Year 6 – Medium Term Plan

Guidance

- *The Units below* **MUST** *be taught in this order.*
- *Use the* **Meridian calculation policy**.
- *Complete the summative assessments at the times stated on the assessment calendar.*
- *Formally assess the children's understanding continuously to inform* **instant interventions** *and* **adapt** *lessons to meet their needs.*
- *There is* **additional time** *built into the units for teachers to break one lesson into two, add in additional lessons, carry out* **intervention or enrichment lessons** *or do anything else as needed for their class.*
- *Any time left at the end of each term should be used for* **closing the gap** *and giving children the opportunity to* **apply** *their learnt skills to a real-life context, a shop, an estate agent, a car salesroom, a factory, planning a holiday etc. and open-ended investigations.*
- *Lesson starters may be used to consolidate previous learning in all areas, including* **number**, **shape** *and* **measure**. *Initially, these will be used to* **apply skills learnt from Years 3 - 5** *until the subject areas are covered in Year 6.*

Note – Due to the timings of Year 6 SATs it is imperative that all content has been taught by the end of the Spring term so that the start of the Summer term can be used for revision. The MTP below plans for this. Please discuss any questions or concerns relating to this with your Maths leader. The Summer term of Year 6 will be planned alongside secondary school colleagues.

Subject Knowledge Support

White Rose Schemes of Work - Maths resources for teachers | White Rose Maths

NCETM Subject Knowledge Audits Primary Subject Knowledge Audit | NCETM

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AUTUMN				
Place Value (2 weeks)	**Four Operations (4 weeks)**	**Fractions (4 weeks)**	**Ratio and proportion (2 weeks)**	**Position and Direction** (1 week)
National Curriculum Statements: ✓ 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. **Lesson Sequence- NEW** 1. L.P: To understand numbers up to 10 million 2. L.P: To read and write numbers to 10 million. 3. Multiply by 10, 100, 1000 4. Divide by 10, 100, 1000 5 L.P: To understand Powers of 10.	**National Curriculum Statements:** ✓ multiply multi-digit numbers up to 4 digits by a two-digit whole 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 short division where appropriate, interpreting remainders according to the context ✓ divide numbers up to 4 digits by a two-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 ✓ 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 ✓ recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) ✓ 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 on a problem, an appropriate degree of accuracy **Lesson Sequence- NEW** 1. Estimate using known facts	**National Curriculum Statements:** ✓ 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 ✓ multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 4 1 × 2 1 = 8 1] ✓ divide proper fractions by whole numbers [for example, 3 1 ÷ 2 = 6 1] ✓ **Lesson Sequence** 1. L.P: To find equivalent fractions. 2. L.P: To Simplify fractions. 3. L.P: To find equivalent fractions on a numberline and simplify. 4. LP: To convert remainders into fractions when dividing. 5. L.P: To compare and order fractions (Numerator). 6. L.P: To compare and order fractions. (Denominator) 7. L.P: To add fractions with different denominators. 8. L.P: To subtract fractions with different denominators 9. L.P: To add mixed numbers. 10. L.P: To subtract mixed numbers. 11. L.P: To solve multi-step fraction problems. Add and subtract 12. L.P: To multiply fractions by integers.	**National Curriculum Statements:** ✓ 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 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 **Lesson Sequence** 1. L.P: To use language related to ratio and the ratio symbol. 2. L.P: To solve problems involving ratio and proportion. 3. L.P: To use scale factors. 4. l.P: To solve scaling problems.	✓ Describe positions on a 4 quadrant grid (all 4 quadrants) ✓ Draw and translate simple shapes on the co-ordinate plane and reflect them in simple axes including diagonal **Lesson Sequence** 1. L.P: To understand and manipulate co-ordinates in the first quadrant. 2. L.P: To read and plot points in 4 quadrants. 3. L.P: To solve problems with co-ordinates. 4. L.P: To translate. 5. L.P: To reflect.

6. multiply and divide decimals by 10, 100 and 1000 7. L.P. To recognise and position numbers on a numberline. 8. L.P: To round integers. 9. L.P: To round integers. 10. Compare integers 11. Order integers 12. To use negative numbers.	2. L.P: To add using the most efficient method. 3. L.P: To subtract using the most efficient method. 4. L.P: To multiply 4 digit numbers by a 2 digit number. 5. L.P: To multiply 4 digit numbers by a 2 digit number. 6. L.P: To solve problems with multiplication, addition and subtraction. 7. L.P: To find common factors. 8. L.P: To find multiples and common multiples. 9. Find multiples ie x26 10. L.P: To use short division. 11. L.P: use long division- fluency only 12. L.P: use long division 13. Use long division with remainders 14. L.P: To solve word problems using all 4 operations. 15. L.P: To solve problems using all 4 operations. 16. L.P: To find prime numbers. 17. L.P: To find square numbers. 18. L.P: To find cube numbers. 19. L.P: To understand the order of operations (BIDMAS).	13. L.P: To multiply fractions by fractions. 14/15. L.P: To divide a fraction by an integer. 16. L.P: To use 4 operations with fractions. 17. L.P: To find fractions of amounts. 18. L.P: To find fractions of amount. find the whole		

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Spring				
Decimals (2 weeks)	**Measurement (3 weeks)**	**Percentages and statistics (2 weeks +)**	**Algebra – (2 weeks)**	**Geometry- Properties of Shapes (3 weeks)**
National Curriculum Statements: ✓ associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 8.3] ✓ identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places ✓ multiply one-digit numbers with up to two decimal places by whole numbers ✓ use written division methods in cases where the answer has up to two decimal places - next year consider moving to division (Autumn 1) ✓ solve problems which require answers to be rounded to specified degrees of accuracy **Suggested lesson sequence (linked to WRose version 3)** 1. LP: To understand place value within one to three decimal places	**National Curriculum Statements:** ✓ 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 three decimal places ✓ 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 cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm3 and km^3].	**National Curriculum Statements:** ✓ Solve problems, including the calculation of percentages, for example 15% of 360 and the use of percentages for comparison. ✓ recall and use equivalences between simple fractions, decimals and percentages, including in different contexts ✓ interpret and construct pie charts and line graphs and use these to solve problems ✓ calculate and interpret the mean as an average **Suggested lesson sequence (linked to WRose version 3)** 1. LP: To understand percentages 2. LP: To convert between Fractions and percentages 3. LP: To calculate equivalent FDPs 4. LP: To order FDPs 5/6. LP: To calculate percentages of an amount	**National Curriculum Statements:** ✓ 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 **Suggested lesson sequence (linked to WRose version 3)** 1. LP: To use one and two-step machines 2. LP: To form expressions 3. LP: To substitute numbers 4. LP: To calculate using formulae 5. LP: To form equations 6. LP: To solve one step equations 7. LP: To solve 2 step equations 8. LP: To find pairs of values 9. LP: Solve problems – if needed	**National Curriculum Statements:** ✓ 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 **Suggested lesson sequence (linked to WRose version 3)** 1. LP: To measure and classify angles 2. LP: To calculate missing angles on a straight line and at a point 3. LP: To calculate vertically opposite angles 4. LP: To explore the sum of angles in a triangle 5. LP: To calculate missing angles in triangles 6. LP: To calculate missing angles in a quadrilateral 7. LP: To find angles in a polygon with 5 or more sides

2. LP: To recognise the value of a digit in integers and decimals 3. LP: To round decimals up to 3 decimal places 4. LP: To add decimals 5. LP: To subtract decimals 6. LP: To multiply and divide decimals by 10/100/1000 next year consider moving to Autumn 1 7. LP: To multiply a decimal by an integer 8. LP: To divide a decimal by an integer Ensure questions include examples in context	Suggested lesson sequence (linked to WRose version 3) 1. LP: To understand what a metric measure is– including mass, capacity and length 2. LP: To Convert between metric units 3. LP: To calculate using metric measures 4. LP: To convert between miles and km 5. LP: To understand and convert using imperial measures 6. LP: To calculate the perimeter of regular and compound shapes (formula) 7. LP: To recognise different shapes with the same area 8. LP: To calculate the area of compound shapes 9. LP: To calculate the area of a right-angled triangles 10. LP: To use a formula to calculate the area of a triangle 11. LP: To calculate the area of a parallelogram 12. LP: To explore volume using cubes 13. LP: To use a formula to calculate the volume of a cuboid	7. LP: To calculate percentages – missing values 8. LP: To calculate the Mean 9. LP: To read line graphs 10. LP: Dual bar charts 11. LP: To interpret and construct pie charts 12. LP: To interpret and construct pie charts with percentages		8. LP: To draw 2D shapes accurately 9/10. LP: To identify nets of 3d shapes. 11/12. LP: To illustrate and name parts of the circle, including radius, diameter and circumference.

Summer	
Revision of all KS2 Objectives	Transition to KS3