Year 6.1- Number and Place Value	2 weeks- Autumn 1
• 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. • Demonstrate an understanding of place value including decimals.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: compare, accuracy, determine.	

Year 6.2- Four operations	4 weeks- Autumn 1
• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Use estimation to check answers to calculations and determine, in the context of a problems, an appropriate degree of accuracy. • 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.	Useful Links Vocabulary document Calculations Policy White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: prime, prime factor, multi-step, estimate, long multiplication, short multiplication, long division, chunking, factor, multiple.	

Year 6.3- Fractions, decimals and percentages.	4 week – Autumn 1/2
Fractions	Useful Links Vocabulary document

• **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.** • Associate a fraction with division and calculate decimal fraction equivalents for example, 0.375 for a simple fraction for example 3/8. • **Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.** **Decimals** • **Identify the value of each digit in numbers given to three decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3 decimal places (dp).** • Multiply one digit numbers with up to 2dp 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. • **Demonstrate an understanding of place value including decimals.** **Percentages** • Solve problems involving the calculation of percentages [for example, of measures such as 15% of 360] and the use of percentages for comparison. • **Recall and use equivalences between simple FDP including in different contexts.**	White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: thousandth, numerator, denominator, equivalent, fraction, decimal, percentage, decimal place, simplest form, simplify, convert, improper.	

Year 6.4- Geometry with statistics	2 weeks- Autumn 2
• 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. • 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.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich

Vocabulary: mean, average, median, statistics, distribution, circumference, radius, diameter,

Year 6.5- Measures	3 week- Spring 1
• 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. • Convert between miles and kilometres. • 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).	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Fractions progression document Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: thousandth, numerator, denominator, equivalent, fraction, decimal, percentage, decimal place, simplest form, simplify, convert, improper.	

Year 6.6- Geometry with proportion	2 weeks- Spring 1
• Solve problems involving similar shapes where the scale factor is known or can be found. • Draw 2D shapes using given dimensions and 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. • Recognise, find and build shapes, including making nets.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: kite, parallelogram, trapezium, rhombus, dodecahedron, tangram,	

Year 6.7- Fractions, decimals and percentages	3 weeks- Spring 1
Fractions • Multiply simple pairs of proper fractions, writing the answer in its simplest form: for example ¼ x ½ = 1/8 • Divide proper fractions by whole numbers: for example 1/3 ÷ 2 = 1/6 • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Fractions progression document Interactive Teaching Programs

• Associate a fraction with division and calculate decimal fraction equivalents for example, 0.375 for a simple fraction for example 3/8. • Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Decimals** • Multiply one digit numbers with up to 2dp 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. **Percentages** • Solve problems involving the calculation of percentages [for example, of measures such as 15% of 360] and the use of percentages for comparison. • Recall and use equivalences between simple FDP including in different contexts.	Topmarks- diennes and coins nrich
Vocabulary: thousandth, numerator, denominator, equivalent, fraction, decimal, percentage, decimal place, simplest form, simplify, convert, improper.	

Year 6.8- Ratio and proportion	2 week- Spring 2
• 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 unequal sharing and grouping using knowledge of fractions and multiples.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: decimal place, convert, formulae, area, perimeter, volume, estimate, standard units.	

Year 6.9- Algebra	2 weeks- Spring 2
• 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.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Interactive Teaching Programs

	Topmarks- diennes and coins nrich
Vocabulary: formulae, algebraically	

Year 6.11- Four operations	2 ½ week- Summer 1
• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Use estimation to check answers to calculations and determine, in the context of a problems, an appropriate degree of accuracy. • 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.	Useful Links Vocabulary document White Rose- Reasoning Mastery Year 6 booklet Calculations Policy Interactive Teaching Programs Topmarks- diennes and coins nrich
Vocabulary: prime, prime factor, multi-step, estimate, long multiplication, short multiplication, long division, chunking, factor, multiple.	