



Year 6 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 10,000,000 Count on/back in steps of 1000 from any number up to 10,000,000 Count on/back in equal decimal steps (0.3, 0.7) Round any number up to 10,000,000 to the nearest 10,100,1000 Count using place value (decimal) multiplication tables	Rapidly add/subtract any pair of two-digit numbers, including crossing 100 Rapidly add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Use doubling and halving to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers Use adjusting, multiple and factorising to calculate mentally ($134 \times 20 = 134 \times 2 \times 10$) ($510 \div 15 = 510 \div 5 (102) \div 3 = 34$)

Days	Topic	Objectives: children will be taught to
4	NUMBER Number, place value, approximation and estimation	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 0
4	NUMBER Addition and Subtraction Mental calculation strategies (+ –) Pencil and paper procedures (+ –) Money and 'real life' problems	Perform mental calculations 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
6	NUMBER Multiplication and division Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems	Perform mental calculations Multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a formal written method. Divide numbers up to 4 digits by a two-digit whole number using a formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Identify common factors, common multiples and prime numbers Use knowledge of the order of operations to carry out calculations involving the 4 operations 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
8	MEASURES Unit conversions/ area and perimeter	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area

Read, write, order and compare whole numbers up to 10,000,000 Count on/back in steps of 1000 from any number up to 10,000,000 Count on/back in equal decimal steps (0.3, 0.7) Round any number up to 10,000,000 to the nearest 10,100,1000 Count using place value (decimal) multiplication tables 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 0 solve number and practical problems that involve all of the above	Rapidly add/subtract any pair of two-digit numbers, including crossing 100 Rapidly add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Use doubling and halving to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers Use adjusting, multiple and factorising to calculate mentally ($134 \times 20 = 134 \times 2 \times 10$) ($510 \div 15 = 510 \div 5 (102) \div 3 = 34$)
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4	GEOMETRY Properties of shape/ angles	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
10	NUMBER Fractions Including decimals and %	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 Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
5	ALGEBRA	Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables
5	STATISTICS Pie charts/line graphs	interpret and construct pie charts and line graphs and use these to solve problems

St Andrew's Mathematics Framework 2015
 Year 6 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 10,000,000 Count on/back in steps of 1000 from any number up to 10,000,000 Count on/back in equal decimal steps (0.3, 0.7) Round any number up to 10,000,000 to the nearest 10,100,1000 Count using place value (decimal) multiplication tables 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 0 solve number and practical problems that involve all of the above		Rapidly add/subtract any pair of two-digit numbers, including crossing 100 Rapidly add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Use doubling and halving to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers Use adjusting, multiple and factorising to calculate mentally (134 x 20= 134 x2 x10) (510 div by 15= 510 div by 5 (102) div by 3= 34)
days	Topic	Objectives: children will be taught to
5	RATIO and PROPORTION	Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison 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 and multiples
5	NUMBER Addition and Subtraction Mental calculation strategies (+ –) Pencil and paper procedures (+ –) Money and 'real life' problems	Perform mental calculations 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
5	NUMBER Multiplication and division Understanding x and + Mental calculation strategies (x +) Pencil and paper procedures (x +) Money and 'real life' problems	Perform mental calculations Multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a formal written method. Divide numbers up to 4 digits by a two-digit whole number using a formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Identify common factors, common multiples and prime numbers Use knowledge of the order of operations to carry out calculations involving the 4 operations 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
6	MEASURES Unit conversions/ area parallelograms & triangles	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places Convert between miles and kilometres Calculate the area of parallelograms and triangles Recognise when it is possible to use formulae for area
5	GEOMETRY Position and direction	Describe positions on the full coordinate grid (all 4 quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Read, write, order and compare whole numbers up to 10,000,000 Count on/back in steps of 1000 from any number up to 10,000,000 Count on/back in equal decimal steps (0.3, 0.7) Round any number up to 10,000,000 to the nearest 10,100,1000 Count using place value (decimal) multiplication tables 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 0 solve number and practical problems that involve all of the above		Rapidly add/subtract any pair of two-digit numbers, including crossing 100 Rapidly add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Use doubling and halving to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers Use adjusting, multiple and factorising to calculate mentally (134 x 20= 134 x2 x10) (510 div by 15= 510 div by 5 (102) div by 3= 34)
5	GEOMETRY Properties of shape draw 2d shapes/nets/ circles	Draw 2-D shapes using given dimensions and angles Recognise, describe and build simple 3-D shapes, including making nets Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
10	NUMBER Fractions Including decimals and %	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions >1 Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$ associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$ Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places Multiply one-digit numbers with up to 2 decimal places by whole numbers Use written division methods in cases where the answer has up to 2 decimal places Solve problems which require answers to be rounded to specified degrees of accuracy Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
5	ALGEBRA	Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables
5	STATISTICS Mean averages	Calculate and interpret the mean as an average



St Andrew's Mathematics Framework 2015

Year 6 Medium term plan: summer term

EVERY DAY: Practise and develop oral and mental skills (e.g. counting, mental strategies, rapid recall of + and – facts)		
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5	MEASURES Unit conversions/ volume	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places 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] Recognise when it is possible to use formulae for volume
5	RATIO and PROPORTION	Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison 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 and multiples
Read, write, order and compare whole numbers up to 10,000,000 Count on/back in steps of 1000 from any number up to 10,000,000 Count on/back in equal decimal steps (0.3, 0.7) Round any number up to 10,000,000 to the nearest 10,100,1000 Count using place value (decimal) multiplication tables 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 0 solve number and practical problems that involve all of the above		Rapidly add/subtract any pair of two-digit numbers, including crossing 100 Rapidly add/subtract any pair of three-digit numbers, including crossing 1000 Multiply and divide numbers by 10,100,1000 Use doubling and halving to multiply two-digit numbers by 4. Recall all multiplication and division facts up to 12x and use them to multiply larger numbers Use adjusting, multiple and factorising to calculate mentally (134 x 20= 134 x2 x10) (510 div by 15= 510 div by 5 (102) div by 3= 34)
8	GEOMETRY Properties of shape draw 2d shapes/nets/ circles/angles	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
5	NUMBER Fractions Including decimals and %	Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places Multiply one-digit numbers with up to 2 decimal places by whole numbers Use written division methods in cases where the answer has up to 2 decimal places Solve problems which require answers to be rounded to specified degrees of accuracy
5	ALGEBRA	Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables
5	STATISTICS	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average