time to the minute
• Add and subtract 10s	• Metres, centimetres and millimetres	• Read time on a digital clock
• Add and subtract 100s	• Equivalent lengths (metres and centimetres)	• Use am and pm
• Spot the pattern		• Years, months and days
• Add 1s across a 10	• Equivalent lengths (centimetres and millimetres)	• Days and hours
• Add 10s across a 100		• Hours and minutes – use start and end times
• Subtract 1s across a 10	• Compare lengths	• Hours and minutes - use durations
• Subtract 10s across a 100	• Add lengths	• Minutes and seconds
• Make connections		• Units of time
• Add two numbers (no exchange)		

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Curriculum Progression for Maths

- Subtract two numbers (no exchange)
- Add two numbers (across a 10)
- Add two numbers (across a 100)
- Subtract two numbers (across a 10)
- Subtract two numbers (across a 100)
- Add 2-digit and 3-digit numbers
- Subtract a 2-digit number from a 3-digit number
- Complements to 100
- Estimate answers
- Inverse operations
- Make decisions

Key vocabulary:
column addition, column subtraction, exchange, estimate

Multiplication and Division A
- Multiplication – equal groups
- Use arrays
- Multiples of 2
- Multiples of 5 and 10
- Sharing and grouping
- Multiply by 3
- Divide by 3
- The 3 times-table
- Multiply by 4
- Divide by 4
- The 4 times-table
- Multiply by 8
- Divide by 8
- The 8 times-table
- The 2, 4 and 8 times-tables

- Subtract lengths
- What is perimeter?
- Measure perimeter
- Calculate perimeter

Key vocabulary:
millimetre (mm), perimeter

Fractions A
- Understand the denominators of unit fractions
- Compare and order unit fractions
- Understand the numerators of non-unit fractions
- Understand the whole
- Compare and order non-unit fractions
- Fractions and scales
- Fractions on a number line
- Count in fractions on a number line
- Equivalent fractions on a number line
- Equivalent fractions as bar models

Key vocabulary:
tenths

Mass and Capacity
- Use scales
- Measure mass in grams
- Measure mass in kilograms and grams
- Equivalent masses (kilograms and grams) Compare mass
- Add and subtract mass
- Measure capacity and volume in millilitres

- Solve problems with time

Key vocabulary:
analogue clock, roman numerals, 12-hour clock, 24-hour clock, am, pm, noon, midnight, leap year, digital

Shape
- Turns and angles
- Right angles
- Compare angles
- Measure and draw accurately
- Horizontal and vertical
- Parallel and perpendicular
- Recognise and describe 2-D shapes
- Draw polygons
- Recognise and describe 3-D shapes
- Make 3-D shapes

Key vocabulary:
right-angled triangle, heptagon, octagon, polygon, properties, prism, orientations, angles, acute, obtuse, turn, right angles, half turn, three quarter turn, horizontal, vertical, perpendicular, parallel

Statistics
- Interpret pictograms
- Draw pictograms
- Interpret bar charts
- Draw bar charts
- Collect and represent data
- Two-way tables

Key vocabulary:

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Key vocabulary:		table, bar chart, one-step problem, two-step problem
exchange, mathematical statements, missing number problems, integer scaling problems, corresponding problems, derived facts	• Measure capacity and volume in litres and millilitres • Equivalent capacities and volumes (litres and millilitres) • Compare capacity and volume • Add and subtract capacity and volume **Key vocabulary:** Consolidate language from previous units	

YEAR 4

Autumn Term	Spring Term	Summer Term
Place Value • Represent numbers to 1,000 • Partition numbers to 1,000 • Number line to 1,000 • Thousands • Represent numbers to 10,000 • Partition numbers to 10,000 • Flexible partitioning of numbers to 10,000 • Find 1, 10, 100, 1,000 more or less • Number line to 10,000 • Estimate on a number line to 10,000 • Compare numbers to 10,000 • Order numbers to 10,000 • Roman numerals • Round to the nearest 10 • Round to the nearest 100 • Round to the nearest 1,000 • Round to the nearest 10, 100 or 1,000 **Key vocabulary:** negative numbers, roman numerals, 1,000 more, 1,000 less, thousands, round	**Multiplication and Division B** • Factor pairs • Use factor pairs • Multiply by 10 • Multiply by 100 • Divide by 10 • Divide by 100 • Related facts – multiplication and division • Informal written methods for multiplication • Multiply a 2-digit number by a 1-digit number • Multiply a 3-digit number by a 1-digit number • Divide a 2-digit number by a 1-digit number (1) • Divide a 2-digit number by a 1-digit number (2) • Divide a 3-digit number by a 1-digit number • Correspondence problems • Efficient multiplication **Key vocabulary:** Consolidate language from previous units	**Decimals B** • Make a whole with tenths • Make a whole with hundredths • Partition decimals • Flexibly partition decimals • Compare decimals • Order decimals • Round to the nearest whole number • Halves and quarters as decimals **Key vocabulary:** Consolidate language from previous unit **Money** • Write money using decimals • Convert between pounds and pence • Compare amounts of money • Estimate with money • Calculate with money • Solve problems with money **Key vocabulary:** Consolidate language from previous units

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Curriculum Progression for Maths

Addition and Subtraction
- Add and subtract 1s, 10s, 100s and 1,000s
- Add up to two 4-digit numbers – no exchange
- Add two 4-digit numbers – one exchange
- Add two 4-digit numbers – more than one exchange
- Subtract two 4-digit numbers – no exchange
- Subtract two 4-digit numbers – one exchange
- Subtract two 4-digit numbers – more than one exchange
- Efficient subtraction
- Estimate answers
- Checking strategies

Key vocabulary:
4-digit numbers, operations, methods

Area
- What is area?
- Count squares
- Make shapes
- Compare areas

Key vocabulary:
Consolidate language from previous units

Multiplication and Division A
- Multiples of 3
- Multiply and divide by 6
- 6 times-table and division facts
- Multiply and divide by 9
- 9 times-table and division facts
- The 3, 6 and 9 times-tables
- Multiply and divide by 7

Length and Perimeter
- Measure in kilometres and metres
- Equivalent lengths (kilometres and metres)
- Perimeter on a grid
- Perimeter of a rectangle
- Perimeter of rectilinear shapes
- Find missing lengths in rectilinear shapes
- Calculate perimeter of rectilinear shapes
- Perimeter of regular polygons
- Perimeter of polygons

Key vocabulary:
kilometres (km), rectilinear, area

Fractions
- Understand the whole
- Count beyond 1
- Partition a mixed number
- Number lines with mixed numbers
- Compare and order mixed numbers
- Understand improper fractions
- Convert mixed numbers to improper fractions
- Convert improper fractions to mixed numbers
- Equivalent fractions on a number line
- Equivalent fraction families
- Add two or more fractions
- Add fractions and mixed numbers
- Subtract two fractions
- Subtract from whole amounts
- Subtract from mixed numbers

Time
- Years, months, weeks and days
- Hours, minutes and seconds
- Convert between analogue and digital times
- Convert to the 24-hour clock
- Convert from the 24-hour clock

Key vocabulary:
convert

Shape
- Understand angles as turns
- Identify angles
- Compare and order angles
- Triangles
- Quadrilaterals
- Polygons
- Lines of symmetry
- Complete a symmetric figure

Key vocabulary:
isosceles, equilateral, scalene, trapezium, rhombus, parallelogram, kite, geometric shapes, quadrilaterals

Statistics
- Interpret charts
- Comparison, sum and difference
- Interpret line graphs
- Draw line graphs

Key vocabulary:
time graph, discrete data, continuous data, line graph, comparison problem, sum problem, difference problem, calculate, interpret

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• 7 times-table and division facts • 11 times-table and division facts • 12 times-table and division facts • Multiply by 1 and 0 • Divide a number by 1 and itself • Multiply three numbers **Key vocabulary:** factor pairs, formal written layout, distributive law, remainders	**Key vocabulary:** decimal equivalence, hundredths, convert, proper fractions, improper fractions, decimal point **Decimals A** • Tenths as fractions • Tenths as decimals • Tenths on a place value chart • Tenths on a number line • Divide a 1-digit number by 10 • Divide a 2-digit number by 10 • Hundredths as fractions • Hundredths as decimals • Hundredths on a place value chart • Divide a 1- or 2-digit number by 100 **Key vocabulary:** Consolidate language from previous units	**Position and Direction** • Describe position using coordinates • Plot coordinates • Draw 2-D shapes on a grid • Translate on a grid • Describe translation on a grid **Key vocabulary:** co-ordinates, first quadrant, grid, translation, plot, polygon, axis

YEAR 5

Autumn Term	Spring Term	Summer Term
Place Value • Roman numerals to 1,000 • Numbers to 10,000 • Numbers to 100,000 • Numbers to 1,000,000 • Read and write numbers to 1,000,000 • Powers of 10 • 10/100/1,000/10,000/100,000 more or less S • Partition numbers to 1,000,000 • Number line to 1,000,000 • Compare and order numbers to 100,000 • Compare and order numbers to 1,000,000	**Multiplication and Division B** • Multiply up to a 4-digit number by a 1-digit number • Multiply a 2-digit number by a 2-digit number (area model) • Multiply a 2-digit number by a 2-digit number • Multiply a 3-digit number by a 2-digit number • Multiply a 4-digit number by a 2-digit number Solve problems with multiplication • Short division	**Shape** • Understand and use degrees • Classify angles • Estimate angles • Measure angles up to 180° • Draw lines and angles accurately • Calculate angles around a point • Calculate angles on a straight line • Lengths and angles in shapes • Regular and irregular polygons • 3-D shapes **Key vocabulary:**

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Curriculum Progression for Maths

- Round to the nearest 10, 100 or 1,000
- Round within 100,000
- Round within 1,000,000

Key vocabulary:
ten thousands, one hundred thousands, powers of, integer

Addition and Subtraction
- Mental strategies
- Add whole numbers with more than four digits
- Subtract whole numbers with more than four digits
- Round to check answers
- Inverse operations (addition and subtraction) Multi-step addition and subtraction problems
- Compare calculations
- Find missing numbers

Key vocabulary:
Consolidate language from previous units

Multiplication and Division A
- Multiples
- Common multiples
- Factors
- Common factors
- Prime numbers
- Square numbers
- Cube numbers
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000
- Multiples of 10, 100 and 1,000

- Divide a 4-digit number by a 1-digit number
- Divide with remainders
- Efficient division
- Solve problems with multiplication and division

Key vocabulary:
Consolidate language from previous units

Fractions B
- Multiply a unit fraction by an integer
- Multiply a non-unit fraction by an integer
- Multiply a mixed number by an integer
- Calculate a fraction of a quantity
- Fraction of an amount
- Find the whole
- Use fractions as operators

Key vocabulary:
Consolidate language from previous units

Decimals and Percentages
- Decimals up to 2 decimal places
- Equivalent fractions and decimals (tenths)
- Equivalent fractions and decimals (hundredths)
- Equivalent fractions and decimals
- Thousandths as fractions
- Thousandths as decimals
- Thousandths on a place value chart
- Order and compare decimals (same number of decimal places)
- Order and compare any decimals with up to 3 decimal places

reflex angles, degrees, angles on a straight line, angles around a point, vertically opposite, missing angles, regular polygon, irregular polygon

Position and Direction
- Read and plot coordinates
- Problem solving with coordinates
- Translation
- Translation with coordinates
- Lines of symmetry
- Reflection in horizontal and vertical lines

Key vocabulary:
reflection

Decimals
- Use known facts to add and subtract decimals within 1
- Complements to 1
- Add and subtract decimals across 1
- Add decimals with the same number of decimal places
- Subtract decimals with the same number of decimal places
- Add decimals with different numbers of decimal places
- Subtract decimals with different numbers of decimal places
- Efficient strategies for adding and subtracting decimals
- Decimal sequences
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000

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Curriculum Progression for Maths

Key vocabulary:
multiples, factors, prime numbers, square numbers, cube numbers, short division, product, dividend, divisor, quotient, operations

Fractions A
- Find fractions equivalent to a unit fraction
- Find fractions equivalent to a non-unit fraction
- Recognise equivalent fractions
- Convert improper fractions to mixed numbers
- Convert mixed numbers to improper fractions
- Compare fractions less than 1
- Order fractions less than 1
- Compare and order fractions greater than 1
- Add and subtract fractions with the same denominator
- Add fractions within 1
- Add fractions with total greater than 1
- Add to a mixed number
- Add two mixed numbers
- Subtract fractions
- Subtract from a mixed number
- Subtract from a mixed number – breaking the whole
- Subtract two mixed numbers

Key vocabulary:
fifth, thousandths, mixed numbers, percent (%), factors, integer, complements

- Round to the nearest whole number
- Round to 1 decimal place
- Understand percentages
- Percentages as fractions
- Percentages as decimals
- Equivalent fractions, decimals and percentages

Key vocabulary:
Consolidate language from previous units

Perimeter and Area
- Perimeter of rectangles
- Perimeter of rectilinear shapes
- Perimeter of polygons
- Area of rectangles
- Area of compound shapes
- Estimate area

Key vocabulary:
Consolidate language from previous units

- Multiply and divide decimals – missing values

Key vocabulary:
Consolidate language from previous units

Negative numbers
- Understand negative numbers
- Count through zero in 1s
- Count through zero in multiples
- Compare and order negative numbers
- Find the difference

Key vocabulary:
negative, minus

Converting units
- Kilograms and kilometres
- Millimetres and millilitres
- Convert units of length
- Convert between metric and imperial units
- Convert units of time
- Calculate with timetables

Key vocabulary:
decimal notation, scaling, metric units, imperial units, inches, compound shape, irregular shapes, square centimetres, square metres

Volume
- Cubic centimetres
- Compare volume
- Estimate volume
- Estimate capacity

Key vocabulary:
cubic centimetre, pounds, pints

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Curriculum Progression for Maths

	YEAR 6	
Autumn Term	**Spring Term**	**Summer Term**
Place Value • Numbers to 1,000,000 • Numbers to 10,000,000 • Read and write numbers to 10,000,000 • Powers of 10 • Number line to 10,000,000 • Compare and order any integers • Round any integer • Negative numbers **Key vocabulary:** millions, ten millions **Addition, Subtraction, Multiplication and Division** • Add and subtract integers • Common factors • Common multiples • Rules of divisibility • Primes to 100 • Square and cube numbers • Multiply up to a 4-digit number by a 2-digit number • Solve problems with multiplication • Short division • Division using factors • Introduction to long division • Long division with remainders • Solve problems with division • Solve multi-step problems	**Ratio** • Add or multiply? • Use ratio language • Introduction to the ratio symbol • Ratio and fractions • Scale drawing • Use scale factors • Similar shapes • Ratio problems • Proportion problems • Recipes **Key vocabulary:** relative size, missing values, integer multiplication, percentages, scale factor, unequal sharing & grouping **Algebra** • 1-step function machines • 2-step function machines • Form expressions • Substitution • Formulae • Form equations • Solve 1-step equations • Solve 2-step equations • Find pairs of values • Solve problems with two unknowns **Key vocabulary:**	**Shape** • Measure and classify angles • Calculate angles • Vertically opposite angles • Angles in a triangle • Angles in a triangle – special cases • Angles in a triangle – missing angles • Angles in a quadrilateral • Angles in polygons • Circles • Draw shapes accurately • Nets of 3D shapes **Key vocabulary:** radius, diameter, circumference, dimensions **Position and Direction** • The first quadrant • Read and plot points in four quadrants • Solve problems with coordinates • Translations • Reflections **Key vocabulary:** four quadrants, co-ordinate plane **Themed projects, Consolidating and Problem Solving**

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- Order of operations
- Mental calculations and estimation
- Reason from known facts

Key vocabulary:
long division

Fractions A
- Equivalent fractions and simplifying
- Equivalent fractions on a number line
- Compare and order (denominator)
- Compare and order (numerator)
- Add and subtract simple fractions
- Add and subtract any two fractions
- Add mixed numbers
- Subtract mixed numbers
- Multi-step problems

Key vocabulary:
Consolidate language from previous units

Fractions B
- Multiply fractions by integers
- Multiply fractions by fractions
- Divide a fraction by an integer
- Divide any fraction by an integer
- Mixed questions with fractions
- Fraction of an amount
- Fractions of an amount – find the whole

Key vocabulary:
Consolidate language from previous units

Converting units
- Metric measures

formulae, linear number sequences, algebraically, equation, unknowns, combinations, variables

Decimals
- Place value within 1
- Place value – integers and decimals
- Round decimals
- Add and subtract decimals
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000
- Multiply decimals by integers
- Divide decimals by integers
- Multiply and divide decimals in context

Key vocabulary:
Consolidate language from previous units

Fractions, Decimals and Percentages
- Decimal and fraction equivalents
- Fractions as division
- Understand percentages
- Fractions to percentages
- Equivalent fractions, decimals and percentages
- Order fractions, decimals and percentages
- Percentage of an amount – one step
- Percentage of an amount – multi step
- Percentages – missing values

Key vocabulary:
Consolidate language from previous units

Area, Perimeter and Volume

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• Convert metric measures • Calculate with metric measures • Miles and kilometres • Imperial measures **Key vocabulary:** conversion, miles, feet	• Shapes – same area • Area and perimeter • Area of a triangle – counting squares • Area of a right-angled triangle • Area of any triangle • Area of a parallelogram • Volume – counting cubes • Volume – area of a cuboid **Key vocabulary:** Consolidate language from previous units **Statistics** • Line graphs • Dual bar charts • Read and interpret pie charts • Pie charts with percentages • Draw pie charts • The mean **Key vocabulary:** pie chart, mean	

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