

Year 5.1- Number and Place Value	2 weeks- Autumn 1
<ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. • Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • 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. 	<u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> > greater than or equal to < less than or equal to, ascending/descending order, is approximately equal to, value, digit, negative, positive, zero, origin, round, Roman numerals.	

Year 5.2- Addition and subtraction/ Measures	3 weeks- Autumn 1
<p>Number and place value</p> <ul style="list-style-type: none"> • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • Solve number problems and practical problems that involve all of the above. <p>Addition and subtraction</p> <ul style="list-style-type: none"> • Add and subtract numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • 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. <p>Measures</p> <ul style="list-style-type: none"> • Use addition and subtraction to solve problems involving measure. 	<u>Useful Links</u> Vocabulary document Calculations Policy White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> Addition and subtraction: decimal places, decimal point, tenths, hundredths, thousandths, tenths, hundredths, decimal point, decimal, units boundary, tenths boundary. Measures: length, mass, volume, money, total, cm, m, km, mm, kg, half a kg, balance,	

scales.

Year 5.3- Measures	2 week – Autumn 1/2
<ul style="list-style-type: none">• Measure and calculate the perimeter of composite rectilinear shapes in cm and m.• Calculate and compare the area of rectangles (including squares), and including using standard units, cm², m² estimate the area of irregular shapes.• Estimate volume (for example using 1cm³ blocks to build cuboids (including cubes) and capacity (for example, using water)).• Use all four operations to solve problems involving measure.	<u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> area, perimeter, irregular, regular, volume, compare, standard rectilinear, square metre (m ²), square millimetre (mm ²)	

Year 5.4- Multiplication and division	2 weeks- Autumn 2
<ul style="list-style-type: none">• Multiply and divide numbers mentally drawing upon known facts.• Multiply and divide whole numbers by 10, 100 and 1000.• Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.• 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 the four operations and a combination of these and understand the meaning of the equals sign.	<u>Useful Links</u> Vocabulary document Calculations Policy White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> square, factor, integer, decimal, short/long multiplication, carry, quotient, prime number, prime factors, composite number (non-prime).	

Year 5.5- Fractions, decimals and percentages	3weeks- Autumn 2
Fractions <ul style="list-style-type: none">• Compare and order fractions whose denominators are multiples of the same number.• Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.• Recognise mixed numbers and improper fractions and convert from one form to the other and write	<u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Fractions progression document Interactive Teaching Programs

<p>mathematical statements >1 as a mixed number (for example $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$)</p> <p>Decimals</p> <ul style="list-style-type: none"> • Read, write, order and compare numbers with up to three decimal places. • 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. • Solve problems involving number up to three decimal places. • Read and write decimal numbers as fractions eg: $0.71 = 71/100$, $8.09 = 8 + 9/100$ <p>Percentages</p> <ul style="list-style-type: none"> • Recognise the per cent symbol (%) and understand that per cent relates of 'number of parts per hundred' and write percentages as a fraction with 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. 	<p>Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> proper/improper fraction, mixed number, numerator, denominator, equivalent, reduced to, ninth, twelfth, hundredth, ratio, to every. Decimal place, decimal numbers, fractions, equivalents, tenths, hundredths, thousandths.</p>	

<p>Year 5.6- Multiplication and division</p> <ul style="list-style-type: none"> • Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. • 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. • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Recognise and use square numbers and 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 the four operations and a combination of these and understand the meaning of the equals sign. 	<p>2 weeks- Autumn 2</p> <p><u>Useful Links</u> Vocabulary document Calculations Policy White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> square, factor, integer, decimal, short/long multiplication, carry, quotient, prime number, prime factors, composite number (non-prime).</p>	

Year 5.7- Fractions, decimals and percentages	2 weeks- Spring 1
<p>Fractions</p> <ul style="list-style-type: none"> • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number (for example $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$) • 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. <p>Decimals</p> <ul style="list-style-type: none"> • Solve problems involving number up to three decimal places. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. <p>Percentages</p> <ul style="list-style-type: none"> • Recognise the per cent symbol (%) and understand that per cent relates of 'number of parts per hundred' and write percentages as a fraction with denominator 100, and as a decimal. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ $\frac{1}{4}$ $1/5$ $2/5$ $4/5$ and those fractions with a denominator of a multiple of 10 or 25. 	<p><u>Useful Links</u></p> <p>Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Fractions progression document Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> proper/improper fraction, mixed number, numerator, denominator, equivalent, reduced to, ninth, twelfth, hundredth, ratio, to every. Decimal place, decimal numbers, fractions, equivalents, tenths, hundredths, thousandths.</p>	

Year 5.8- Geometry	2 weeks- Spring 1
<ul style="list-style-type: none"> • Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. • Draw given angles and measure them in degrees ($^{\circ}$). • Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) other multiples of 90°. • Identify other multiples of 90° 	<p><u>Useful Links</u></p> <p>Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u></p>	

Year 5.9- Prime Numbers	1 $\frac{1}{2}$ weeks- Summer 1
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<ul style="list-style-type: none"> • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. 	<p><u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> prime factors, composite number (non-prime), compare.</p>	

<p>Year 5.10- Four operations</p>	<p>3 weeks- Spring 2</p>
<p>Operations</p> <ul style="list-style-type: none"> • Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. <p>Number and place value</p> <ul style="list-style-type: none"> • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • Solve number problems and practical problems that involve all of the above. 	<p><u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Calculations Policy Fractions document Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> Addition and subtraction: decimal places, decimal point, tenths, hundredths, thousandths, tenths, hundredths, decimal point, decimal, units boundary, tenths boundary. square, factor, integer, decimal, short/long multiplication, carry, quotient, prime number, prime factors, composite number (non-prime).</p>	

<p>Year 5.11- Measures</p>	<p>2 weeks- Summer 1</p>
<ul style="list-style-type: none"> • Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml). 	<p><u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet</p>

<ul style="list-style-type: none"> • 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. 	Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> length, mass, volume, money, total, cm, m, km, mm, kg, half a kg, balance, scales.	

Year 5.12- Fractions, decimals and percentages	3 weeks- Summer 1
<p>Fractions</p> <ul style="list-style-type: none"> • Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number (for example $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$) • 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. <p>Decimals</p> <ul style="list-style-type: none"> • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Solve problems involving number up to three decimal places. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Read and write decimal numbers as fractions eg: $0.71 = 71/100$, $8.09 = 809/100$ <p>Percentages</p> <ul style="list-style-type: none"> • Recognise the per cent symbol (%) and understand that per cent relates of 'number of parts per hundred' and write percentages as a fraction with 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. 	<p><u>Useful Links</u></p> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Fractions progression document Interactive Teaching Programs Topmarks- diennes and coins nrich
<u>Vocabulary:</u> proper/improper fraction, mixed number, numerator, denominator, equivalent, reduced to, ninth, twelfth, hundredth, ratio, to every. Decimal place, decimal numbers, fractions, equivalents, tenths, hundredths, thousandths.	

Year 5.13- Geometry	2 weeks- Summer 2
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<ul style="list-style-type: none"> • Identify 3D shapes, including cubes and other cuboids, from 2D representations. • 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. • 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. 	<p><u>Useful Links</u> Vocabulary document White Rose- Reasoning Mastery Year 4 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich</p>
<p><u>Vocabulary:</u> sphere, hemi-sphere, spherical, cone, cylinder, cylindrical, prism, tetrahedron, polyhedron, octahedron equilateral triangle, isosceles triangle, scalene triangle</p>	