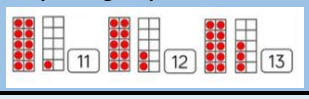
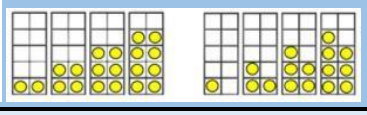
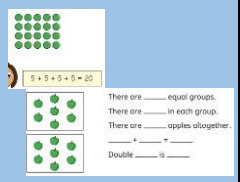
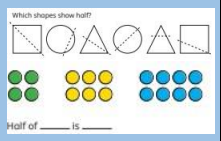
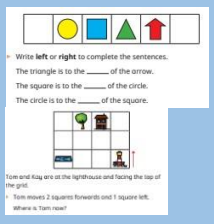
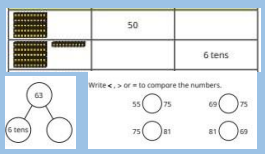
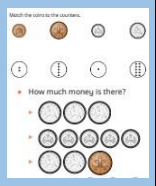
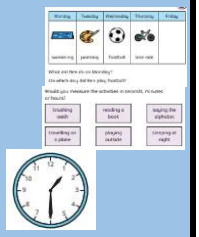
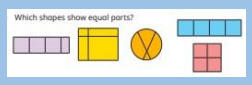
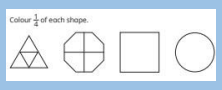
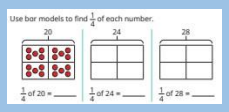
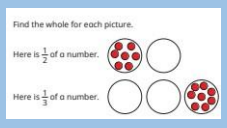
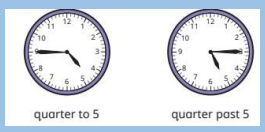
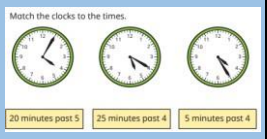
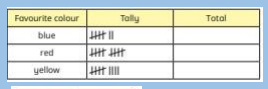
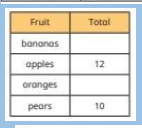
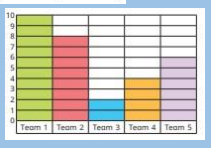
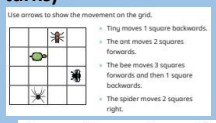
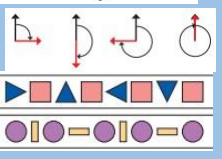
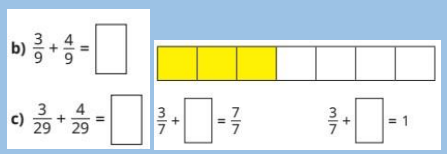
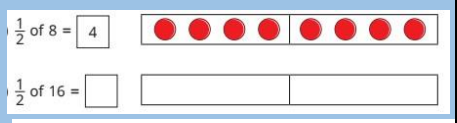
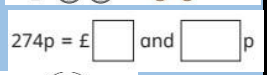
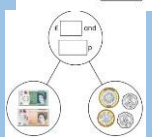
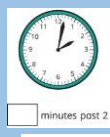
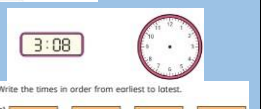
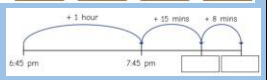
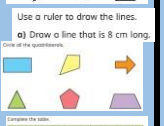
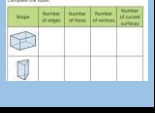
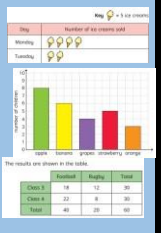
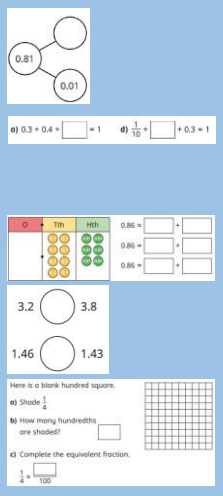
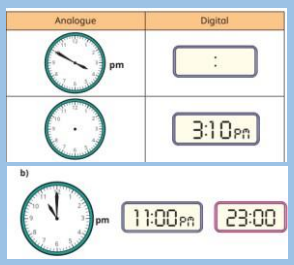
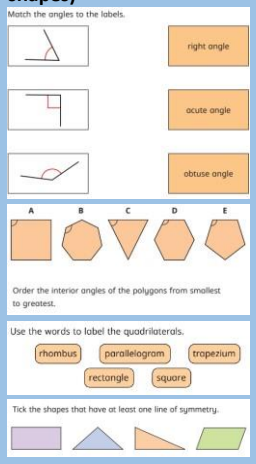
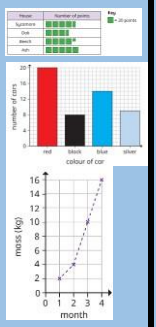
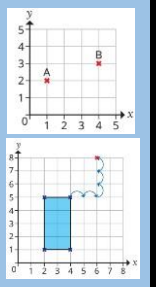
ST. MARY'S MATHS CURRICULUM OVERVIEW – SUMMER

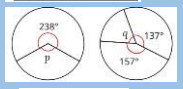
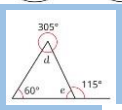
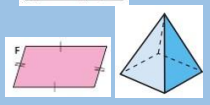
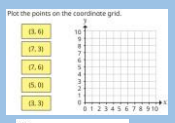
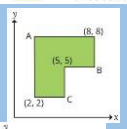
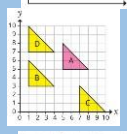
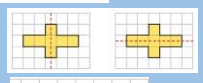
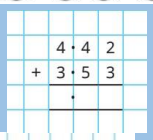
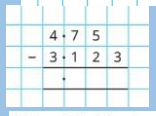
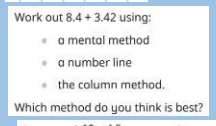
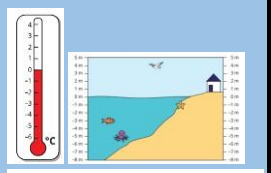
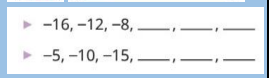
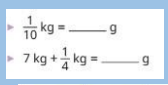
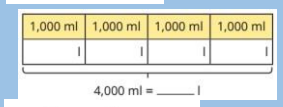
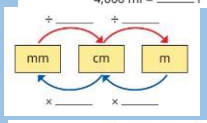
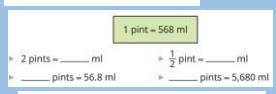
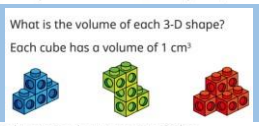
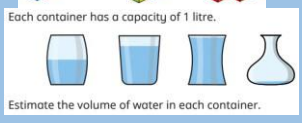
**This is a suggested sequence of mathematical learning. There is flexibility to the timings of this sequence in order to allow adaptations to be made in line with the needs of each cohort.*

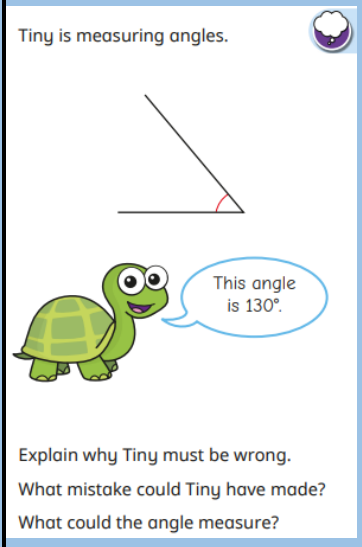
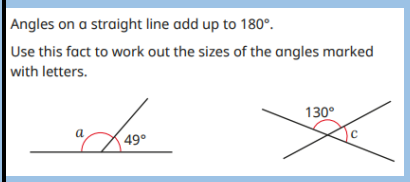
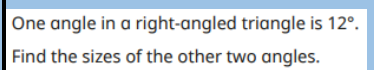
	Summer 1			Summer 2		
Reception	**Building numbers beyond 10.** **Counting patterns beyond 10** **Adding more, taking away** **Subitising quantities to 5** **Number bonds to 5+** **Compose and decompose shapes** **Manipulating shapes** 			**Doubling** **Sharing and grouping** **Even and odd** **Deepening understanding** **Patterns and relationships** **Exploring and creating maps** 		
Outcomes	Have a deep understanding of number to 10, including the composition of each number Subitise quantities to 5 • Automatically recall number bonds for numbers 0–5 and some to 10. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can • Count beyond ten.					
Year 1	**Multiplication and Division (count in 2s, 5s and 10s, recognise and then add equal groups using repeated addition, make arrays, make doubles, explore division by making equal groups to show both sharing and grouping)** 	**Fractions (recognise and then find half of an object or shape, recognise and then find half of a quantity, recognise and then find a quarter of an object or shape, find a quarter of a shape)** 	**Geometry – Position and Direction (recognise and describe half turn, quarter turn and full turn, describe position 'front and back', 'left and right', 'above and below', use ordinal numbers)** 	**Place Value within 100 (count from 50-100, count in 10s to 100, partition 2-digit numbers into tens and ones, use a number line to 100, find one more and one less within 100, compare numbers using the < and > symbols)** 	**Money (unitising, recognise coins and notes, count groups of coins)** https://www.ncetm.org.uk/features/what-is-unitising-andwhy-is-itimportant/#:~:text=The%20mathematical%20term%20for%20counting,and%20in%20understanding%20place%20value. 	**Time (before and after, days of the week, months of the year, hours/minutes/ seconds, tell the time to the nearest hour and then half hour)** 
Outcomes	Children can count forwards and backwards in 2s, 5 and 10s. They can recognise when groups are equal and add equal groups using repeated addition and arrays. Understand doubling as two equal groups. They begin to explore division as sharing and grouping in equal amounts. Automaticity: Children know the halves and doubles of numbers to 10	Children can find and recognise half and then quarter of a shape/object, knowing that two parts need to be equal. They can find half and then quarter of an amount using division skills.	Children can use language to describe turns and position. They can also use ordinal numbers to describe position. Automaticity: Children know left and right	Children can count to 100 and can use number lines and hundred squares. They can count in multiples of ten. They can partition numbers to 100 into tens and ones and can find one more and one less now up to 100. They can compare numbers within 100 and can use the symbols < and >. Automaticity: Children count to and within 100, forwards and back.	Children can unitise (recognise that one object can represent a number of things) in the context of money. They can recognise all the coins and notes. They can count coins by counting in 2s, 5s and 10s.	Children can use language of time in familiar contexts. They know the days of the week and months of the year in sequence. They can compare seconds, minutes and hours. They can tell time on the hour or half hour. Automaticity: Children know the days of the week and months of the year.

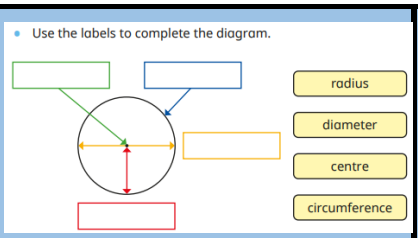
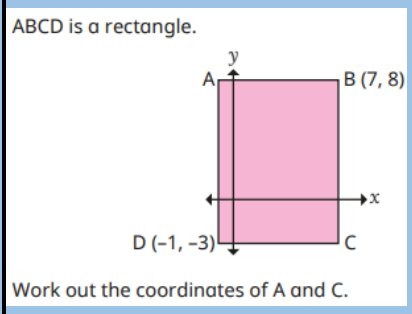
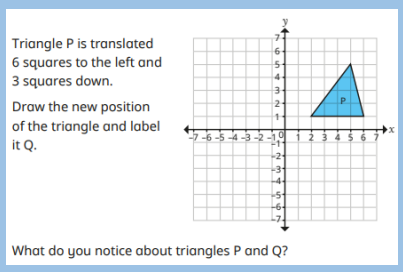
Year 2	**Fractions (Understanding parts and wholes and then equal and unequal parts, recognising and finding a half, quarter, third, finding the whole, recognising unit and non-unit fractions, recognising equivalence of a half and two quarters, recognise and find three quarters, count in fractions up to a whole)**     	**Time (Read analogue clocks o'clock, half past, quarter past and to, count, recognise and represent time in blocks of 5 minutes past the hour, know and use the number of minutes in an hour and hours in a day)**  	**Statistics (Make and read tally charts, complete and read tables and block diagrams, draw and interpret pictograms including where a picture represents 1, 2, 5 or 10)**   	**Geometry - Position and Direction (use words of position – above, below, right, left, between – and movement – up, down, right, left, backwards, forwards – describe turns using clockwise and anticlockwise, describe and continue shape patterns with turns)**  
Outcomes	Children can identify parts of a whole in different formats. They can identify equal and unequal parts. Children use the formal notation of ½ , ¼, 1/3 and can recognise and find these fractions of shapes, objects and numbers. They can find the whole amount when given the fraction, using their knowledge that the parts must be equal and therefore the same. They recognise unit and nonunit fractions. They recognise the equivalence of ½ and 2/4. They can recognise when shapes are showing ¾ and find ¾ of amounts. They can count in these three fractions up to a whole.	Recap telling time to the hour and half hour from Year 1. Children can then read time to quarter past and to and then to each interval of 5 minutes both past and to the hour. They use the fact that there are 60 minutes in an hour to work out lengths of time longer than an hour. They know that there are 24 hours in a day. Automaticity: Children tell the time to nearest 5 minutes. Children know there are 60 minutes in an hour and 24 hours in a day.	Children learn how to represent and use 5 as tally marks to read and collect data. They can complete and read simple tables of data. They read and complete block diagrams and pictograms with one to one correspondence, moving on to reading and drawing pictograms with symbols representing 2, 5 or 10 items.	Children use the language of position and direction to describe movement including turns. They can complete shape patterns that include turns. Automaticity: Children know and use 'clockwise' and 'anticlockwise' and know which is left and which is right.
Year 3	**Fractions (Add and subtract fractions with the same denominator, recognise and be able to partition a whole into fraction parts, find unit and then non-unit fractions of a set of objects, solve reasoning problems using fractions of an amount)**   In a class of 32 children, seven-eighths of the class have a brother or sister. **a)** How many children have a brother or sister?	**Money (find amounts of money counting pounds and pence, convert pence into pounds and pence and vice versa, add and subtract money, find change from whole pound amounts)**   Dani buys a milkshake. She pays with a £5 note. She gets £3 and 40p change. How much does the milkshake cost?	**Time (recognise Roman numerals to 12, tell the time to 5 minutes and then to the minute, read digital time, understand am and pm, use units of time - yearsmonths-days / days-hours / minutes-seconds knowledge, find and use durations of time, solve problems involving time)**   	**Geometry - Shape (identify right angles, compare angles, use the compass to identify turns, use a ruler to draw in cm and mm accurately, know 'horizontal' ,'vertical', 'parallel', 'perpendicular', recognise and draw 2D shapes, recognise, describe and make 3D shapes)**  	**Statistics (use a key to interpret and draw pictograms, interpret and draw bar charts, collect and represent their own data, read and complete two way tables)** 

Outcomes	Children understand the meaning of 'numerator' and 'denominator' and can add and subtract fractions with the same denominator. They can partition a whole into unit and non-unit fraction parts, using knowledge of number bonds. They can find unit and non-unit fractions of a set and connect this to division			Children can read the Roman numerals up to 12 and use this to read analogue clocks marked with Roman numerals. They use their knowledge of 60 minute in an hour to tell the time to the nearest minute and solve problems. They can read digital time and match to analogue time. They can recognise the difference between am and pm. They can read calendars and solve problems to do with years, months and days, and days and hours. They can use start and end times to find durations of time and use durations to find start and end times. They can solve problems involving time. Automaticity: Children know there are 60 seconds in a minute and how many days are in each month.	Children can use the four points of the compass to identify turns. Children know what an angle is and can identify right angles. They can compare the size of angles. They can use a ruler to draw lines and shapes accurately in cm or mm Automaticity: Children can identify right angles and types of lines.	Children can use a key to interpret pictograms. They can draw a pictogram and choose the key. They can read and create bar charts. They can use tallys to collect their own data and choose how to represent it.
Year 4	**Fractions - Decimals (make a whole using tenths or hundredths, partition decimals including flexibly, compare and order decimals up to 2dp, round decimals to the whole number, identify halves and quarters as decimals)** 	**Money (use decimals to read and write money amounts, convert between pounds and pence, compare money amounts, estimate money totals using rounding, calculate and solve problems with money)** 	**Time (use knowledge of the relationships between – year, month, week, day, hours, minutes, seconds – to solve problems and compare time, convert between analogue and digital time, convert to and from 24 hour time)** 	**Shape (understand angles as a measure of turn, recognise acute, right and obtuse angles, order angles, identify types of triangle and quadrilateral, identify polygon features, identify and draw lines of symmetry, complete drawings of symmetrical shapes)** 	**Statistics (Read and interpret bar charts and pictograms which use different scales. Compare data and find sums and differences. Read and draw line graphs.)** 	**Position and Direction (Describe position using coordinates (one quadrant), plot points by reading coordinates. Draw and translate 2D shapes on a grid.)** 

Outcomes	Children can identify tenths written as a decimal. They can partition decimals in different ways. They can compare and order decimals with up to 2dp. They can round decimals with 1dp to the nearest whole number. They can identify and use decimals equivalent to a half and a quarter.	Children can read and write money amounts using decimals. They use the knowledge £1 = 100p to convert between pounds and pence. They can use the place value in money amounts to compare them. They can estimate with money. They can solve problems involving calculating with money,	Children use facts of time to solve problems, make statements and comparisons. They can convert between analogue and digital time using the 12 hour clock and then the 24 hour clock. They use their knowledge of am and pm and the 24 hour day to convert to and from 24 hour time.	Children understand angles as a measure of turn. They can identify acute, right and obtuse angles and use this knowledge to order angles. They can identify scalene, isosceles and equilateral triangles. They can identify different types of quadrilateral. They understand the features of a polygon. They can identify and complete a line of symmetry and complete drawings of symmetrical shapes. Automaticity: Children identify acute and obtuse angles	Children can interpret bar charts and pictograms. They can draw their own charts deciding on appropriate scales. They can answer questions about charts including finding sum and differences of discrete data. They read line graphs, understanding when they should be used. They draw and label their own line graphs.	Children can use coordinate grids in one quadrant and recognise the x and y axes. They know that they read the x axis first to find or plot points. They can use coordinate points to draw 2D shapes on a grid. They can translate points both horizontally and vertically and can then translate a 2D shape on grid.

Year 5	**Shape (Recognise and use degrees and the language of turns. Use knowledge of angles to classify, estimate and calculate missing angles, including in shapes. Measure and draw angles up to 180˚ using a protractor. Identify, draw and find the perimeter of regular and irregular polygons. Identify the properties of 3D shapes.)**   	**Position and Direction (Read and plot coordinates, solve coordinate problems, translate shapes on a coordinate grid, describe translations, use coordinates in translations, find lines of symmetry in 2D shapes, reflect a shape vertically or horizontally on a grid.)**     	**Decimals (Add and subtract decimals within and then across 1, find complements to 1, use written method to add and subtract decimals with the same, and then with different, number of dp, choosing the most efficient method each time. Find rules and complete decimal sequences. Multiply and divide decimals by 10, 100, 1000, and work out the missing value that a number has been multiplied or divided by.)**    	**Negative Numbers (Understand negative numbers in context and in abstract, count through 0 in ones and multiples, compare and order negative numbers, find the difference between positive and negative numbers.)**   	**Measure: Converting units / Volume (Convert between kg and g/ km and m to solve problems, convert between l and ml, convert metric units of length, convert between metric and imperial units, solve problems using all measures including units of time. Understand and measure volume using cubes, compare and estimate volume of 3D shapes, estimate capacity.)**      

Outcomes	Children can use 'degrees', 'angles' 'clockwise', 'anticlockwise' to describe turns. They can use knowledge of acute, obtuse, reflex and right angles to classify angles visually or labelled with degrees, to estimate their size, and to calculate missing angles including in 2D shapes. They can use a protractor to measure and draw angles up to 180˚. They can identify regular and irregular polygons and draw them. They can identify the properties of 3D shapes. Automaticity: Children recognise acute, right, obtuse and reflex angles. Children know that: 360˚ = full turn 180˚= half turn/ straight line 90˚ = quarter turn/ right angle	Children can read and plot coordinates correctly and accurately on a grid (1st quadrant). They can work out missing coordinates. They can translate shapes on a coordinate and squared grid, and describe translations. They can use coordinates within translations. They can find any line of symmetry in a 2D shape. They can reflect a shape on squared background or on a coordinate grid vertically or horizontally. They know the difference between translation and reflection.	Children can use their knowledge of number bonds to add and subtract decimals within 1 and then across 1. They can find complements to 1 using up to 3dp. They can use the column method to add and subtract decimals with the same number, and then with a different number, of decimal places. They can choose the most efficient method (mental, number line, column) for calculating with decimals. They can find rules for decimal sequences and complete them. They can use place value to multiply and divide decimals by 10, 100 and 1000. They can use this understanding to find missing values.	Children know when negative numbers are used in context. They can count through 0 in different steps. They can compare and order negative numbers. They can find the difference between positive and negative numbers.	Children can convert between measures to solve problems. They can convert between litres and ml and the metric units of length. They can convert between metric and imperial units such as inches and cm/ grams and pounds. They can solve problems involving all these measures and also units of time, using conversions as needed. They understand volume and can measure it using cubes and the language 'cubed'. They can compare and estimate volume of 3D shapes using cubes. They can estimate capacity and know how this is different to volume. Automaticity: Children use their knowledge of measure equivalences (eg 1000g = 1kg) to convert between units of measure: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre.
Year 6	**Shape: (Measure and classify angles; calculate angles; vertically opposite angles; angles in a triangle, including missing angles; angles in a quadrilateral; angles in polygons; circles; draw shapes accurately; nets of 3D shapes)**   	**Revision, consolidation and stretch of the primary maths curriculum as needed. Further development of problem solving, investigation and reasoning skills.**			

	 **Position and Direction: (read and plot points in four quadrants; solve problems with coordinates; translations; reflections.)**   **Revision of targeted material before SATs.**	
Outcomes	**Shape:** Children recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles; Draw given angles, and measure them in degrees (°) (Y5); Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Y5); Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles; Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons; Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius; Draw 2-D shapes using given dimensions and angles; Recognise, describe and build simple 3-D shapes, including making nets **Position and Direction:** Children can describe positions on the full coordinate grid (all four quadrants); draw and translate simple shapes on the coordinate plane, and reflect them in the axes; **Revision of targeted areas before SATs:** Children are SATs ready.	Children are fluent and confident in their mathematical skills and knowledge. They can problem solve and investigate in different ways. They can calculate both mentally and using written methods efficiently. They are secondary ready.