St George's Central CE Primary School and Nursery

Long Term Plan for Maths
Nursery: 2 – 3 year olds

	Yearly Overview					
Key Learning	Number finger rhymes Block play	Amounts and changes in amounts	Counting in everyday contexts	Building and shape	Comparing amounts, size and weight	Pattern
EYFS Statements	**Numbers** • Use all available opportunities for finger play, outdoors and indoors. • Sing finger rhymes which invove hiding and returning, like 'Two little dicky birds'. • Draw attention to changes in amounts, for example, by adding more bricks to a tower, or eating things up. • Children react to changes of amount in a group of up to three items. • Childen regularly play with loose parts and bowls and baskets to experience amounts and changes in amounts. **Shape, Space and Measure** • Children play daily with large and small blocks indoors and outdoors.		**Numbers** • Offer repeated experiences with the counting sequence in meaningful and varied contexts, outdoors and indoors. Count fingers and toes, stairs, toys, food items, sounds and actions. • Help children to match their counting words with objects. • Repeated experience vital and most necessary to build children's confidence. **Shape, Space and Measure** • Encourage children to climb and squeeze selves into different types of spaces. • Describe children's climbing, tunnelling and hiding using spatial words like 'on top of', 'up', 'down' and 'through'. • Provide blocks and boxes to play freely with and build with, outdoors and indoors. • Provide inset puzzles and jigsaws at different levels of ability.		**Numbers** • Compare amounts, saying 'lots', 'more' or 'same'. • Children show counting like behaviour, such as making sounds, pointing or saying some numbers in sequence. • Children begin to count sometimes skipping numbers saying 1-2-3-5. **Shape, Space and Measure** • Compare sizes, weights etc. using gesture and language, 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. • Children begin to use the language of size and weight in everyday context. • Children begin to notice patterns that they see all around them. • Children begin to arrange things in patterns. • Adults use the words 'same' over and over so the children will understand when something is the same or different.	

'Never settle for less than your best'

St George's Central CE Primary School and Nursery
Long Term Plan for Maths
Nursery: 3 – 4 year olds

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Rote counting Comparing quantities Positional language	Touch counting Introducing numerals 1-5 Passing of time	Matching numerals to quantities Introducing numerals 5-10 2D shape Pattern	Adding 1 more up to 5 Representing amounts leading to writing numerals Introducing length, weight and height	Subitising Introducing 3D shape	Adding two amounts together Introducing capacity
EYFS Statements	**Numbers** • Fast recognition of up to 3 objects. • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total (cardinal principal). • Show 'finger numbers' up to 5. **Shape, Space and Measure** • Understand position through words alone, for example, 'The bag is under the table', with no pointing. • Children use spatial words in play. • Children can talk about what comes next during the day and knows the difference between day and night.		**Numbers** • Links numerals to amounts: for example, showing the right number of objects to match the numeral, up to 5 initially. • Knows what one more than a given amount is. • Can compare quantities using language: 'more than', 'fewer than'. • Experiment with their own symbols and marks as well as numerals to represent amounts. **Shape, Space and Measure** • Talk about and explore 2D shapes using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. • Make comparisons between objects relating to size, length and weight. • Can talk about and identify patterns around them. Uses informal language like 'pointy', 'spotty' etc. to describe pattern. • Create ABABAB patterns. • Notice and correct an error in a simple repeating pattern.		**Numbers** • Solve real world mathematical problems with numbers up to 5 initially. • Be able to subitise with amounts up to 5. • Can compare two small amounts and say which is more and then touch count to say how many altogether. **Shape, Space and Measure** • Selects shapes appropriately for desired outcome. • Combines shapes to make new ones. • Make comparisons between objects relating to capacity. • Children can use some associated language with capacity, for example, 'full', 'empty'' 'holds more', 'holds less'.	

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St George's Central CE Primary School and Nursery

Long Term Plan for Maths
Reception

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Positional language Match, sort, compare objects and amounts Explore patterns Representation of numbers to 5 2D shapes One more and one less		Composition of numbers to ten (including 0) Comparing mass and capacity Length and height Time Number bonds 3D shapes		Counting patterns beyond 10 Spatial reasoning Match, rotate, manipulate Addition and subtraction Doubling Grouping and sharing	
EYFS Statements	**Numbers** • Match and sort items for a variety of criteria • Count objects, actions and sounds. • Say how many there are after counting. • Count out a smaller number from a larger group. • Estimate how mant there might be before counting. • Compare amounts saying which has less and which has more. • Link the number symbol (numeral) with it's cardinal number value. • Understand the 'one more than/one less than' relationship between consecutive numbers. **Shape, Space and Measure** • Name and recognise 2D shapes. • Select, rotate and manipulate 2D shapes in order to develop spatial reasoning skills. • Can talk about the passing of the day and time in general. • Can sequence 4 and then 6 pictures. • Can use comparative language to compare length, mass and capacity. • Can continue, copy and create repeating patterns.		**Numbers** • Can partition and recombine sets of numbers. • Can automatically recall number bonds for numbers 0-10. • Children can use fingers, dice, tens frames etc. to show their understanding of composition. • Children use every day experiences to apply their number bonds learning, for example 'There are 6 of us but only two clipboards. How many more do we need?'. • Count verbally beyond 10, pausing at each multiple of 10 to draw out the structure. **Shape, Space and Measure** • Name and recognise 3D shapes. • Select, rotate and manipulate 3D shapes in order to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Find 2D shapes within 3D shapes, including through printing or shadow play. • Children can make and test predictions, eg – 'what if we pour the water from the jug into the teapot? Which holds more?'		**Number** Early Learning Goal Children at the expected level of development will: • Have a deep understanding of number to 10, including the composition of each number; • Subitise up to 5; • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. **Numerical Pattern** Early Learning Goal: Children at the expected level of development will: • Verbally count beyond 20, recognising the pattern of the counting system. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	

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Long Term Plan for Maths
Year 1

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place value (within 10) Addition and Subtraction	Addition and Subtraction Shape Place Value (within 20)	Addition and Subtraction Place Value (within 50)	Place Value (within 50) Length and Height Weight and Volume	Multiplication and Division Fractions	Position and Direction Place Value (within 100) Money and Time
National Curriculum objectives	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Read and write numbers from 1 to 20 in numerals and words. • Read, write and interpret mathematical statements involving	• Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ − 9. • Recognise and name common 2-D and 3-D shapes.	• Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ − 9. • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Read and write numbers from 1 to 20 in numerals and words. • Compare, describe and solve practical problems for lengths and heights,	• Recognise, find and name a half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. • Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	• Describe position/ direction/ movement, including whole, half, quarter and three-quarter turns. • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Compare, describe and solve practical problems for time.

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	addition (+), subtraction (−) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ − 9.	• Describe position, direction and movement, including whole, half, quarter and three quarter turns. • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Read and write numbers from 1 to 20 in numerals and words.	• Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Read and write numbers from 1 to 20 in numerals and words.	mass/weight and capacity and volume. • Measure and begin to record lengths and heights, mass/weight, capacity and volume.		• Measure and begin to record time. • Recognise and know the value of different denominations of coins and notes. • Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

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Long Term Plan for Maths
Year 2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place value Addition and Subtraction	Addition and Subtraction Shape	Multiplication and Division Money	Multiplication and Division Length and Height Mass, capacity and temperature	Fractions Position and Direction Statistics	Time Position and Direction Consolidation
National Curriculum objectives	• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • Recognise the place value of each digit in a two-digit number (tens, ones). • Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Read and write numbers to at least 100 in numerals and in words. • Use place value and number facts to solve problems. • Solve problems with addition and subtraction: using concrete objects and	• Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods. • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers;	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Calculate statements for multiplication and division within the multiplication tables and write them using multiplication, division and equals signs. • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Calculate statements for multiplication and division within the multiplication tables and write them using multiplication, division and equals signs. • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and	• Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity. • Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. • Ask and answer questions about totalling and comparing categorical data. • Choose and use appropriate standard	• Compare and sequence intervals of time. • Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. • Know the number of minutes in an hour and the number of hours in a day. • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).

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pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods. • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers. • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. • Recognise and use the inverse relationship between addition and subtraction.	adding three one-digit numbers. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. • Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Identify 2-D shapes on the surface of 3-D shapes. • Compare and sort common 2-D and 3-D shapes and everyday objects.	division facts, including problems in contexts. • Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. • Find combinations of coins that equal the same amounts of money. • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	division facts, including problems in contexts. • Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =.	units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Order and arrange combinations of mathematical objects in patterns and sequences.

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Long Term Plan for Maths
Year 3

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place value Addition and Subtraction	Addition and Subtraction Multiplication and Division	Multiplication and Division Length and Perimeter	Fractions Mass and Capacity	Fractions Time	Money Shape Statistics
National Curriculum objectives	• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). • Compare and order numbers up to 1000. • Identify, represent and estimate numbers using different representations. • Read and write numbers up to 1000 in numerals and in words. • Solve number problems and practical problems involving these ideas. • Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds.	• Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds. • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. • Estimate the answer to a calculation and use inverse operations to check answers. • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.	• 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 arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. • Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators. • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise and show, using diagrams, equivalent fractions with small denominators.	• Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. • Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators. • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise and show, using diagrams, equivalent fractions with small denominators. • Add and subtract fractions with the same denominator within one whole. • Compare and order unit fractions, and	• Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. • Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • Add and subtract amounts of money to give change, using both £ and p in practical contexts.

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• Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. • Estimate the answer to a calculation and use inverse operations to check answers. • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). • Measure the perimeter of simple 2-D shapes.	• Add and subtract fractions with the same denominator within one whole. • Compare and order unit fractions, and fractions with the same denominators. • Solve problems that involve all of the above.	fractions with the same denominators. • Solve problems that involve all of the above. • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events.	• Interpret and present data using bar charts, pictograms and tables. • Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.

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Long Term Plan for Maths
Year 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place value Addition and Subtraction	Multiplication and Division Area	Multiplication and Division Length and Perimeter Fractions	Fractions Decimals	Decimals Money Time	Statistics Shape Position and Direction
National Curriculum objectives	• Count in multiples of 6, 7, 9, 25 and 1000. • Find 1000 more or less than a given number. • Count backwards through zero to include negative numbers. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). • Order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations. • Round any number to the nearest 10, 100 or 1000. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers. • Read Roman numerals to 100 (I to C) and	• Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence	• Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence	• Recognise and show, using diagrams, families of common equivalent fractions. • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. • Add and subtract fractions with the same denominator • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$	• Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Estimate, compare and calculate different measures, including money in pounds and pence. • Convert between different units of measure (including time).	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2-D shapes presented in different orientations.

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	know that over time, the numeral system changed to include the concept of zero and place value. • Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	problems such as *n* objects are connected to *m* objects. • Find the area of rectilinear shapes by counting squares.	problems such as *n* objects are connected to *m* objects. • Recognise and show, using diagrams, families of common equivalent fractions. • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. • Add and subtract fractions with the same denominator • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$. • Measure and calculate the perimeter of a rectilinear figure (including squares).	• Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. • Solve simple measure and money problems involving fractions and decimals to two decimal places.	• Read, write and convert time between analogue and digital 12- and 24-hour clocks. • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	• Complete a simple symmetric figure with respect to a specific line of symmetry. • Describe positions on a 2-D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Plot specified points and draw sides to complete a given polygon.

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Long Term Plan for Maths
Year 5

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place value Addition and Subtraction	Multiplication and Division Fractions	Multiplication and Division Fractions	Decimals and Percentages Area and Perimeter Statistics	Shape Decimals	Position and direction Negative numbers Converting Units Volume
National Curriculum objectives	• Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. • Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. • Solve number problems and practical problems that involve all of the above. • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. • Add and subtract whole numbers with more than 4 digits, including using formal written methods	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors, composite numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Multiply and divide mentally drawing upon known facts. • Divide numbers up to 4 digits by a one-digit number using the formal written method	• Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Multiply and divide mentally drawing upon known facts. • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. • Solve problems involving multiplication/ division, including scaling by simple fractions and problems. • Recognise mixed numbers and improper fractions and convert from one form	• Read and write decimal numbers as fractions. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • Read, write, order and compare numbers with up to three decimal places. • Solve problems involving number up to three decimal places. • Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with	• Read and write decimal numbers as fractions. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • Read, write, order and compare numbers with up to three decimal places. • Solve problems involving number up to three decimal places. • Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with	• Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. • Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Solve problems involving converting between units of time.

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(columnar addition and subtraction). • Add and subtract numbers mentally with increasingly large numbers. • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	of short division and interpret remainders appropriately for the context. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Recognise and use square numbers/ cube numbers, and the notation for squared (^{2}) and cubed (^{3}). • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving addition, subtraction, multiplication, division and a combination of these, understanding the meaning of the = sign. • Solve problems involving multiplication/ division, including scaling by simple fractions and problems. • Compare and order fractions whose denominators are all	to the other and write mathematical statements > 1 as a mixed number. • Add and subtract fractions with the same denominator and denominators that are multiples of the same number. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	denominator 100, and as a decimal. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25. • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. • Solve comparison, sum and difference problems using information presented in a line graph. • Complete, read and interpret information in tables, including timetables.	denominator 100, and as a decimal. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25. • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees (^{o}). • Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and a $\frac{1}{2}$ turn (total 180°); other multiples of 90°. • Use the properties of rectangles to deduce related facts and find missing lengths and angles. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	• Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. • Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.

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		multiples of the same number. • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.				

St George's Central CE Primary School and Nursery
Long Term Plan for Maths
Year 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Learning	Place Value Addition, Subtraction, Multiplication and Division	Fractions Measurement	Ratio Decimals Algebra	Fractions, Decimals, Percentages Measurement Statistics	Shape Position and Direction	Consolidation
National Curriculum objectives	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above. • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. • Divide numbers up to 4 digits by a two-digit whole number using the formal written methods and interpret remainders as whole number remainders,	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form. • Divide proper fractions by whole numbers. • Use, read, write and convert between standard units, converting length, mass, volume and time from a smaller unit of measure to a larger	• Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. • Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Recall and use equivalences between simple fractions,	• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of parallelograms and triangles. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]. • Solve problems involving the relative sizes of two quantities where missing values	• Draw 2-D shapes using given dimensions and angles. • Recognise, describe and build simple 3-D shapes, including making nets. • 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. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	• Recap of all national curriculum objectives, ensuring full coverage. • Problem solving using a range of contexts. • Projects which connect several areas of the maths curriculum.

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fractions, or by rounding. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	unit, and vice versa, using decimal notation to up to three decimal places. • Convert between miles and kilometres. • Recognise that shapes with the same areas can have different perimeters and vice versa.	decimals and percentages, including in different contexts. • Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables.	can be found by using integer multiplication and division facts. • Solve problems involving the calculation of percentages [such as 15% of 360º] and the use of percentages for comparison. • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate and interpret the mean as an average.	• 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. • Solve problems involving similar shapes where the scale factor is known or can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions or multiples.	

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