**St. Patrick’s Catholic Primary School**

**Mathematics Year 6 – Yearly Overview**

At St. Patrick’s Catholic Primary School, we follow White Rose overviews and small steps to structure our mathematics curriculum. The children are taught a 45minute mathematics lesson and a separate 15-minute number sense lesson focusing on fluency of arithmetic skills.

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| Term | Week 1  | Week 2  | Week 3  | Week 4  | Week 5  | Week 6  | Week 7  | Week 8  | Week 9  | Week 10 | Week 11 | Week 12  |
| Autumn | Place Value  | Addition, Subtraction, Multiplication and Division | Fractions A | Fractions B  | Measurement: Converting Units  |
| Spring | Ratio | Algebra  | Decimals  | Fractions, decimals and percentages | Measurement: Area, perimeter and Volume  | Statistics  |
| Summer | Geometry: Shape  | Geometry: Position and direction  | Themed projects, consolidation and problem solving  |

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|  | **Week 1 - 2****BLOCK 1** | **Week 3 - 7****BLOCK 2** | **Week 8-9****BLOCK 3** | **Week 10-11****BLOCK 4** | **Week 12****BLOCK 5** |
| **Number: Place Value** | **Number: Addition, Subtraction, Multiplication and Division** | **Number: Fractions A** | **Number: Fractions B** | **Measurement:****Converting Units** |
| **White Rose Maths Small Steps** | * Numbers to 1,000,000
* Numbers to 10,000,000
* Read and write numbers to 10,000,000
* Powers of 10
* Number line to 10,000,000
* Compare and order any integers
* Round any integer
* Negative numbers
 | * Add and subtract integers
* Common factors
* Common multiples
* Rules of divisibility
* Primes to 100
* Square and cube numbers
* Multiply up to a 4-digit number by a 2-digit number
* Solve problems with multiplication
* Short division
* Division using factors
* Introduction to long division
* Long division with remainders
* Solve problems with division
* Solve multi-step problems
* Order of operations
* Mental calculations and estimation
* Reason from known facts
 | * Equivalent fractions and simplifying
* Equivalent fractions on a number line
* Compare and order (denominator)
* Compare and order (numerator)
* Add and subtract simple fractions
* Add and subtract any two fractions
* Add mixed numbers
* Subtract mixed number
* Multi-step problems
 | * Multiply fractions by integers
* Multiply fractions by fractions
* Divide a fraction by an integer
* Divide any fraction by an integer
* Mixed questions with fractions
* Fraction of an amount
* Fraction of an amount – find the whole
* Metric measures
* Convert metric measures
* Calculate with metric measures
* Miles and kilometres
* Imperial measures
 | * Metric measures.
* Convert metric measures.
* Calculate with metric measures.
* Miles and kilometres.
* Imperial measures.
 |
| **National Curriculum Link** | * 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.
 | * 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 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.
* 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. | * 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 (e.g. 1/4 × 1/2 = 1/8).
* Divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6 ).
* Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8).
* Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are 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.
* 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.
 | * 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 3 d.p.
* Convert between miles and kilometres.
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|  | **Week 1 - 2****BLOCK 1** | **Week 3 - 4****BLOCK 2** | **Week 5 - 6****BLOCK 3** | **Week 7-8****BLOCK 4** | **Week 9-10****BLOCK 5** | **Week 11-12****BLOCK 6** |
| **Number: Ratio** | **Number:****Algebra** | **Number: Decimals**  | **Number: Fractions, decimals and percentages**  | **Measurement: Perimeter, Area and Volume** | **Statistics**  |
| **White Rose Maths Small Steps** | * Use ratio language.
* Ratio and fractions.
* Introducing the ratio symbol.
* Calculating ratio.
* Using scale factors.
* Calculating scale

factors.* Ratio and proportion problems.
 | * Find a rule – one step.
* Find a rule – two step.
* Use an algebraic rule.
* Substitution.
* Formulae.
* Word problems.
* Solve simple one step equations.
* Solve two step equations.
* Find pairs of values.
* Enumerate possibilities.
 | * Three decimal places.
* Multiply by 10, 100 and 1,000.
* Divide by 10, 100 and 1,000.
* Multiply decimals by integers.
* Divide decimals by

integers.* Division to solve problems.
* Decimals as fractions.
* Fractions to decimals (1).
* Fractions to decimals
 | * Fractions to percentages.
* Equivalent FDP.
* Percentage of an amount (1).
* Percentage of an amount (2).
* Percentages –

missing values.* Percentage increase and decrease.

Order FDP. | * 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.
 | * 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.
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| **National Curriculum Link** | * 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.
 | * 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.
 | * Identify the value of each digit in numbers given to 3 decimal places and multiply 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.
 | * 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. | * 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).
 | * 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
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|  | **Week 1 - 2****BLOCK 1** | **Week 3 - 5****BLOCK 2** | **Week 6 - 7****BLOCK 3** | **Week 8 - 11****BLOCK 4** | **Week 12** |
| **Geometry: Properties of Shapes** | **Geometry: Position and direction** | **Themed Projects, consolidation and problem solving**  |
| **White Rose Maths Small Steps** | * Measure with a protractor.
* Introduce angles.
* Calculate angles.
* Vertically opposite angles.
* Angles in a triangle.
* Angles in a triangle – special cases.
* Angles in a triangle – missing angles.
* Angles in special quadrilaterals.
* Angles in regular polygons.
* Draw shapes accurately.
* Nets of 3D shapes.
 | * Coordinates in the first quadrant.
* • Coordinate in four quadrants.
* • Translations.
* • Reflections.
 | All |
| **National Curriculum Link** | * Draw 2-D 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.
 | * 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
 | All |