MATHEMATICS Long Term Plan Year 1

Autumn 1		Autumn 2		
Number: place value (within 10) *4 weeks*	Number: Addition and subtraction (within 10) *3 weeks*	Number: Addition and subtraction (within 10) *3 weeks*	Number and place value (within 20) *2 weeks*	Number: multiplication and division *2 weeks*
Key Knowledge **(Ready to Progress Criteria)**				
Count within 10 forwards and backwards starting with any number	**Develop fluency in addition and subtraction facts within 10** **Compose numbers to 10 from 2 parts and partition numbers to 10 into 2 parts** **Read write and interpret equations containing addition, subtraction and equals symbols**		**Reason about the location of numbers to 20 using the linear number system including <> and =**	**Count forwards and backwards in multiples of 2, 5 and 10**
Key Vocabulary				
one more, one less, fact families greater than less than equal to	number bonds addition (add, plus, more) subtraction (take away, minus, less)		compare order partition tens ones greater than less than equal to	count in… (2s, 5s, 10s) equal groups

MATHEMATICS Long Term Plan Year 1

Spring 1				Spring 2		
Number: multiplication and division *2 weeks*	Number: addition and subtraction (within 20) *3 weeks*	Measurement: length and height *1 week*	Number: place value (within 50) *1 week*	Number: place value (within 50) *2 weeks*	Number: Fractions *2 weeks*	Geometry: shape *1 week*
Key Knowledge **(Ready to Progress Criteria)**						
Count forwards and backwards in multiples of 2, 5 and 10	**Develop fluency in addition and subtraction facts within 20**	Compare, describe and solve practical problems for length and height.	**Count within 50 forwards and backwards starting with any number**		Recognise find and name a half as one of two equal parts Recognise find and name a quarter as one of four equal parts	**Compose 2D and 3D shapes from smaller shapes** **Recognise common 2D and 3D shapes presented in different orientations**
Key Vocabulary						
equal groups arrays double share	add count on number bonds subtraction number sentence	length height measure centimetre	tens ones partition more less	compare greater than less than equal to	fraction half quarter	2D e.g. rectangles, circles, squares and triangles. 3D e.g. cuboids, pyramids and spheres

MATHEMATICS Long Term Plan Year 1

Summer 1				Summer 2		
Geometry: position and direction *1 week*	Measurement: time *2 weeks*	Measurement: weight and volume *1 week*	Number and place value (within 100) *2 weeks*	Measurement: mass, capacity and temperature (No White Rose Unit for Y1) *2 weeks*	Measurement: money *1 week*	Problem solving review calculations
Key Knowledge **(Ready to Progress Criteria)**						
Describe position, direction and movement including whole, half, quarter and three-quarter turns.	Recognise and use language relating to dates. Tell the time to the hour and half past the hour.	Compare, describe and solve practical problems for length and height.	**Count within <u>100</u> forwards and backwards starting with any number**	Compare, describe and solve practical problems for mass.	Recognise and know the value of British coins and notes.	
Key Vocabulary						
position turn direction	Days of the week, months and years. Hours, minutes and seconds	Heavy/light Full/empty	tens ones partition more less	temperature heavy/light full/empty	pounds pence	

MATHEMATICS Long Term Plan Year 2

Autumn 1		Autumn 2		
Number: place value (within 100) *3 weeks*	Number: Addition and subtraction (within 100) *4 weeks*	Number: Addition and subtraction (within 100) Consolidation and fluency focus (Not White Rose) *3 weeks*	Measurement: money *2 weeks*	Number: multiplication and division *2 weeks*
Key Knowledge **(Ready to Progress Criteria)**				
Recognise the place value of each digit in two-digit numbers and compose and decompose two-digit numbers using standard and non-standard partitioning. **Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.**	**Secure fluency in addition and subtraction facts within 10 through continued practice.** **Add and subtract across 10.** **Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more..?"** **Add and subtract within 100 by applying related one-digit addition and subtraction facts.**		Recognise and use symbols for pounds and pence. Combine amounts to make a particular value. Solve simple problems including giving change	**Count forwards and backwards in multiples of 2, 5 and 10 (Y1)**
Key Vocabulary				
tens, ones, numerals, one more, one less, fact families greater than, less than, equal to	fact families, number bonds, number sentence addition (add, plus, more) subtraction (take away, minus, less)		pounds £ pence p change	count in… (2s, 5s, 10s) equal groups

MATHEMATICS Long Term Plan Year 2

Spring 1			Spring 2	
Number: multiplication and division *4 weeks*	Statistics *2 weeks*	Measurement: length and height *1 week*	Number: Fractions *2 weeks*	Geometry: shape *1 week*
Key Knowledge **(Ready to Progress Criteria)**				
Recognise repeated addition representing with multiplication equations (2, 5 and 10 times tables) **Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor.**	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer questions about data.	Choose and use appropriate standard units to estimate and measure. Compare and order using <>=	Review Y1: Recognise find and name a half as one of two equal parts Recognise find and name a quarter as one of four equal parts Recognise find and name and write fractions 1/3 ¼ 2/4 and ¾ of a length shape, set of objects or quantity. Write simple fractions e.g. ½ of 6 =3	**Recognise common 2D and 3D shapes presented in different orientations (Y1) and know that rectangles, triangles, cuboids and pyramids are not always similar to each other**
Key Vocabulary				
equal groups, arrays, double share, divide, groups multiply	Data, pie chart, tally chart, total, compare, difference	length height measure centimetre	fraction half quarter third	2D e.g. rectangles, circles, squares and triangles. 3D e.g. cuboids, pyramids and spheres

MATHEMATICS Long Term Plan Year 2

Summer 1				Summer 2		
Geometry: position and direction *1 week*	Measurement: time *2 weeks*	Measurement: weight and volume (Y1 review) *1 week*	Consolidation and revision Y2 SATs assessment *2 weeks*	Measurement: mass, capacity and temperature *2 weeks*	Measurement: money review *1 week*	Problem solving review calculations *4 weeks*
Key Knowledge **(Ready to Progress Criteria)**						
Order and arrange in patterns and sequences. Describe position, direction and movement. Rotation as a turn in terms of angles.	Tell the time to the hour and half past the hour. (Y1) Tell and write the time to 5 minutes. Know number of minutes in an hour and hours in a day.	Compare describe and solve practical problems for weight (mass) and volume (capacity)	**Add and subtract within 100** **Add and subtract any 2-digit numbers**	Choose and use appropriate standard units to estimate and measure. Compare and order using <>=	Recognise and know the value of British coins and notes.	
Key Vocabulary						
Straight line, rotate, turn, angles, clockwise and anti-clockwise	hours, minutes and seconds	Mass (kg / g) Capacity (litres/ ml)	tens ones total difference	temperature °C Mass (kg / g) Capacity (litres/ ml)	pounds pence change	

MATHEMATICS Long Term Plan Year 3

Autumn 1		Autumn 2		
Number: place value (within 100) *3 weeks*	Number: Addition and subtraction (within 100) *3 weeks* Consolidation of learning *1 week*	Number: Addition and subtraction (within 100) *1 week*	Number: multiplication and division *4 weeks*	Consolidation of learning *1 week* Activity week: problem solving and reasoning *1 week*
Key Knowledge **(Ready to Progress Criteria)**				
Know that 10 tens are equivalent to 100. 100 is 10 times the size of 10. How many 10s in 3-digit multiples of 10. **Place value of each digit in 3-digit numbers.** **Reason about location of 3-digit numbers.** **Previous and next multiple of 10 and 100**	**Secure fluency in addition and subtraction facts that bridge 10.** **Calculate complements to 100. (review Y2)** **Add and subtract 3-digit numbers using columnar methods.** **Understand and use the inverse relationship between addition and subtraction**		**Recall multiplication and division facts for 10, 5,2,4 and 8 multiplication tables**	
Key Vocabulary				
Hundreds, tens, ones partition	Part part whole, inverse, add, subtract, total, difference		Multiply, divide	

MATHEMATICS Long Term Plan Year 3

Spring 1			Spring 2		
Number: multiplication and division *3 weeks*	Measurement: length, perimeter and area *2 ½ weeks*	Number: fractions *1 ½ weeks*	Number: Fractions *3 weeks*	Measurement: mass and capacity (tenths) *1 week*	Consolidation of learning *1 week* Activity week: *1 week*
Key Knowledge **(Ready to Progress Criteria)**					
Apply known multiplication and division facts to solve contextual problems.	**Apply place value knowledge to known additive and multiplicative number facts (scaling)**	**Interpret and write proper fractions.** **Find unit fractions of quantities.** **Reason about the location of any fraction within 1 in the linear number system.** **Add and subtract fractions with the same denominator within 1.**		**Divide 100 into 2,4,5 and 10 equal parts and read scales/number lines**	
Key Vocabulary					
Multiply Divide, share, equal groups	mm, cm, m perimeter area	fraction, half, third, quarter, fifth, sixth, eighth etc proper and improper fractions		scale	

MATHEMATICS Long Term Plan Year 3

Summer 1				Summer 2			
Measurement: mass and capacity *2 weeks*	Number: decimals (inc. money) *2 weeks*	Measurement: time *1 week*	Consolidation of learning *1 week*	Measurement: time *2 weeks*	Statistics: statistics *1 week*	Geometry: properties of shape *2 weeks*	Consolidation of learning *1 week* Activity week: *1 week*
Key Knowledge **(Ready to Progress Criteria)**							
Measure, compare, add and subtract lengths (m/cm/mm) Mass (kg/g) Volume/capacity (l/ml)	Count up and down in tenths Recognise that tenths are from dividing into 10 equal parts Add and subtract amounts of money to give change.	Tell and write the time from an analogue clock including Roman numerals. Understand 12 and 24 hour clocks Estimate and read time to the nearest minute Compare time in terms of seconds, minutes and hours Know the number of seconds in a minute. Know the number od days in each month, year and leap year. Compare durations of events (e.g. elapsed time)		Interpret and present data using bar charts, pictograms and tables.	**Recognise right angles as a property of shape.** **Identify right angles in 2D shapes.** **Draw polygons by joining marked points.** **Identify parallel and perpendicular lines**		
Key Vocabulary							
	tenths, change, total, pounds, pence	o'clock, AM/PM, morning, afternoon, noon and midnight				right angle polygon parallel perpendicular	

MATHEMATICS Long Term Plan Year 4

Autumn 1		Autumn 2		
Number: place value (within 1000) *3 weeks*	Number: Addition and subtraction (within 1000) *3 weeks*	Number: Addition and subtraction (within 1000) *1 week*	Number: multiplication and division *4 weeks*	Consolidation of learning *1 week* Activity week: problem solving and reasoning *1 week*
Key Knowledge **(Ready to Progress Criteria)**				
Know that 10 hundreds are equivalent to 1000. 1000 is 10 times the size of 100. How many 100s in 4-digit multiples of 100. **Place value of each digit in 4-digit numbers.** **Reason about location of 4-digit numbers.** **Previous and next multiple of 100 and 1000** Rounding numbers to nearest 10, 100, 1000, 10 000, and 100 000	**Secure fluency in addition and subtraction facts that bridge 10.** **Calculate complements to 100. (review Y2)** **Add and subtract 3-digit numbers using columnar methods.** **Understand and use the inverse relationship between addition and subtraction**		**Recall multiplication and division facts all multiplication tables up to 12 x 12.**	
Key Vocabulary				
Hundreds, tens, ones partition, round	Part part whole, inverse, add, subtract, total, difference		Multiply, divide	

MATHEMATICS Long Term Plan Year 4

Spring 1			Spring 2	
Number: multiplication and division *3 weeks*	Measurement: length, perimeter and area *2 ½ weeks*	Number: fractions *1 ½ weeks*	Number: Fractions *3 weeks*	Number: decimals *2 weeks*
Key Knowledge **(Ready to Progress Criteria)**				
Apply known multiplication and division facts to solve contextual problems. **Multiply and divide whole numbers by 10 and 100.**	**Apply place value knowledge to known additive and multiplicative number facts (scaling)**	**Reason about the location of mixed numbers.** **Convert mixed numbers to improper fractions.** **Add and subtract improper and mixed fractions with the same denominator.**		**Divide 1000 into 2,4,5 and 10 equal parts and read scales/number lines**
Key Vocabulary				
Multiply Divide, share, equal groups	mm, cm, m perimeter area	fraction, half, third, quarter, fifth, sixth, eighth etc proper and improper fractions		scale

MATHEMATICS Long Term Plan Year 4

Summer 1			Summer 2			
Number: decimals *2 weeks*	Number: decimals (inc. money) *2 weeks*	Geometry: symmetry and movement on a grid *2 weeks*	Measurement: time *2 weeks*	Statistics: statistics *1 week*	Geometry: properties of shape *2 weeks*	Consolidation of learning *1 week* Activity week: *1 week*
Key Knowledge **(Ready to Progress Criteria)**						
Measure, compare, add and subtract lengths (m/cm/mm) Mass (kg/g) Volume/capacity (l/ml)	Count up and down in tenths Recognise that tenths are from dividing into 10 equal parts Add and subtract amounts of money to give change.	**Draw polygons specified by coordinates in the first quadrant and translate within the first quadrant.**	Read, write and convert time between analogue and digital; 12- and 24-hour clocks. Solve problems involving concerting from hours to minutes; minutes to seconds; years to months; weeks to days	Interpret and present data using bar charts, pictograms and tables.	**Identify regular polygons including equilateral triangles and squares (equal sides, equal angles)** **Find the perimeter of regular and irregular polygons.** **Identify line symmetry in 2D shapes.**	
Key Vocabulary						
	tenths, change, total, pounds, pence	o'clock, AM/PM, morning, afternoon, noon and midnight			Polygon, equal, properties, perimeter, quadrilateral, types of triangle	

MATHEMATICS Long Term Plan Year 5

Autumn 1		Autumn 2		
Number: place value (within 1,000,000) *3 weeks*	Number: Addition and subtraction *3 weeks*	Statistics 2 weeks	Number: multiplication and division *3 weeks*	Measurement: perimeter and area *2 weeks*
Key Knowledge **(Ready to Progress Criteria)**				
Count forwards or backwards in steps of 10 for any number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers including through 0. Read, write, order and compare numbers to 1,000,000 and determine the value of each digit. Read Roman numerals to M = 1000 and recognise years written. Rounding numbers to nearest 10, 100, 1000, 10 000, and 100 000	Use rounding to check answers to calculations and determine in the context of a problem Add and subtract whole numbers with more than 4 digits including formal columnar methods Add and subtract numbers mentally with increasingly large numbers Solve addition and subtraction multi-step problems	**Divide 1 into 2, 4,5 and 10 equal parts** **read scales** Complete, read and interpret information in tables including timetables. Solve comparison, sum and difference problems using information presented in a line graph.	**Secure fluency in multiplication table facts and corresponding division facts** **Find factors and multiples of positive and whole numbers** **Express a number as a product of 2 or 3 factors** Types of number: prime, composite, square and cube	**Compare areas and calculate the area of rectangles using standard units.** Estimate areas of irregular shapes.
Key Vocabulary				
Positive, negative Order, compare, Round, digit Roman numberals	Rounding Add Subtract	Scale line graph Table Time table	Lowest common multiple Highest common factor Prime, composite, square, cube	Area, perimeter

MATHEMATICS Long Term Plan Year 5

Spring 1		Spring 2
Number: multiplication and division *3 weeks*	Fractions *7 weeks*	Number: decimals and percentages *2 weeks*
Key Knowledge **(Ready to Progress Criteria)**		
Multiply and whole number with up to 4-digits by any 1-digit number using a formal written method. **Divide a number up to 4-digits by a 1-digit number using a formal written method and interpret the remainder correctly for the context.**	**Find non-unit fractions of quantities.** **Find equivalent fractions and understand that they have the same value and same position in the linear number system.** **Recall decimal fraction equivalents for ¼, ½, 1/5 and 1/10 and for multiples of these proper fractions.** Compare and order fractions whose denominators are all multiples of the same number Add and subtract fractions with the same denominator and denominators which are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers.	**Understand thousandths:** **Know that 10 tenths are equivalent to 1 one** **1 is 10 times the size of 0.1** **100 hundredths = 1 one** **1 is 100 times 0.01** **10 hundredths = 1/10** **0.1 is 10 times the size of 0.1** **Recognise place value up to 2 decimal places** **Locate on a number line** **Rounding to nearest 2 decimal places** Read and write decimal numbers as fractions Read, write, order, compare and solve problems up to 3 decimal places Recognise the percent symbol % Per cent = parts per hundred Write a percentage as a fraction with a denominator of 100. Solve problems with knowledge of decimal and percentage equivalents
Key Vocabulary		
Multiply, divide	Unit fraction, non-unit fraction, equivalent fraction, denominator, numerator, proper, improper, mixed number, whole number	Partition, round, decimal, percentage

MATHEMATICS Long Term Plan Year 5

Summer 1			Summer 2			
Number: decimals *3 weeks*	Geometry: Properties of shape *3 weeks*	Consolidation and review	Geometry: position and direction *2 weeks*	Measurement: converting units *2 weeks*	Measurement : volume *1 week*	Consolidation and review
Key Knowledge **(Ready to Progress Criteria)**						
Apply place-value knowledge by scaling by 1 tenth or 1 hundredth **Multiply and divide by 10 and 100**	**Compare angles, estimate and measure angles in degrees and draw angles of a given size.** Distinguish between regular and irregular polygons. Use knowledge of properties of rectangles to deduce related facts and find missing lengths and angles. Identify 3D shapes from 2D representations. Know types of angle: obtuse, reflex and acute Identify angles: 360, 180 and 90 degrees.		Identify, describe and represent the position of a shape following a reflection or translation using the appropriate language and know the shape has not changed.	**Convert between units of metric measurement including using common decimals and fractions** Convert between metric and imperial measurements	Estimate volume using non-standard units. Solve problems involving volume.	
Key Vocabulary						
Tenth, hundredth	Polygon, equal sides, equal angles, properties		Reflection, translation	Centimetre, kilometre, millimetre, gram, kilogram, pounds, inches, pints	litre, millilitre	

MATHEMATICS Long Term Plan Year 6

Autumn 1		Autumn 2	
Number: place value *3 weeks*	Number: Addition, subtraction, multiplication and division 5 *weeks*	Number: fractions *4 weeks*	Geometry: position and direction *1 week*
Key Knowledge **(Ready to Progress Criteria)**			
Recognise the place value of each digit in numbers up to 10 million including decimal fractions. **Compose and decompose numbers up to 10 million using standard and non-standard partitioning.** **Reason about the location of any number up to 10 million in the linear number system.** **Round any number.**	**Understand that 2 numbers can be related additively or multiplicatively and quantify additive and multiplicative relationships.** **Use a given additive or multiplicative calculation to derive or complete a related calculation using arithmetic properties, inverse relationships and place-value understanding.** Perform mental calculations including with mixed operations and large numbers. Use knowledge of order of operations to carry out calculations involving the four operations. Multiply up to 4-digit x 2-digit and 2-digit x 2 digit Divide up to 4-digits by 2-digits.	**Recognise when fractions can be simplified and use common factors to simplify fractions.** **Find common denominators to compare fractions.** **Compare and order fractions with different denominators including those greater than 1** Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions. Multiply simple pairs of proper fractions and write answer in simplest form. Divide proper fractions by whole numbers.	Describe positions on the full coordinate grid. Draw and translate simple shapes on the coordinate plane and reflect them in the axes.
Key Vocabulary			
Place value, digit, order, compare	Brackets Indices Division Multiplication Addition Subtraction	Proper fraction, improper fraction, mixed number, simplify	Coordinates, translate, reflect, axes

MATHEMATICS Long Term Plan Year 6

Spring 1				Spring 2		
Number: decimals *2 weeks*	Number: percentages *2 weeks*	Number: algebra *2 weeks*	Measurement: converting units *1 week*	Measurement: perimeter, area and volume *2 weeks*	Number: Ratio *2 weeks*	Statistics *1 week*
Key Knowledge **(Ready to Progress Criteria)**						
Understand the relationship between powers of 10 from 1 hundredth to 10 million. Identify the value of each digit in numbers given to 3 decimal places. Multiply and divide by 10, 100 and 1000	Associate a fraction with division and calculate decimal fraction equivalents Recall and use equivalences between simple fractions, decimals and percentages	**Solve problems with 2 unknowns.** Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Enumerate possibilities of combinations of 2 variables.	Solve problems involving the calculation of and conversion of units of measure using decimal notation up to three decimal places Use, read, write and convert between standard metric units of measurement. And standard to non-standard.	Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate area of parallelograms and triangles.	**Solve problems involving ratio and relationships.** Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	**Divide powers of 10 from 1 hundredth to 10 million into 2, 4, 5 and 10 equal parts. Read scales with labelled intervals.** Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.
Key Vocabulary						
decimal, digit	Decimal, fraction, percentage, equivalent	formula(e), variables, constants	Conversion, standard, metric, non-standard	Perimeter, area, volume	Relative size missing values scale factor	Powers, pie chart, angle, percentage, fraction, mean, average

MATHEMATICS Long Term Plan Year 6

Summer 1		Summer 2
Geometry: Properties of shape *3 weeks*	Consolidation and preparation for end of key stage examinations	Consolidation, investigation and preparations for KS3
Key Knowledge **(Ready to Progress Criteria)**		
Draw, compose and decompose shapes according to given properties including dimensions, angles and area and solve related problems. Draw 2D shapes using given dimensions and angles Compare and classify geometric shapes based on their properties Illustrate and name parts of circles: radius, diameter, circumference. Know radius = 2x diameter Find unknown angles in any triangles, quadrilaterals and regular polygons. Recognise angles where they meet at a point, are on a straight line or are vertically opposite and find missing angles.		
Key Vocabulary		
Regular and irregular polygon, equal sides, equal angles, properties radius, diameter, circumference, opposite angles		