Iceni Academy, Hockwold

Maths LTP
From September 2022

Maths planning at Iceni Academy Hockwold

Class	Year	Scheme of learning followed	Notes
Acorn	R	White Rose Maths scheme of learning	
Willow	1	White Rose scheme of learning version 3.0	
Elm	2	White Rose scheme of learning version 3.0	
Beech	3/4	White Rose scheme of learning version 3.0 mixed age teaching	Beech and Oak use v2.0's pacers because the mixed age content remains aligned more frequently than v3.0.
Oak	5/6	White Rose scheme of learning version 3.0 mixed age teaching	

Years 1-6 will use White Rose 'small steps' which the subject leader has collated into one side-by-side document to demonstrate progression and aid adaptive teaching.

Daily Assessment for Learning is carried out in all classes to determine if a 'small step' can be moved on from and if resources/strategies other than those suggested by White Rose can be utilised effectively before moving on.

Resources and strategies chosen by teachers for their known effectiveness in teaching a small step will also be used.

NB Using White Rose version 3.0 small steps as a basis for teaching has been chosen as a new scheme of learning for our Academy from September 2022 for the following reasons:

- **EEF recommendations about using manipulatives, concrete resources and representations more across all year groups**
- **Being able to combine Assessment for Learning with taking small steps and consolidating them as needed**
- **A consistent language of maths across the school**
- **Subject leader investigation into our previous Long Term Plan's interlocking at key termly assessment points using NTS tests; research into White Rose's fit with our testing arrangements demonstrated our bespoke Long Term Plan was no longer fit for purpose**
- **Preferred by Early Career Teachers and staff new to the school because of the additional planning and resourcing ideas in one place**

Supporting documents: White Rose 'ready to progress' document which maps the national curriculum across years 1-6 for each topic against where it is covered within the small steps; White Rose Year 1-6 Calculation Policies for Addition and Subtraction/Multiplication and Division; Third Space Learning's 'The Ultimate Maths Vocabulary List' for Years 1-6 with definitions.

Our new Maths Long Term Plan is a working document; once new 'small steps' are published for the next term they will be added as below			
Progression colour key:	**Autumn Term colour**	**Spring Term colour**	**Summer Term colour**

EEF's Summary of recommendations for improving Maths in EYFS and KS1 (2020)

1
Develop practitioners' understanding of how children learn mathematics

- Professional development should be used to raise the quality of practitioner' knowledge of mathematics, of children's mathematical development and of effective mathematical pedagogy.

- Developmental progressions show us how children typically learn mathematical concepts and can inform teaching.

- Practitioners should be aware that developing a secure grasp of early mathematical ideas takes time, and specific skills may emerge in different orders.

- The development of self-regulation and metacognitive skills are linked to successful learning in early mathematics.

2
Dedicate time for children to learn mathematics and integrate mathematics throughout the day

- Dedicate time to focus on mathematics each day.

- Explore mathematics through different contexts, including storybooks, puzzles, songs, rhymes, puppet play, and games.

- Make the most of moments throughout the day to highlight and use mathematics, for example, in daily routines, play activities, and other curriculum areas.

- Seize chances to reinforce mathematical vocabulary.

- Create opportunities for extended discussion of mathematical ideas with children.

3
Use manipulatives and representations to develop understanding

- Manipulatives and representations can be powerful tools for supporting young children to engage with mathematical ideas.

- Ensure that children understand the links between the manipulatives and the mathematical ideas they represent.

- Ensure that there is a clear rationale for using a particular manipulative or representation to teach a specific mathematical concept.

- Encourage children to represent problems in their own way, for example with drawings and marks.

- Use manipulatives and representations to encourage discussion about mathematics.

- Encourage children to use their fingers—an important manipulative for children.

4
Ensure that teaching builds on what children already know

- It is important to assess what children do, and do not, know in order to extend learning for all children.

- A variety of methods should be used to assess children's mathematical understanding, and practitioners should check what children know in a variety of contexts.

- Carefully listen to children's responses and consider the right questions to ask to reveal understanding.

- Information collected should be used to inform next steps for teaching. Developmental progressions can be useful in informing decisions around what a child should learn next.

5
Use high quality targeted support to help all children learn mathematics

- High quality targeted support can provide effective extra support for children.

- Small-group support is more likely to be effective when:

  a. children with the greatest needs are supported by the most experienced staff;

  b. training, support and resources are provided for staff using targeted activities;

  c. sessions are brief and regular; and

  d. explicit connections are made between targeted support and everyday activities or teaching.

- Using an approach or programme that is evidence-based and has been independently evaluated is a good starting point.

Improving Mathematics in Key Stages Two and Three – Recommendations Summary

Education Endowment Foundation

1 Use assessment to build on pupils' existing knowledge and understanding

- Assessment should be used not only to track pupils' learning but also to provide teachers with information about what pupils do and do not know
- This should inform the planning of future lessons and the focus of targeted support
- Effective feedback will be an important element of teachers' response to assessment
- Feedback should be specific and clear, encourage and support further effort, and be given sparingly.
- Teachers not only have to address misconceptions but also understand why pupils may persist with errors
- Knowledge of common misconceptions can be invaluable in planning lessons to address errors before they arise

2 Use manipulatives and representations

- Manipulatives (physical objects used to teach maths) and representations (such as number lines and graphs) can help pupils engage with mathematical ideas
- However, manipulatives and representations are just tools: how they are used is essential
- They need to be used purposefully and appropriately to have an impact
- There must be a clear rationale for using a particular manipulative or representation to teach a specific mathematical concept
- Manipulatives should be temporary; they should act as a 'scaffold' that can be removed once independence is achieved

3 Teach pupils strategies for solving problems

- If pupils lack a well-rehearsed and readily available method to solve a problem they need to draw on problem-solving strategies to make sense of the unfamiliar situation
- Select problem-solving tasks for which pupils do not have ready-made solutions
- Teach them to use and compare different approaches
- Show them how to interrogate and use their existing knowledge to solve problems
- Use worked examples to enable them to analyse the use of different strategies
- Require pupils to monitor, reflect on, and communicate their problem solving

4 Enable pupils to develop a rich network of mathematical knowledge

- Emphasise the many connections between mathematical facts, procedures, and concepts
- Ensure that pupils develop fluent recall of facts
- Teach pupils to understand procedures
- Teach pupils to consciously choose between mathematical strategies
- Build on pupils' informal understanding of sharing and proportionality to introduce procedures
- Teach pupils that fractions and decimals extend the number system beyond whole numbers
- Teach pupils to recognise and use mathematical structure

5 Develop pupils' independence and motivation

- Encourage pupils to take responsibility for, and play an active role in, their own learning
- This requires pupils to develop metacognition – the ability to independently plan, monitor and evaluate their thinking and learning
- Initially, teachers may have to model metacognition by describing their own thinking
- Provide regular opportunities for pupils to develop metacognition by encouraging them to explain their thinking to themselves and others
- Avoid doing too much too early
- Positive attitudes are important, but there is scant evidence on the most effective ways to foster them
- School leaders should ensure that all staff, including non-teaching staff, encourage enjoyment in maths for all children

6 Use tasks and resources to challenge and support pupils' mathematics

- Tasks and resources are just tools – they will not be effective if they are used inappropriately by the teacher
- Use assessment of pupils' strengths and weaknesses to inform your choice of task
- Use tasks to address pupil misconceptions
- Provide examples and non-examples of concepts
- Use stories and problems to help pupils understand mathematics
- Use tasks to build conceptual knowledge in tandem with procedural knowledge
- Technology is not a silver bullet – it has to be used judiciously and less costly resources may be just as effective

7 Use structured interventions to provide additional support

- Selection should be guided by pupil assessment
- Interventions should start early, be evidence-based and be carefully planned
- Interventions should include explicit and systematic instruction
- Even the best-designed intervention will not work if implementation is poor
- Support pupils to understand how interventions are connected to whole-class instruction
- Interventions should motivate pupils – not bore them or cause them to be anxious
- If interventions cause pupils to miss activities they enjoy, or content they need to learn, teachers should ask if the interventions are really necessary
- Avoid 'intervention fatigue'. Interventions do not always need to be time-consuming or intensive to be effective

8 Support pupils to make a successful transition between primary and secondary school

- There is a large dip in mathematical attainment and attitudes towards maths as children move from primary to secondary school
- Primary and secondary schools should develop shared understandings of curriculum, teaching and learning
- When pupils arrive in Year 7, quickly attain a good understanding of their strengths and weaknesses
- Structured intervention support may be required for Year 7 pupils who are struggling to make progress
- Carefully consider how pupils are allocated to maths classes
- Setting is likely to lead to a widening of the attainment gap between disadvantaged pupils and their peers, because the former are more likely to be assigned to lower groups

Acorn Class

Autumn term

Getting to know you
(Take this time to play and get to know the children!)

Contains overviews and frequently asked questions

VIEW

Just like me!
Match and sort
Compare amounts
Compare size, mass & capacity
Exploring pattern

VIEW

It's me 1, 2, 3!
Representing 1, 2 & 3
Comparing 1, 2 & 3
Composition of 1, 2 & 3
Circles and triangles
Positional language

VIEW

Light & dark
Representing numbers to 5
One more or less
Shapes with 4 sides
Time

VIEW

Spring term

Alive in 5!
Introducing zero
Comparing numbers to 5
Composition of 4 & 5
Compare mass (2)
Compare capacity (2)

VIEW

Growing 6, 7, 8
6, 7 & 8
Combining two amounts
Making pairs
Length & height
Time (2)

VIEW

Building 9 & 10
Counting to 9 & 10
Comparing numbers to 10
Bonds to 10
3-D shapes
Spatial awareness
Patterns

VIEW

Consolidation

Summer term

To 20 and beyond
Build numbers beyond 10
Count patterns beyond 10
Spatial reasoning 1
Match, rotate, manipulate

VIEW

First, then, now
Adding more
Taking away
Spatial reasoning 2
Compose and decompose

VIEW

Find my pattern
Doubling
Sharing & grouping
Even & odd
Spatial reasoning 3
Visualise and build

VIEW

On the move
Deepening understanding
Patterns & relationships
Spatial mapping (4)
Mapping

VIEW

Key Language for EYFS
Cardinal
Classification
Conservation
Numeral
Ordinal
Partition
Subitise
Number
Quantity

Willow Class

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Autumn term

Number
Place value
(within 10)
VIEW

Number
Addition and subtraction
(within 10)
VIEW

Geometry Shape
VIEW

Consolidation

Spring term

Number
Place value
(within 20)
VIEW

Number
Addition and subtraction
(within 20)
VIEW

Number
Place value
(within 50)
VIEW

Measurement
Length and height
VIEW

Measurement
Mass and volume
VIEW

Summer term

Number
Multiplication and division
VIEW

Number
Fractions
VIEW

Geometry Position and direction
VIEW

Number
Place value
(within 100)
VIEW

Measurement Money
VIEW

Measurement
Time
VIEW

Consolidation

Elm Class

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Autumn term

Number
Place value
VIEW

Number
Addition and subtraction
VIEW

Geometry
Shape
VIEW

Spring term

Measurement
Money
VIEW

Number
Multiplication and division
VIEW

Measurement
Length and height
VIEW

Measurement
Mass, capacity and temperature
VIEW

Summer term

Number
Fractions
VIEW

Measurement
Time
VIEW

Statistics
VIEW

Geometry
Position and direction
VIEW

Consolidation

Beech Class Y3/4

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number **Place value** VIEW			Number **Addition and subtraction** VIEW				Number **Multiplication and division A** VIEW				
Autumn term	Number **Place value** VIEW			Number **Addition and subtraction** VIEW			Measurement Area VIEW	Number **Multiplication and division A** VIEW			Consolidation	
Spring term	Number **Multiplication and division B** VIEW		Measurement **Length and perimeter** VIEW			Number **Fractions** VIEW			Measurement **Mass and capacity** VIEW			
Spring term	Number **Multiplication and division B** VIEW		Measurement **Length and perimeter** VIEW		Number **Fractions** VIEW				Number **Decimals** VIEW			
Summer term	Number **Fractions** VIEW		Measurement **Money** VIEW		Measurement **Time** VIEW			Geometry **Shape** VIEW		**Statistics** VIEW		Consolidation
Summer term	Number **Decimals** VIEW		Measurement **Money** VIEW		Measurement **Time** VIEW		Consolidation	Geometry **Shape** VIEW		Statistics VIEW	Geometry **Position and direction** VIEW	

Oak Class Y5/6

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Year 5 – Number **Place value** VIEW		Year 5 – Number **Four operations** VIEW					Year 5 – Number **Fractions** VIEW				
Autumn term	Year 6 – Number **Place value** VIEW		Year 6 – Number **Four operations** VIEW					Year 6 – Number **Fractions** VIEW				
Spring term	Year 5 – Number **Fractions** VIEW		Year 5 – Number **Decimals & percentages** VIEW			Year 5 – Number **Decimals** VIEW		Y5 – Measurement Converting units VIEW	Year 5 – Measurement **Perimeter, area & volume** VIEW		**Statistics** VIEW	
Spring term	Year 6 – Number **Ratio** VIEW		Year 6 – Number **Decimals & percentages** VIEW			Year 6 – Number **Algebra** VIEW		Y6 – Measurement Converting units VIEW	Year 6 – Measurement **Perimeter, area & volume** VIEW		**Statistics** VIEW	
Summer term	Year 5 – Geometry **Properties of shape** VIEW		Y5 – Geometry Position & direction VIEW	Investigations & Consolidation								
Summer term	Year 6 – Geometry **Properties of shape** VIEW		Y6 – Geometry Position & direction VIEW	**SATS** VIEW	Investigations & Consolidation							

Place Value Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Roman numerals	Roman numerals to 1,000	
Sort objects	Numbers to 20	Represent numbers to 100	Represent numbers to 1,000	Numbers to 10,000	Numbers to 1,000,000 Numbers to 10,000,000
Count objects	Count objects to 100 by making 10s	Partition numbers to 100	Partition numbers to 1,000	Numbers to 100,000	
Count objects from a larger group	Recognise 10 and 1s	Number line to 100	Number line to 1,000	Numbers to 1,000,000	
Represent objects	Use a place value chart	Hundreds	Thousands	Read and write numbers to 1,000,000	Read and write numbers to 10,000,000
Recognise number as words	Partition numbers to 100	Represent numbers to 1,000	Represent numbers to 10,000	Powers of 10	Powers of 10
Count on from any number	Write numbers to 100 in words	Partition numbers to 1,000	Partition numbers to 10,000	10/100/1,000/10,000/100,000 more or less	
1 more	Flexibly partition numbers to 100	Flexible partitioning of numbers to 1,000	Flexible partitioning of number to 10,000	Partition numbers to 1,000,000	
Count backwards within 10	Write numbers to 100 in expanded form	Hundreds, tens and ones	Find 1, 10, 100, 1,000 less	Number line to 1,000,000	Number line to 10,000,000
1 less		Find 1, 10 or 100 more or less	Number line to 10,000	Compare and order numbers to 100,000	Compare and order any integers
Compare groups by matching	10s on the number line to 100	Number line to 1,000	Estimate on a number line to 10,000	Compare and order numbers to 1,000,000	
Fewer, more, same	10s and 1s on the number line to 100	Compare numbers to 1,000	Compare numbers to 10,000		Round any integer
Less than, greater than, equal to	Estimate numbers on a number line	Order numbers to 1,000	Order numbers to 10,000		
Compare numbers	Compare objects	Count in 50s			
Order objects and numbers	Order objects and numbers		Round to the nearest 10	Round to the nearest 10, 100 or 1,000	
The number line	Count in 2s, 5s, 10s		Round to the nearest 100	Round within 100,000	
Count within 20	Count in 3s		Round to the nearest 1,000	Round within 1,000,000	
Understand 10			Round to the nearest 10,100 or 1,000		
Understand 11, 12 and 13					Negative numbers
Understand 14, 15 and 16					
Understand 17, 18 and 19					
Understand 20					
1 more and 1 less					
The number line to 20					
Use a number line to 20					
Estimate on a number line to 20					

Compare numbers to 20					
Order numbers to 20					
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					

Addition and Subtraction Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				Mental strategies	
Introduce parts and wholes	Bonds to 10	Apply number bonds within 10	Add and subtract 1s, 10s, 100s and 1000s	Add whole numbers with more than four digits	Add and subtract integers
Part-whole model	Face families – addition and subtraction bonds within 20	Add and subtract 1s	Add up to two 4-digit numbers – no exchange	Subtract whole numbers with more than four digits	
Write number sentences	Related facts	Add and subtract 10s	Add two 4-digit numbers – one exchange	Round to check answers	
Fact families – addition facts	Bonds to 100 (tens)	Add and subtract 100s	Add two 4-digit numbers – more than one exchange	Inverse operation + and -	
Number bonds within 10	Add and subtract 1s	Spot the pattern	Subtract two 4-digit numbers – no exchange	Multi-step + and - problems	
Systematic number bonds within 10	Add by making 10	Add 1s across a 10	Subtract two 4-digit numbers – one exchange	Compare calculations	
Number bonds to 10	Add three 1-digit numbers	Add 10s across a 100	Subtract two 4-digit numbers – more than one exchange	Find missing numbers	
Addition – add together	Add to the next 10	Add 10s across a 100	Efficient subtraction		
Addition – add more	Add across 10	Subtract 1s across a 10	Estimate answers		
Addition problems	Subtract across 10	Subtract 10s across a 100	Checking strategies		
Find a part	Subtract from a 10	Make connections			
Subtraction – find a part	Subtract a 1-digit number from a 2-digit number (across a 10)	Add two numbers (no exchange)			
Fact families - the eight facts	10 more, 10 less	Add two numbers (across a 10)			
Subtraction – take away/cross out (How many left?)	Add and subtract 10s	Add two numbers (across a 100)			
Take away (How many left?)	Add two 2-digit numbers (not across a 10)	Subtract two numbers (across a 10)			
Subtraction on a number line	Add two 2-digit numbers (across a 10)	Subtract two numbers (across a 100)			
Add or subtract 1 or 2	Subtract two 2-digit numbers (not across a 10)	Add 2-digit and 3-digit numbers			
Add by counting on within 20	Subtract two 2-digit numbers (across a 10)	Subtract a 2-digit number from a 3-digit number			
Add ones using number bonds	Mixed addition and subtraction	Complements to 100			
Find and make number bonds to 20	Compare number sentences	Estimate answers			
Doubles	Miss number problems	Inverse operations			

Near doubles		Make decisions			
Subtract ones using number bonds					
Subtraction – counting back					
Subtraction – finding the difference					
Related facts					
Missing number problems					

Multiplication and Division Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Recognise equal groups	Multiplication – equal groups	Multiples of 3	Multiples	Common multiples
	Make equal groups	Use arrays	Multiply and divide by 6	Common multiples	
	Add equal groups	Multiples of 2	6 times-table and division facts	Factors	Common factors
	Introduce the x symbol	Multiples of 5 and 10	Multiply and divide by 9	Common factors	
	Multiplication sentences	Sharing and grouping	9 times-table and division facts	Prime numbers	Primes to 100
	Use arrays	Multiply by 3	The 3, 6 and 9 times tables	Square numbers	Square and cube numbers
	Make equal groups - grouping	Divide by 3	Multiply and divide by 7	Cube numbers	
	Make equal groups - sharing	The 3 times-table	7 times-table and division facts	Multiply by 10, 100 and 1,000	
	The 2 times-table	Multiply by 4	11 times-table and division facts	Divide by 10, 100, 1,000	
	Divide by 2	Divide by 4	12 times-table and division facts	Multiples of 10, 100, 1,000	
	Doubling and halving	The 4 times-table	Multiply by 1 and 0	Multiply up to a 4-digit number by a 1-digit number	Rules of divisibility
	Odd and even numbers	Multiply by 8	Divide a number by 1 and itself	Multiply a 2-digit number by a 2-digit number (area model)	Multiply up to a 4-digit number by a 2-digit number
	The 10 times table	Divide by 8	Multiply three numbers	Multiply a 2-digit number by a 2-digit number	Solve problems with multiplication
	Divide by 10	The 8 times-table	Factor pairs	Multiply a 3-digit number by a 2-digit number	Short division
	The 5 times table	The 2, 4 and 8 times-tables	Use factor pairs	Multiply a 4-digit number by a 2-digit number	Division using factors
	Divide by 5	Multiples of 10	Multiply by 10	Solve problems with multiplication	Introduction to long division
	The 5 and 10 times tables	Related calculations	Multiply by 100	Short division	Long division with remainders
		Reasoning about multiplication	Divide by 10	Divide a 4-digit number by a 1-digit number	Solve problems with division
		Multiply a 2-digit number by a 1-digit number – no exchange	Divide by 100	Divide with remainders	Solve multi-step problems
		Multiply a 2-digit number by a 1-digit number – with exchange	Related facts – multiplication and division	Efficient division	Order of operations
		Link multiplication and division	Informal written methods for multiplication	Solve problems with multiplication and division	Mental calculations and estimation
		Divide a 2-digit number by a 1-digit number – no exchange	Multiply a 2-digit number by a 1-digit number		Reason from known facts

		Divide a 2-digit number by a 1-digit number – flexible partitioning	Multiply a 3-digit number by a 1-digit number		
		Divide a 2-digit number by a 1-digit number – with remainders	Divide a 2-digit number by a 1-digit number (1)		
		Scaling	Divide a 2-digit number by a 1-digit number (2)		
		How many ways?	Divide a 3-digit number by a 1-digit number		
			Correspondence problems		
			Efficient multiplication		

Fractions Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Understand the denominators of unit fractions	Understand the whole	Find fractions equivalent to a unit fraction	Equivalent fractions and simplifying
		Compare and order unit fractions	Count beyond 1	Find fractions equivalent to a non-unit fractions	Equivalent fractions on a number line
		Understand the numerators of non-unit fractions	Partition a mixed number	Recognise equivalent fractions	
		Understand the whole	Number lines and mixed numbers	Convert improper fractions to mixed numbers	
		Compare and order non-unit fractions	Compare and order mixed numbers	Convert mixed numbers to improper fractions	
		Fractions and scales	Understand improper fractions	Compare fractions less than 1	Compare and order (denominator)
		Fractions on a number line	Convert mixed numbers to improper fractions	Order fractions less than 1	Compare and order (numerator)
		Count in fractions on a number line	Convert improper fractions to mixed numbers	Compare and order fractions greater than 1	
		Equivalent fractions on a number line	Equivalent fractions on a number line	Add and subtract fractions within the same denominator	Add and subtract simple fractions
		Equivalent fractions as bar models	Equivalent fraction families	Add fractions within 1	Add and subtract any two fractions
			Add two or more fractions	Add fractions with total greater than 1	Add mixed numbers
			Add fractions and mixed numbers	Add to a mixed number	Subtract mixed numbers
			Subtract two fractions	Add two mixed numbers	
			Subtract from whole amounts	Subtract fractions	
			Subtract from mixed numbers	Subtract from a mixed number	
			Tenths as fractions	Subtract from a mixed number – breaking the whole	
			Tenths as decimals	Subtract two mixed fractions	
			Tenths on a place value chart	Multiply a unit fraction by an integer	Multi-step problems
			Tenths on a number line	Multiply a non-unit fraction by an integer	
			Divide a 1-digit number by 10	Multiply a mixed number by an integer	Multiply fractions by integers
			Divide a 2-digit number by 10	Calculate a fraction of a quantity	Multiply fractions by fractions

			Hundredths as fractions	Fraction of an amount	Divide a fraction by an integer
			Hundredths as decimals	Find the whole	Divide any fraction by an integer
			Hundredths on a place value chart	Use fractions as operators	Mixed questions with fractions
			Step 10 Divide a 1- or 2-digit number by 100	Decimals up to 2 decimal places	Fraction of an amount
				Equivalent fractions and decimals (tenths)	Fraction of an amount – find the whole
				Equivalent fractions and decimals (hundredths)	**Ratio**
				Equivalent fractions and decimals	Add or multiply?
				Thousandths as fractions	Use ratio language
				Thousandths as decimals	Introduction to the ratio symbol
				Thousandths on a place value chart	Ratio and fractions
				Order and compare decimals (same number of decimal places)	Scale drawing
				Order and compare any decimals with up to 3 decimal places	Use scale factors
				Round to the nearest whole number	Similar shapes
				Round to 1 decimal place	Ratio problems
				Understand percentages	Proportion problems
				Percentages as fractions	Recipes
					Decimals continued
				Percentages as decimals	Place value within 1
				Equivalent fractions, decimals and percentages	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
					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

Measures Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Compare lengths and heights	Count money – pence	Measure in metres and centimetres	What is area?		Metric measures
Measure length using objects	Count money – pounds (notes and coins)	Measure in millimetres	Count squares		Convert metric measures
Measure length in centimetres	Count money – pounds and pence	Measure in centimetres and millimetres	Make shapes		Calculate with metric measures
Heavier and lighter	Choose notes and coins	Metres, centimetres and millimetres	Compare areas		Miles and kilometres
Measure and mass	Make the same amount	Equivalent lengths (metres and centimetres)	Measure in kilometres and metres		Imperial measures
Compare mass	Compare amounts of money	Equivalent lengths (centimetres and millimetres)	Equivalent lengths (kilometres and metres)	Perimeter of rectangles	Shapes – same area
Full and empty	Calculate with money	Compare lengths	Perimeter on a grid	Perimeter of rectilinear shapes	Area and perimeter
Compare volume	Make a pound	Add lengths	Perimeter of a rectangle	Perimeter of polygons	Area of a triangle – counting squares
Measure capacity	Find change	Subtract lengths	Perimeter of rectilinear shapes	Area of rectangles	Area of a right-angled triangle
Compare capacity	Two-step problems	What is a perimeter?	Find missing lengths in rectilinear shapes	Area of compound shapes	Area of any triangle
	Measure in centimetres	Measure perimeter	Calculate perimeter of rectilinear shapes	Estimate area	Area of a parallelogram
	Measure in metres	Calculate perimeter	Perimeter of regular polygons		Volume – counting cubes
	Compare lengths and heights	Use scales	Perimeter of polygons		Volume of a cuboid
	Order lengths and heights	Measure mass in grams			
	Four operations with lengths and heights	Measure mass in kg and grams			
	Compare mass	Equivalent masses (kg and g)			
	Measure in grams	Compare mass			
	Measure in kilograms	Add and subtract mass			
	Four operations with mass	Measure capacity and volume in millimetres			
	Compare volume and capacity	Measure capacity and volume in litres and millilitres			
	Measure in millilitres	Equivalent capacities and volumes (litres and millilitres)			
	Measure in litres	Compare capacity and volume			
	Four operations with volume and capacity	Add and subtract capacity and volume			

	Temperature				

Shape Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognise and name 3D shapes	Recognise 2D and 3D shapes				
Sort 3D shapes	Count sides on 2D shapes				
Recognise and name 2D shapes	Count vertices on 2D shapes				
Sort 2D shapes	Draw 2D shapes				
Patterns with 2D and 3D shapes	Lines of symmetry on shapes				
	Use lines of symmetry to complete shapes				
	Sort 2D shapes				
	Count faces on 3D shapes				
	Count edges on 3D shapes				
	Count vertices on 3D shapes				
	Sort 3D shapes				
	Make patterns with 2D and 3D shapes				

Statistics Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				Draw line graphs	Line graphs
				Read and interpret line graphs	Dual bar charts
				Read and interpret tables	Read and interpret pie charts
				Two-way tables	Pie charts with percentages
				Read and interpret timetables	Draw pie charts
				Read and interpret line graphs	The Mean
				Read and interpret tables	

Algebra Progression

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					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

By the end of EYFS:

- Count objects, actions and sounds
- Subitise
- Link the number symbol with the cardinal number value
- Count beyond 10
- Compare numbers
- Understand the one more than and one less than relationship with consecutive numbers
- Explore the composition of numbers to 10
- Automatically recall number bonds 0 to 10
- Select, rotate and manipulate shapes in order to develop spatial reasoning skills
- Compose and decompose shapes
- Continue, copy and create repeating patterns
- Compare length, weight and capacity

By the end of Year 1:

- Count to and across 100, forwards & backwards from any number
- Read and write numbers to 20 in numerals & words
- Read and write numbers to 100 in numerals
- Say 1 more/1 less to 100
- Count in multiples of 2, 5 & 10
- Use bonds and subtraction facts to 20
- Add & subtract: 1 digit & 2 digit numbers to 20, including zero
- Solve one-step multiplication and division using objects, pictorial
- representation and arrays
- Recognise half and quarter of object, shape or quantity
- Sequence events in chronological order
- Use language of day, week, month and year
- Tell time to hour & half past

By the end of Year 2:

- Recognise and use inverse (+/-)
- Calculate and write multiplication & division calculations using multiplication tables
- Recognise, find, name and write 1/3; 1/4; 2/4; 3/4
- Write and recognise equivalence of simple fractions
- Compare and order numbers up to 100 and use < > =
- Read and write all numbers to 100 in digits & words
- Say 10 more/less than any number to 100
- Count in steps of 2, 3 & 5 from zero and in 10s from any number (forwards and backwards)
- Recall and use multiplication & division facts for 2, 5 & 10 tables
- Recall and use +/- facts to 20
- Derive and use related facts to 100
- Recognise place value of any 2-digit number
- Add & subtract: 2-digit numbers & ones
- Add & subtract 2-digit numbers & tens
- Add & subtract two 2-digit numbers
- Add & subtract three 1-digit numbers
- Tell time to five minutes, including quarter past/to

By the end of Year 3:

- Compare & order numbers up to 1000
- Read & write all numbers to 1000 in digits and words
- Find 10 or 100 more/less than a given number
- Count from 0 in multiples of 4, 8, 50 and 100
- Recall & use multiplication & division facts for 3, 4, 8 tables
- Recognise place value of any 3-digit number
- Add and subtract: 3-digit numbers and ones
- 3-digit numbers and tens
- 3-digit numbers and hundreds
- Add and subtract: Numbers with up to 3-digits using written columnar
- method
- Estimate and use inverse to check
- Multiply: 2-digit by 1-digit
- Count up/down in tenths
- Compare and order fractions with same denominator
- Add and subtract fractions with same denominator within one whole
- Tell time using 12 and 24 hour clocks; and using Roman numerals
- Tell time to nearest minute
- Know number of days in each month and number of seconds in a minute

By the end of Year 4:

- Count backwards through zero to include negative numbers
- Compare and order numbers beyond 1,000
- Compare and order numbers with up to 2 decimal places
- Read Roman numerals to 100
- Find 1,000 more or less than a given number
- Count in multiples of 6, 7, 9, 25 and 1000
- Recall and use multiplication and division facts for all tables to 12x12
- Recognise place value of any 4-digit number
- Round any number to the nearest 10, 100 or 1,000
- Round decimals with 1 decimal-place to nearest whole number
- Add and subtract numbers with up to 4-digits using written columnar method
- Multiply 2-digit and 3-digit numbers by 1-digit numbers
- Count up and down in hundredths
- Recognise and write equivalent fractions
- Add and subtract fractions with same denominator
- Read, write and convert time between analogue and digital 12 and 24 hour clocks

By the end of Year 5:

- Count forwards and backward with positive and negative numbers through zero
- Count forwards/backwards in steps of powers of 10 for any given number up to 1,000,000
- Compare and order numbers up to 1,000,000
- Compare and order numbers with 3 decimal places
- Read Roman numerals to 1,000
- Identify all multiples and factors, including finding all factor pairs of two numbers
- Use known tables to derive other number facts
- Recall prime numbers up to 19

- Recognise and use square numbers and cube numbers
- Recognise place value of any number up to 1,000,000
- Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 or 100,000
- Round decimals with 2 decimal places to nearest whole number and 1 decimal place
- Add and subtract: Numbers with more than 4-digits using formal written method
- Use rounding to check answers
- Multiply: 4-digits by 1-digit/ 2-digit
- Divide: Up to 4-digits by 1-digit
- Multiply & divide: Whole numbers & decimals by 10, 100 and 1,000
- Recognise and use thousandths
- Recognise mixed numbers and improper fractions and convert from one to another
- Multiply proper fractions and mixed numbers by whole numbers
- Identify and write equivalent fractions
- Solve time problems using timetables and converting between different units of time

By the end of Year 6:

- Use negative numbers in context and calculate intervals across zero
- Compare and order numbers up to 10,000,000
- Identify common factors, common multiples and prime numbers
- Round any whole number to a required degree of accuracy
- Identify the value of each digit to 3 decimal places
- Use knowledge of order of operations to carry out calculations involving four operations
- Multiply: 4-digit by 2-digit
- Divide: 4-digit by 2-digit
- Add and subtract fractions with different denominators and mixed numbers
- Multiply simple pairs of proper fractions, writing the answer in the simplest form.
- Divide proper fractions by whole numbers
- Calculate % of whole number