



Maths Coverage

Year 6

AUTUMN Term



	Term 1							Term 2						
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 1	Week 2	Week 3	Week 4	Week 5 & 6	Week 7	Week 8
NC Focus	Number: Place value		Number: Four Operations				Number: Fractions						Geometry: Position and Direction & assessments	
NC Objectives	<ul style="list-style-type: none"> 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 the above. 		<ul style="list-style-type: none"> Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Multiply multi-digit number up to 4-digits by a 2-digit number using the formal written method of long multiplication. Divide numbers up to 4-digits by a 2-digit whole number using the 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 2-digit number using the formal written method of short division, interpreting remainders according to context. 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 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. 				<ul style="list-style-type: none"> Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Generate and describe linear number sequences (with fractions). Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. 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. Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p>						<ul style="list-style-type: none"> 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. 	
White Rose Small Steps	<ul style="list-style-type: none"> Compare and order any number. Numbers to ten million. Round any number. Negative Numbers 		<ul style="list-style-type: none"> Add and subtract whole numbers. Multiply up to a 4-digit number by 1-digit numbers. Short division Long division Common factors Common multiples Primes Squares and cubes Order of operations Mental calculations and estimation Reasoning from known facts. 				<ul style="list-style-type: none"> Simplify fractions Fractions on a number line Compare and order (denominator) Compare and order (numerator) Add and subtract fractions Adding fractions Subtraction fractions Mixed addition and subtraction Multiply fractions by integers Multiply fractions by fractions Divide fractions by integers Four rules with fractions Fraction of an amount Finding the whole 						<ul style="list-style-type: none"> Coordinates in the first quadrant. Coordinate in four quadrants. Translations Reflections. 	

21 Steps

Number: Place Value

Step 19:

- I can read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
- I can round any number up to 10,000,000 to the nearest 10, 100 and 1000.
- I can recognise negative number sequences and find missing numbers.

Step 20:

- I can read, write, order and compare numbers up to 1,000,000 and determine the value of each digit.
- I can round any number up to 10,000,000 to the nearest 10,000, 100,000 and 1,000,000.
- I can put negative numbers onto a number line.
- I am beginning to solve sum and difference problems involving negative numbers concrete resources.

Step 21:

- I can read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
- I can choose to round any whole number up to the nearest 10, 100, 1000 and 10,000 depending on the required accuracy.

Calculating: Addition and Subtraction

Step 19:

- I can consider whether to solve addition and subtraction calculations mentally or using a written method.
- I can explore order of operations (e.g. BODMAS) using brackets.
- I can use rounding to check answers to calculations.

Step 20:

- Add and subtract numbers mentally with increasingly large numbers.
- I can use rounding to check answers to calculations and determine in the context of a problem and levels of accuracy.

Step 21:

- Add and subtract numbers mentally with increasingly large numbers and mixed operations.
- I can use brackets and inverses effectively e.g. $(24+P) \times 6 = 150$.
- I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Calculating: Multiplication and Division

Step 19:

- I can use recall of multiplication and division facts up to 12×12 to solve other multiplication and division calculations mentally.
- I can use knowledge of times tables and place value to multiply 1s.t by 1s e.g. $0.6 \times 4 = 2.4$
- I can divide 3-digit numbers by 2-digit numbers using the formal method without remainders.
- I can multiply 3-digit numbers \times 2-digit numbers using long multiplication.

Step 20:

- I can multiply larger numbers (<10,000) by single-digit numbers using short multiplication.
- Use place value, known and derived facts, to multiply and divide mentally, including multiplying by 1 and 0; dividing by 1; multiplying together three numbers.
- I know multiples, factors, square numbers and prime numbers.
- I can use brackets in simple calculations.
- I can use knowledge of times tables and place value to multiply TU.t by U e.g. $0.06 \times 4 = 0.24$
- I can divide 4-digit numbers by 2-digit numbers using the formal method with remainders.
- I can multiply 4-digit numbers \times 2-digit numbers using long multiplication.
- I can divide ThHT1s by 1s where the remainder is recorded as a fraction.

Step 21:

- I can multiply numbers to 2d.p. by a single-digit number using short multiplication.
- I can identify multiples and factors, including finding all factor

Number: Fractions and Decimals

Step 19:

- I can add and subtract mixed numbers with the same denominator.
- I can multiply mixed numbers by a whole number.
- I can associate a fraction with division by converting an integer and fraction to an improper fraction.
- I can place fractions >1 on a number line.

Step 20:

- I can compare and order mixed numbers whose denominators are multiples of the same number.
- I can add and subtract fractions with the different denominators using the concept of equivalent fractions.
- I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
- I can multiply simple pairs of proper fractions.
- I am beginning to divide proper fractions by whole numbers.
- I can divide proper fractions by whole numbers using a visual representation.
- I can use a number line to compare fractions >1 .

Step 21:

- I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- I can multiply simple pairs of proper fractions, writing the answer in its simplest form. I can divide proper fractions by whole numbers.

Geometry: Properties of Shape

Step 21:

- I can describe position using co-ordinates in all 4 quadrants on a 2D grid in the first quadrant after a reflection in either the horizontal or vertical axes.

Geometry: Position and Direction

Step 19:

- I can draw positions of points in the first and second quadrants of a 2D co-ordinate grid.
- I can identify, describe and represent the position of a shape following a reflection.

Step 20:

- I can describe movements between positions as translations of a given unit to the left/right and up/down.
- I can identify, describe and represent the position of a shape following a translation.

Step 21:

- I can describe positions on a 2D grid as coordinates in the first quadrant.
- I can identify, describe and represent the position of a shape following a reflection or a translation, using the appropriate language, and know that the shape has not changed.

	<ul style="list-style-type: none">• I can use negative numbers in context, and calculate intervals across 0.• I can solve sum and difference problems involving negative numbers using concrete resources.	<p>pairs of a number, and common factors of two numbers.</p> <ul style="list-style-type: none">• I can use brackets and inverses effectively e.g. $(24+P) \times 6=150$• I can divide numbers up to 4-digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.		
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Maths Coverage

Year 6

SPRING Term

	Term 3							Term 4						
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
NC Focus	Number: Decimals and Percentage			Statistics	Algebra				Measurement			Number: Ratio and Proportion		Assessment
NC Objectives	<ul style="list-style-type: none"> Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1000, 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. Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. 			<ul style="list-style-type: none"> Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Interpret and construct pie charts and line graphs and use these to solve problems. Calculate the mean as an average. 	<ul style="list-style-type: none"> 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. 				<ul style="list-style-type: none"> Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three 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 3dp. 	<ul style="list-style-type: none"> Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm³, m³ and extending to other units (mm³, km³) 	<ul style="list-style-type: none"> Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. 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. 			

						<ul style="list-style-type: none"> Convert between miles and kilometres. 				
White Rose Small Steps	<ul style="list-style-type: none"> Three decimal places Multiply by 10, 100 and 1000 Divide by 10, 100 and 1000 Multiply decimals by integers Divide decimals by integers Division to solve problems Decimals as fractions Fractions to decimals <ul style="list-style-type: none"> Fractions to percentages Equivalent FDP Percentage of an amount Percentages – missing values Percentage increase and decrease Order FDP 	•	<ul style="list-style-type: none"> Read and interpret line graphs. Draw line graphs Use line graphs to solve problems Circles. Read and interpret pie charts. Pie charts with percentages. Draw pie charts. The mean. 	<ul style="list-style-type: none"> Find a rule – one step Find a rule – two steps Use an algebraic rule Substitution Formulae Word problems Solve simple one step equations Solve two step equations Find pairs of values Enumerate possibilities. 	Consolidation Test week		<ul style="list-style-type: none"> Metric measures Convert metric measures Calculate with metric measures Miles and kilometres Imperial measures 	<ul style="list-style-type: none"> Shapes – same area Area and perimeter Area of a triangle (1) Area of a triangle (2) Area of a triangle (3) Area of a parallelogram Volume – counting cubes Volume of a cuboid. 	<ul style="list-style-type: none"> Using ratio language Ratio and fractions Introducing the ratio symbol Calculating ratio Using scale factors Calculating scale factors Ratio and proportion problems. 	Test week
21 Steps	<p>Number: Fractions and Decimals</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can partition decimal numbers up to 3 decimal places and state the value of each digit. I can recall and use equivalences between simple fractions and decimals. <p>Step 20:</p> <ul style="list-style-type: none"> I can divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places. I can read and write decimal numbers as fractions and vice versa e.g. $73/100 = 0.73$ I am beginning to convert numbers <1 to 2d.p. to a proper fraction (e.g. $0.26 = 26/100 = 13/50$) I can recall and use equivalences between simple fractions, decimals and percentages. 	•	<p>Statistics</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can compare a set of data on a table with its representation on a pie-chart. <p>Step 20:</p> <ul style="list-style-type: none"> I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, line graphs and pie charts. I can calculate the mean. <p>Step 21:</p> <ul style="list-style-type: none"> I can complete, read and 	<p>Algebra</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can interpret problems using simple formulae. I can continue simple linear number sequences. I can express generalisations of a linear number sequence in words. <p>Step 20:</p> <ul style="list-style-type: none"> I can use simple formulae to calculate answers. I can use inverses in number problems (e.g. I think of a number, double it and add 5, the answer is 35. What is the original number?) I can find pairs of numbers that satisfy an equation with 2 unknowns (e.g. $a + b = 20$) I can predict the nth term in a linear 			<p>Measurement</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can use, read, write and convert between standard units, converting measurements of length and mass, from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3d.p. I can convert between miles and kilometres. <p>Step 20:</p>	<p>Measurement</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can recognise that shapes with the same areas can have different perimeters and vice versa. I can calculate the area of triangles. <p>Step 20:</p> <ul style="list-style-type: none"> I can calculate the volume of cubes and cuboids using standard units. I can calculate the area of parallelograms. <p>Step 21:</p> <ul style="list-style-type: none"> I can recognise when it is possible to use formulae for area and volume of shapes. I can relate the area of rectangles to triangles and parallelograms and calculate their areas, understanding and using formulae. 	<p>Ratio and Proportion</p> <p>Step 19:</p> <ul style="list-style-type: none"> I can use concrete materials to solve simple ratio problems. <p>Step 20:</p> <ul style="list-style-type: none"> I can understand simple ratio and can solve problems involving direct proportion by scaling up/down. I can use ratio tables or double number line to solve unknowns in simple ratio problems. I can represent ratio as a:b and read this as for every 'a' there is a 'b'. <p>Step 21:</p> <ul style="list-style-type: none"> I can reduce ratio to its simplest form and use it in problem solving by multiplying (e.g. given the ingredients in a recipe for 5 people, calculate the quantities needed for 8) 	

	<p>Step 21:</p> <ul style="list-style-type: none"> I can identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places. I can associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction. I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <p><u>Ratio and Proportion</u></p> <p>Step 19:</p> <ul style="list-style-type: none"> I can find simple percentages of quantities (e.g. 10%, 25%, 50% and 75%) of quantities. I understand the relationship between common % (e.g. 25% and 50% and 10% and 5%) <p>Step 20:</p> <ul style="list-style-type: none"> I can find percentages (e.g. 30%, 60%) of quantities (multiples of 10). <p>Step 21:</p> <ul style="list-style-type: none"> I can calculate simple fractions and percentages of quantities (e.g. 3/8 of 980g, 15% of 360) I can partition % in to manageable units to calculate (e.g. 15% of 360 is 10% of 360 + 5% of 360) 		<p>interpret information in tables, including timetables.</p> <ul style="list-style-type: none"> I can convert discrete data to % and then convert to degrees to construct a pie chart for common % (e.g. 75%, 50%, 25%, 20%, 10%,5%) I can calculate and interpret the mean as an average. <p><u>Geometry:</u> <u>Properties of Shape</u></p> <p>Step 19:</p> <ul style="list-style-type: none"> I can illustrate and name parts of circles, including radius, diameter and circumference. <p>Step 20:</p> <ul style="list-style-type: none"> I know that the diameter is twice the radius. <p>Step 21:</p> <ul style="list-style-type: none"> I can express the relationship between radius and diameter as $d=2r$ or $2 \times r$ 	<p>sequence.</p> <ul style="list-style-type: none"> I can write equivalent expressions in algebraic form. <p>Step 21:</p> <ul style="list-style-type: none"> I can use symbols and letters to represent an unknown number. I can recognise negative numbers and continue positive negative number sequences and find missing numbers. I can generate linear sequences to calculate solutions to a problem. I can express generalisations of a linear number sequence using algebraic expressions. 			<ul style="list-style-type: none"> I can use, read, write and convert between standard units, converting measurements of volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p. <p>Step 21:</p> <ul style="list-style-type: none"> I can use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3d.p. 	<ul style="list-style-type: none"> I can calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic cm and cubic m (and extending to other units (for example, mm³ and km³)) 		
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	<p>obtuse angles and compare and order angles by size.</p> <p>Step 20:</p> <ul style="list-style-type: none"> • I can recognise, describe and build simple 3D shapes, including making nets. • I can compare and classify geometric shapes, including any quadrilaterals, regular polygons and triangles, based on their properties and sizes. • I know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (and right angles). • I can use conventional markings for lines and angles in geometrical drawings and sketches. <p>Step 21:</p> <ul style="list-style-type: none"> • I can make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them. • I can find unknown angles in any triangle, quadrilateral and regular polygon by representing the relationship algebraically. • I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. 												
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