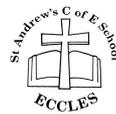




Year 5 Medium term plan: autumn term

EVERY DAY: Practise and develop oral and mental skills (e.g. counting, mental strategies, rapid recall of + and – facts)		
Read, write, order and compare whole numbers up to 10,000 Count on/back in steps of 1000 from any number up to 100,000 Count on/back in equal decimal steps (0.1, 0.2) Round any number up to 100,000 to the nearest 10,100,1000 Count using multiplication tables		Add/subtract any pair of two-digit numbers, including crossing 100 Add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Double any multiples of 10 to 1000 Use doubling to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers
From Y4 – 10 mins of basic written calculation practice every day after the mental starter		
Days	Topic	Objectives: children will be taught to
5	NUMBER Number, place value, approximation and estimation	Read, write, order and compare whole numbers up to 100,000 Multiply and divide any positive whole number up to 100,000 by 10 or 100 or 1000 and understand the effect. Recognise and extend number sequences formed by counting from any number in steps of constant size, extend beyond zero when counting back. Solve mathematical problems or puzzles. Recognise patterns, generalise. Use symbols $< = > \leq \geq$ Revise Roman numerals up to 100
7	NUMBER Addition and Subtraction Mental calculation strategies (+ –) Pencil and paper procedures (+ –) Money and 'real life' problems	Add and subtract whole numbers with more than 4 digits including formal written methods Add and subtract numbers mentally with increasingly large numbers – finding differences Choose use operations and methods to solve money or 'real life' word problems Check calculations using inverse operation.
8	NUMBER Multiplication and division Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems	Understand the effect of and relationships between the four operations, and the principles of the arithmetic laws as they apply to multiplication (see earlier years) Use doubling/halving: double any two-digit number, halve an even number, double the other, multiply by 25 by x100, then ÷ 4; multiply by 16 by x8, then double; find 1/6 by halving 1/3 Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers. Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24 \text{ r}2 = 24 \frac{1}{2} = 24.5 = 25$) Choose appropriate operations/calculation methods. Check by estimating. Use inverse operation.
5	STATISTICS	Discuss chance or likelihood Present and interpret discrete and continuous data on a bar chart and bar line graph: axis in 2s, 5s, 10s, 20s, 100s. Solve comparison, sum and difference problems using information presented in a line graph
5	GEOMETRY Angles	Estimate and compare acute, obtuse and reflex angles Measure angles in degrees and draw a given angle, writing its size in degrees Identify – right angles and $\frac{1}{4}$ turn (total 90°) Measure and draw lines to nearest mm
Read, write, order and compare whole numbers up to 100,000 Count on/back in steps of 1000 from any number up to 100,000 Count on/back in equal decimal steps (0.1, 0.2) including beyond zero Round any number up to 100,000 to the nearest 10,100,1000, Order a set of positive and negative whole numbers Know simple fractions as percentages		Add/subtract any pair of two-digit numbers, including crossing 100 Add/subtract any pair of three-digit numbers, including crossing 1000 Double any multiples of 10 to 1000 Halve any three-digit number Derive quickly doubles and halves of decimals Recall all multiplication and division facts up to 12x Know all square numbers Multiply or divide whole numbers by 10 or 100 or 1000 including decimals
From Y4 – 10 mins of basic written calculation practice every day after the mental starter		
5	GEOMETRY Properties of shape	Know properties of different triangles: equilateral, isosceles, scalene, right-angled Identify 3d shapes including cubes and cuboids from 2d representations
8	NUMBER Fractions Including decimals and %	Compare and order fractions whose denominators are all multiples of a given number Identify, name and write equivalent fractions, represented visually (Inc. Tenths and hundredths) Read, write, order and compare numbers with up to 3 decimal places Recognise and use complements of 1 eg. $0.83 + 0.17 = 1$ Recognise the % symbol and that it mean 'number of parts per hundred'. Write% as fraction and decimal fraction
10	MEASURES	Convert between different units of measurement(km & m, cm & m, cm & mm, g & kg, l & ml) Measure and calculate the perimeter of composite rectilinear shapes in cm and m Calculate and compare the area of squares and rectangles/ estimate area of irregular shapes Consolidate reading and writing time on 12hour, 24 hour and analogue and digital clocks. Use all four operations to solve measurement word problems, including time. Choose appropriate operations/calculation methods. Read measurements from scales



<p>5</p>	<p>NUMBER Multiplication and division</p> <p>Understanding \times and \div Mental calculation strategies (\times \div) Pencil and paper procedures (\times \div) Money and 'real life' problems</p>	<p>Understand the effect of and relationships between the four operations, and the principles of the arithmetic laws as they apply to multiplication (see earlier years)</p> <p>Use doubling/halving: double any two-digit number, halve an even number, double the other, multiply by 25 by $\times 100$, then $\div 4$; multiply by 16 by $\times 8$, then double; find $1/6$ by halving $1/3$</p> <p>Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers.</p> <p>Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24 \text{ r}2 = 24 \frac{1}{2} = 24.5 = 25$)</p> <p>Choose appropriate operations/calculation methods. Check by estimating. Use inverse operation.</p> <p>Use closely related facts (derive $\times 19$ from $\times 20$, $\times 12$ from $\times 10$ add $\times 2$)</p>
<p>5</p>	<p>GEOMETRY Position, direction and motion</p>	<p>Recognise positions, read and plot co-ordinates in first quadrant</p> <p>Identify, describe and represent the position of a shape following a reflection</p>

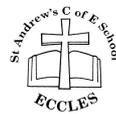


Year 5 Medium term plan: spring term

EVERY DAY: Practise and develop oral and mental skills (e.g. counting, mental strategies, rapid recall of + and – facts)		
Read, write, order and compare whole numbers up to 100,000 Count on/back in steps of 100 from any number up to 100,000 Count on and back in steps of powers of 10 for any given number up to 1,000,000 Count on/back in equal decimal steps (0.3, 0.5) including beyond zero Round any number up to 1,000,000 to the nearest 10,100,1000,10,000,		Add/subtract any pair of two-digit numbers, including crossing 100 Add/subtract any pair of three-digit numbers, including crossing 1000 Order a set of positive and negative whole numbers Derive quickly doubles and halves of decimals Use doubling to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x Convert metres to centimetres and £ to pence and vice versa
From Y4 – 10 mins of basic written calculation practice every day after the mental starter		
days	Topic	Objectives: children will be taught to
5	NUMBER Number, place value, approximation and estimation	Read, write, order and compare whole numbers up to 1,000,000 Multiply and divide any positive whole number up to 100,000 by 10 or 100 or 1000 and understand the effect. Give one or more numbers lying between two others Read Roman numerals to 500 Recognise and extend number sequences formed by counting from any number in steps of constant size, extend beyond zero when counting back. Solve mathematical problems or puzzles. Recognise patterns, generalise. Use symbols $< = > \leq \geq$ Order positive and negative integers (number line, temperature) Calculate a temperature rise or fall across 0 c
7	NUMBER Addition and Subtraction Mental calculation strategies (+ –) Pencil and paper procedures (+ –) Money and 'real life' problems	Add and subtract whole numbers with more than 4 digits including formal written methods Add and subtract numbers mentally with increasingly large numbers – finding differences (12,462-2,300=10,162) Choose and use operations and methods to solve money or 'real life' word problems Use rounding to check answers. Check calculations using inverse operation.
8	NUMBER Multiplication and division Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems	Identify multiples including common multiples, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) factors Know the prime numbers up to 100, and recall them up to 19. Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers. Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24r2 = 24\frac{1}{2} = 24.5 = 25$) Recognize and use square numbers and cube numbers and their notation Choose appropriate operations/calculation methods. Check by estimating. Use inverse operation. Solve problems using x and + including scaling by simple fractions and problems involving simple rates
5	STATISTICS	Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret in tables, including timetables
5	GEOMETRY Angles	Measure and draw lines to nearest mm Measure angles in degrees and draw a given angle, writing its size in degrees Identify – right angles and $\frac{1}{4}$ turn (total 90°) - other multiples of 90° - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
Read, write, order and compare whole numbers up to 1,000,000 Count on/back in steps of 100,1000 from any number up to 1,000,000 Count on/back in equal steps (0.3, 0.4) including beyond zero Round any number up to 1,000,000 to the nearest 10,100,1000,10,000,		Order fractions Order a set of positive and negative whole numbers Know simple fractions as percentages Find pairs of decimals which sum to 1, 10 Find pairs with sum of 1000 Derive multiples of 50 with a sum of 10,000 Recall all multiplication and division facts up to 12x Convert m to cm and £ to pence, and vice versa; convert kg to g
From Y4 – 10 mins of basic written calculation practice every day after the mental starter		
5	GEOMETRY Properties of shape	State and use properties of quadrilaterals (side, angle, – know vertical, horizontal, perpendicular, parallel and diagonal) to find missing lengths and angles Distinguish between regular and irregular polygons based on side and angle Construct simple shapes from given dimensions
8	NUMBER Fractions Including decimals and %	Compare and order fractions whose denominators are all multiples of a given number Identify, name and write equivalent fractions, represented visually (Inc. Tenths and hundredths) Recognise mixed numbers and improper fractions and convert from one form to the other Add and subtract fractions with the same denominator and related fractions – write mathematical statements that exceed 1 as a mixed number. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$ Read, write, order and compare numbers with up to 3 decimal places. Recognise and use complements of 1 eg. $0.83 + 0.17 = 1$ Recognise the % symbol and that it mean 'number of parts per hundred'. Write % as fraction and decimal fraction Solve problems with %/ decimal equivalents of $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{4}{5}$ and with denominator of 10 or 25



8	<p>MEASURES</p>	<p>Convert between different units of measurement(km & m, cm & m, cm & mm, g & kg, l & ml) Measure and calculate the perimeter of composite rectilinear shapes in cm and m Calculate and compare the area of squares and rectangles/ estimate area of irregular shapes Consolidate reading and writing time on 12hour, 24 hour and analogue and digital clocks. Solve problems using timetables and calendars Use all four operations to solve measurement word problems, including time. Choose appropriate operations/calculation methods. Read measurements from scales</p>
5	<p>NUMBER Multiplication and division</p> <p>Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems</p>	<p>Identify multiples including common multiples, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) factors Know the prime numbers up to 100, and recall them up to 19. Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers. Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24 \text{ r } 2 = 24 \frac{1}{2} = 24.5 = 25$) Recognize and use square numbers and cube numbers and their notation Choose appropriate operations/calculation methods. Check by estimating. Use inverse operation. Solve problems using x and + including scaling by simple fractions and problems involving simple rates</p>
5	<p>GEOMETRY Position, direction and motion</p>	<p>Recognise positions, read and plot co-ordinates in first quadrant Identify, describe and represent the position of a shape following a reflection or translation.(reflections in lines parallel to axes)</p>



Year 5 Medium term plan: summer term

EVERY DAY: Practise and develop oral and mental skills (e.g. counting, mental strategies, rapid recall of + and – facts)	
Read, write, order and compare whole numbers up to 1,000,000 Count on/back in steps of 100,1000 or 10,000 from any number up to 1,000,000 Count on/back in equal steps (eg, 0.6, 0.7 etc) including beyond zero Round any number up to 1,000,000 to the nearest 10,100,1000,10,000, 100,000	Add/subtract any pair of three-digit numbers, including crossing 1000 Order a set of positive and negative whole numbers Derive quickly doubles and halves of decimals Know simple fractions as percentages. Recall all multiplication and division facts up to 12x Multiply or divide whole numbers by 10 or 100 or 1000 including decimals Convert m to cm and £ to pence, and vice versa; convert kg to g Find pairs of decimals which sum to 1, 10 Partition to multiply by 2, 5 or 10 and use tests of divisibility

From Y4 – 10 mins of basic written calculation practice every day after the mental starter

days	Topic	Objectives: children will be taught to
5	NUMBER Number, place value, approximation and estimation	Read, write, order and compare whole numbers up to 1,000,000 Multiply and divide any positive whole number up to 100,000 by 10 or 100 or 1000 and understand the effect. Read Roman numerals to 1000(M) and recognise years written in Roman numerals Recognise and extend number sequences formed by counting from any number in steps of constant size, extend beyond zero when counting back. Solve mathematical problems or puzzles. Recognise patterns, generalise. Use symbols $< = > \geq$ Make and investigate a general statement about numbers, by finding examples that satisfy it. Suggest extensions.
5	NUMBER Addition and Subtraction Mental calculation strategies (+ –) Pencil and paper procedures (+ –) Money and 'real life' problems	Add and subtract whole numbers with more than 4 digits including formal written methods Add and subtract numbers mentally with increasingly large numbers – finding differences (12,462-2,300=10,162) Choose and use operations and methods to solve money or 'real life' word problems Use rounding to check answers. Check calculations using inverse operation.
	NUMBER Multiplication and division Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems	Identify multiples including common multiples, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) factors Know the prime numbers up to 100, and recall them up to 19. Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers. Know and apply tests of divisibility by 2, 3, 4, 5, 10 or 100 Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24r2 = 24\frac{1}{2} = 24.5 = 25$ Solve problems using x and + including scaling by simple fractions and problems involving simple rates Begin to use brackets $a(b+c) = ab+ac$ (distributivity)
	STATISTICS	Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret in tables, including timetables
	GEOMETRY Angles	Measure and draw lines to nearest mm Measure angles in degrees and draw a given angle, writing its size in degrees Identify –angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - angles at a point and one whole turn (total 360°)

Read, write, order and compare whole numbers up to 1,000,000 Count on/back in steps of 100,1000 or 10,000 from any number up to 1,000,000 Count on/back in equal steps (eg, 0.6, 0.7 etc) including beyond zero Round any number up to 1,000,000 to the nearest 10,100,1000,10,000, 100,000	Add/subtract any pair of three-digit numbers, including crossing 1000 Order a set of positive and negative whole numbers Derive quickly doubles and halves of decimals Know simple fractions as percentages. Recall all multiplication and division facts up to 12x Multiply or divide whole numbers by 10 or 100 or 1000 including decimals Convert m to cm and £ to pence, and vice versa; convert kg to g Find pairs of decimals which sum to 1, 10 Partition to multiply by 2, 5 or 10 and use tests of divisibility
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From Y4 – 10 mins of basic written calculation practice every day after the mental starter

5	GEOMETRY Properties of shape	State and use properties of quadrilaterals (side, angle, diagonals, lines of symmetry – know vertical, horizontal, perpendicular, parallel and diagonal) to deduce related facts and find missing lengths and angles Construct simple shapes from given dimensions Recognise reflective symmetry in regular polygons
8	NUMBER Fractions Including decimals and %	Identify, name and write equivalent fractions, represented visually (Inc. Tenths and hundredths) Recognise mixed numbers and improper fractions and convert from one form to the other Add and subtract fractions with the same denominator and related fractions – write mathematical statements that exceed 1 as a mixed number. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$ Multiply proper fractions and mixed numbers by whole numbers Develop understanding of fractions as numbers, measures and operators and by finding fractions of numbers and quantities. Recognise and use complements of 1 eg. $0.83 + 0.17 = 1$ Use a calculator effectively, eg to convert fractions to decimals, to find fractions of numbers Solve problems with %/ decimal equivalents of $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{4}{5}$ and with denominator of 10 or 25



5	<p>MEASURES</p>	<p>Convert between different units of measurement(km & m, cm & m, cm & mm, g & kg, l & ml) Understand and use equivalencies between metric units and common imperial units (inches, pounds, pints) Estimate volume and capacity (use cubes and water) Consolidate reading and writing time on 12hour, 24 hour and analogue and digital clocks. Solve problems converting between units of time Use all four operations to solve measurement word problems, including scaling and time. Choose appropriate operations/calculation methods. Read measurements from scales</p>
5	<p>NUMBER Multiplication and division</p> <p>Understanding x and ÷ Mental calculation strategies (x ÷) Pencil and paper procedures (x ÷) Money and 'real life' problems</p>	<p>Identify multiples including common multiples, and common factors of two numbers. Solve problems by decomposing larger numbers into their factors Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) factors Know the prime numbers up to 100, and recall them up to 19. Multiply numbers up to 4 digits by a 1 or 2 digit number using formal written methods – including long multiplication for two digit numbers. Know and apply tests of divisibility by 2, 3, 4, 5, 10 or 100 Divide numbers up to 4 digits by a 1 digit number using short division and interpret remainders appropriately (with remainders, fractions, decimals or with rounding eg: $98 \div 4 = 24r2 = 24\frac{1}{2} = 24.5 = 25$) Recognize and use square numbers and cube numbers and their notation Choose appropriate operations/calculation methods. Check by estimating. Use inverse operation. Solve problems using x and ÷ including scaling by simple fractions and problems involving simple rates Begin to use brackets $a(b+c) = ab+ac$ (distributivity)</p>
5	<p>GEOMETRY Position, direction and motion</p>	<p>Recognise positions, read and plot co-ordinates in first and second quadrant Identify, describe and represent the position of a shape following a reflection and translation in a variety of diagrams .(reflections in lines parallel to axes) (co-ordinates in the first and second quadrant)</p>