Year 6 Maths- Medium Term Planning

St. Mark's CE Primary School

Lesson 1 -	Lessons in black are key lessons that have to be taught
Lesson 2 -	Lessons in brown are lessons that can be combined into one or another key lesson
Lesson 4 -	Lessons in grey are lessons that can be taught if time allows to consolidate, these resources can be used to support the delivery of white days/journaling

Year 6 Lesson Breakdown

Number and Place Value: Numbers to 10 Million

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 1 – Numbers to 10 Million	Lesson 1 – Reading and Writing Numbers to 10 Million	To construct and record numbers to 10 000 000; to recognise the value of digits to 10 000 000.
	Lesson 2 – Comparing Numbers to 10 Million	To compare numbers to 10 000 000 using place value.
	Lesson 3 – Comparing and Ordering Numbers to 10 Million	To compare and order numbers to 10 000 000; to create combinations of numbers using a fixed number of digits.
	Lesson 4 – Rounding Numbers	To round numbers to 10 000 000 to the nearest million, hundred thousand and ten thousand.
	Lesson 5 – Rounding Numbers	To round numbers to the nearest appropriate number up to and including millions; to determine when rounding is appropriate and to which value.

Year 6 Lesson Breakdown

Calculations: Four Operations on Whole Numbers

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 2 – Four Operations on Whole Numbers	Lesson 1 – Using Mixed Operations	To use multiple operations and create expressions from a picture; to use the order of operations to solve expressions.
	Lesson 2 – Order of Operations	To create and solve expressions using the four operations.
	Lesson 3 – Multiplying by Tens	To multiply numbers by multiples of 10; to use number bonds as a key strategy in multiplication.
	Lesson 4 – Multiplying a 3-Digit Number by a 3-Digit Number	To multiply 3- and 4-digit numbers by 2-digit numbers without regrouping or renaming; to use both number bonds and the column method as key strategies.
	Lesson 5 – Multiplying by a 2-Digit Number	To multiply 3- and 4-digit numbers by 2-digit numbers without regrouping or renaming; to use both number bonds and the column method as key strategies.
	Lesson 6 – Multiplying a 3-Digit Number by a 2-Digit Number	To multiply 3- and 4-digit numbers by 2-digit numbers with regrouping and renaming; to use number bonds and pattern recognition as key strategies for multiplication.
	Lesson 7 – Multiplying a 4-Digit Number by a 2-Digit Number	To multiply 3- and 4-digit numbers by 2-digit numbers with regrouping and renaming; to use number bonds and the column method as key strategies.
	Lesson 8 – Multiplying by a 2-Digit Number	To estimate products of multiplying 3- and 4-digit numbers by a 2-digit numbers; to use knowledge of multiplication to create specific products.
	Lesson 9 – Dividing by a 2-Digit Number	To divide 3-digit numbers by 2-digit numbers using a variety of strategies; to use number bonds, long division and bar models to facilitate division by 2-digit numbers.
	Lesson 10 – Dividing by a 2-Digit Number	To divide 4-digit numbers by 2-digit numbers; to use number bonds and long division as the key strategies.
	Lesson 11 – Dividing by a 2-Digit Number	To divide 4-digit numbers by 2-digit numbers using a variety of methods; to use number bonds, long and short division as key methods.
	Lesson 12 – Dividing by a 2-Digit Number with Remainder	To divide 3-digit numbers by 2-digit numbers giving rise to remainders; to use number bonds and long and short division as key strategies to solve division problems.

Year 6 Lesson Breakdown

Calculations: Four Operations on Whole Numbers – Continued

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 2 – Four Operations on Whole Numbers	Lesson 13 – Dividing by a 2-Digit Number with Remainder	To divide 4-digit numbers by 2-digit numbers giving rise to a remainder; to represent the remainder as part of a whole amount of money or decimal.
	Lesson 14 – Solving Word Problems Using Bar Models	To use the bar model heuristic to solve word problems involving multiplication and division.
	Lesson 15 – Solving Word Problems Using Patterns	To solve word problems using division as the main strategy; to use pictorial representations to support word problems.
	Lesson 16 – Solving Word Problems Using Multiple Methods	To solve word problems involving multiple operations, including multiplication and division.
	Lesson 17 – Finding Common Multiples	To find common multiples in real-life situations; to use common multiples in tandem with knowledge of time.
	Lesson 18 – Finding Common Multiples	To use common multiples to solve problems; to organise mathematical thinking into tables and lists.
	Lesson 19 – Finding Common Factors	To find the largest common factor of 3-digit numbers; to use multiplication and division to find largest common factors.
	Lesson 20 – Finding Common Factors	To find common factors using concrete materials.
	Lesson 21 – Finding Prime Numbers	To use prime numbers to create other numbers; to explore prime numbers above 100.
	Lesson 22 – Finding Prime Numbers	To explore prime numbers using concrete materials; to identify prime numbers using multiplication or division.

Year 6 Lesson Breakdown

Fractions, Decimals and Percentages: Fractions

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 3 – Fractions	Lesson 1 – Simplifying Fractions Using Common Factors	To use concrete materials to simplify fractions; to recognise equivalence in fractions to 1/4.
	Lesson 2 – Simplifying Fractions Using Common Factors	To simplify fractions using division and common factors; to represent fractions using concrete materials and pictorial representations.
	Lesson 3 – Comparing and Ordering Proper Fractions	To compare fractions and place them in order from smallest to largest.
	Lesson 4 – Comparing and Ordering Improper Fractions	To compare and order fractions by finding common denominators.
	Lesson 5 – Comparing and Ordering Fractions and Mixed Numbers	To compare and order fractions using common factors.
	Lesson 6 – Adding and Subtracting Unlike Fractions	Adding and subtracting fractions with different denominators; using pictorial representations to compare fractions and add/subtract.
	Lesson 7 – Adding and Subtracting Unlike Fractions	To add and subtract fractions with different denominators.
	Lesson 8 – Adding and Subtracting Mixed Numbers	To add and subtract mixed numbers, including fractions with different denominators; to subtract from the whole and add the remainder back on.
	Lesson 9 – Adding and Subtracting Mixed Numbers	To add and subtract fractions with different denominators; to add and subtract mixed numbers.
	Lesson 10 – Multiplying Pairs of Proper Fractions	To multiply fractions using pictorial representations and abstract methods.

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Year 6 Lesson Breakdown

Fractions, Decimals and Percentages: Fractions – Continued

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 3 – Fractions	Lesson 11 – Multiplying Pairs of Proper Fractions	To determine if the commutative law applies to fractions; to multiply fractions using concrete materials and pictorial representations.
	Lesson 12 – Multiplying Pairs of Proper Fractions	To use concrete materials to understand and solve the multiplication of fractions; to simplify equations using pattern blocks.
	Lesson 13 – Dividing a Fraction by a Whole Number	To divide a fraction by a whole number; to use pictorial representation to divide whole numbers into fractions.
	Lesson 14 – Dividing a Fraction by a Whole Number	To divide fractions by whole numbers using concrete materials and pictorial representations; to divide fractions when the numerator and divisor are not easily divisible.
	Lesson 15 – Dividing a Fraction by a Whole Number	To divide fractions by a whole number; to use pictorial representations to support division.

Year 6 Lesson Breakdown

Fractions, Decimals and Percentages: Decimals

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 4 – Decimals	Lesson 1 – Reading and Writing Decimals	To read and write decimals to thousandths; to use concrete materials to represent decimals.
	Lesson 2 – Dividing Whole Numbers by Multiples of 10	To divide whole numbers by larger whole numbers; to use Base 10 materials to represent tenths, hundredths and thousandths.
	Lesson 3 – Dividing Whole Numbers	To divide whole numbers that give rise to decimals; to calculate decimal fraction equivalents using long division.
	Lesson 4 – Writing Fractions as Decimals	To convert fractions into decimals using bar models and long division.
	Lesson 5 – Writing Fractions as Decimals	To write fractions as decimals; to use long division as the key strategy for turning fractions into decimals.
	Lesson 6 – Multiplying Decimals without Renaming	To multiply decimals by whole numbers using partitioning or the worded method to help find the solution.
	Lesson 7 – Multiplying Decimals with Renaming	To multiply whole numbers that include a decimal by other whole numbers; to use partitioning and the worded method as key strategies.
	Lesson 8 – Multiplying Decimals with Regrouping	To multiply decimals by whole numbers, including regrouping and renaming.
	Lesson 9 – Multiplying Decimals with Renaming	To multiply decimals by whole numbers using a variety of methods; to use the heuristic 'making a list' to help solve a problem.
	Lesson 10 – Dividing Decimals without Renaming	To divide decimals using number bonds and number discs as the key strategies.

Year 6 Lesson Breakdown

Fractions, Decimals and Percentages: Decimals – Continued

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
	Lesson 11 – Dividing Decimals with Renaming	To divide decimals using bar models, number bonds and long division as key strategies, including regrouping and renaming.
	Lesson 12 – Multiplying a Decimal by a 2-Digit Whole Number	To multiply decimals by a 2-digit whole number using number discs and the column method.
	Lesson 13 – Dividing a Decimal by a 2-Digit Whole Number	To divide decimals by 2-digit numbers using number bonds and the worded method.
	Lesson 14 – Dividing a Decimal by a 2-Digit Whole Number	To divide decimals by 2-digit whole numbers using number bonds and the worded method.

Year 6 Lesson Breakdown

Measurement: Measurements

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 5 – Measurements	Lesson 1 – Converting Units of Length : Millimetres and Centimetres	To convert common measurements into centimetres and millimetres.
	Lesson 2 – Converting Units of Length : Metres and Centimetres	To convert units of measure into different units; to use knowledge of decimals and fractions to help convert units.
	Lesson 3 – Converting Units of Length : Kilometres and Metres	To convert metres into kilometres as units of measure.
	Lesson 4 – Converting Units of Length: Miles and Kilometres.	To convert distances between miles and kilometres.
	Lesson 5 – Converting Units of Mass	To convert units of mass from grams to kilograms using decimals and fractions.
	Lesson 6 – Converting Units of Volume	To convert units of volume from millilitres to litres.
	Lesson 7 – Converting Units of Time	To convert units of time from minutes to hours; to represent time using 24-hour notation.

Year 6 Lesson Breakdown

Word Problems

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 6 – Word Problems	Lesson 1 – Solving Word Problems	To use bar models to solve word problems involving the four operations.
	Lesson 2 – Solving Word Problems	To use the bar model heuristic to solve word problems involving money.
	Lesson 3 – Solving Word Problems	To use the bar model heuristic to solve complex word problems involving ratio.
	Lesson 4 – Solving Word Problems	To use the bar model heuristic to solve complex word problems involving time.
	Lesson 5 – Solving Word Problems	To solve word problems that apply the bar model heuristic and involve fractions.
	Lesson 6 – Solving Word Problems	To create and solve complex word problems using the four operations.

Year 6 Lesson Breakdown

Fractions, Decimals and Percentages: Percentage

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 7 – Percentage	Lesson 1 – Finding the Percentage of a Number	To find the percentage of a whole number using division and multiplication; to use bar modelling as a pictorial approach to calculating percentage.
	Lesson 2 – Finding the Percentage of a Quantity	To find the percentage of a quantity; to use bar model diagrams to support the division and multiplication of numbers towards the percentage.
	Lesson 3 – Finding Percentage Change	To find the percentage change in an amount over time; to calculate the percentage change where the number gives rise to a decimal.
	Lesson 4 – Using Percentage to Compare	To use percentage, bar models and fractions to compare amounts.

Year 6 Lesson Breakdown

Ratio and Proportion: Ratio

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 8 – Ratio	Lesson 1 – Comparing Quantities	To use ratios and fractions to compare objects; to find the relationship between ratios, percentages and fractions.
	Lesson 2 – Comparing Quantities	To determine the ratio of a quantity using concrete materials; to simplify ratios using concrete materials in addition to division.
	Lesson 3 – Comparing Several Quantities	To compare more than two quantities using the term 'ratio'; to use bar models to express ratios where there is more than one quantity.
	Lesson 4 – Finding Quantities from Ratios	To use ratio to count quantities.
	Lesson 5 – Ratios with Measurements	To use ratio to measure quantities.
	Lesson 6 – Finding Ratios	To compare quantities by writing a ratio.
	Lesson 7 – Comparing Ratios to Find a Quantity	To apply knowledge of ratios to word problems.
	Lesson 8 – Word Problems Involving Ratio	To solve word problems involving ratio.
	Lesson 9 – Word Problems Involving Ratio	To apply the advanced bar model heuristic to ratio word problems.
	Lesson 10 – Word Problems Involving Ratio	To apply the advanced bar model heuristic to ratio word problems.

Year 6 Lesson Breakdown

Algebra: Algebra

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 9 – Algebra	Lesson 1 – Describing a Pattern	To determine a pattern using concrete materials and pictorial representation; to use a table to identify a repeating pattern; to express a rule using a letter or symbol.
	Lesson 2 – Describing a Pattern	To determine a pattern using concrete materials and pictorial representation; to use a table to identify a repeating pattern; to express the relationship between consecutive numbers in terms of a symbol or letter.
	Lesson 3 – Describing a Pattern	To determine a pattern using concrete materials and pictorial representation; to use a table to identify a pattern; to express the relationship between consecutive numbers in terms of a symbol or letter.
	Lesson 4 – Describing a Pattern	To determine a pattern using concrete materials and pictorial representation; to use a table to identify a pattern; to express unknown numbers in terms of a letter or symbol, including using a number before a letter for multiplication.
	Lesson 5 – Writing Algebraic Expressions	To use a table to identify a pattern; to write algebraic expressions.
	Lesson 6 – Writing Algebraic Expressions	To be able to express a missing number algebraically.
	Lesson 7 – Writing and Evaluating Algebraic Expressions	To be able to express missing number problems algebraically.
	Lesson 8 – Writing Formulae	To recognise patterns; to write and evaluate algebraic expressions with two steps; to write and use formulae.
	Lesson 9 – Using Formulae	To use formulae to solve problems; to replace a letter/variable with a number then solve the equation; to use inverse operations to solve equations.
	Lesson 10 – Solving Equations	To solve equations; to use equations to find unknown values.

Year 6 Lesson Breakdown

Measurement: Area and Perimeter

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 10 – Area and Perimeter Lessons 1-6	Lesson 1 – Finding the Perimeter and the Area of Rectangles	To find the area and perimeter of rectangles; to calculate perimeter using the known area and vice versa.
	Lesson 2 – Finding the Base and Height of Triangles	To identify the base and height of a triangle.
	Lesson 3 – Finding the Area of Triangles	To use prior knowledge of area to determine and solve the area of a triangle; to use and apply the formula for the area of a rectangle to solve problems involving triangles.
	Lesson 4 – Finding the Area of Parallelograms	To find the area of a parallelogram using an understanding of triangles; to use concrete materials to find the area of a parallelogram.

Year 6 Lesson Breakdown

Geometry – Properties of Shapes: Geometry

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 12 – Geometry Lessons 1–12	Lesson 1 – Investigating Vertically Opposite Angles	To investigate opposite angles; to use prior knowledge of angles to solve problems involving angles.
	Lesson 2 – Solving Problems Involving Angles	To solve problems involving angles using the bar model heuristic; to solve problems involving angles without protractors.
	Lesson 3 – Investigating Angles in Triangles	To determine and show the sum of the angles inside a triangle.
	Lesson 4 – Investigating Angles in Quadrilaterals	To investigate and determine angles in quadrilaterals.
	Lesson 5 – Finding Angles in Polygons	To use the knowledge of angles inside a triangle and a quadrilateral to solve problems involving angles in other shapes.
	Lesson 6 – Naming parts of a circle	To be able to name parts of circles and know that the diameter is twice the radius.
	Lesson 7 – Solving Problems involving Angles in a circle	To be able to solve problems involving angles in a circle
	Lesson 8 – Drawing Triangles	To be able to draw triangles using given dimensions and angles.
	Lesson 9 – Drawing Quadrilaterals	To be able to draw quadrilaterals using given dimensions.
	Lesson 10 – Drawing Triangles	To be able to solve problems involving similar shapes where the scale factor is known or can be found.
	Lesson 11 Drawing Nets of 3D	To be able to recognise and make nets for 3D shapes.
	Lesson 12 - Drawing Nets of 3D	To be able to recognise and make nets for 3D shapes.

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Year 6 Lesson Breakdown

Geometry – Position and Direction: Position and Movement

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 13 – Position and Movement Lessons 1–5	Lesson 1 – Showing Negative Numbers	To represent negative numbers on both vertical and horizontal number lines.
	Lesson 2 – Describing Position	To describe the positions of objects on a coordinate grid; to use x and y axes to determine the position of objects on a grid.
	Lesson 3 – Describing Position	To describe the position of points using coordinates on a grid.
	Lesson 4 – Drawing Polygons on a Coordinate Grid	To draw polygons on a coordinate grid; to recognise polygons on a coordinate grid.
	Lesson 5 – Describing Translations	To describe the translation of shapes on a coordinate grid.
	Lesson 6 – Describing Reflections	To be able to reflect shapes in a mirror line.
	Lesson 7 – Describing Movements	To be able to reflect shapes in the axes.
	Lesson 8 – Describing Movements	To be able to describe the translation of shapes on a coordinate grid and reflect simple shapes in the axes.
	Lesson 9 – Using Algebra to Describe Position	To be able to describe positions on a full coordinate grid using algebra.
	Lesson 10 – Using Algebra to Describe Movements	To be able to describe the translation of shapes on a coordinate grid and reflect simple shapes in the axes using algebra

Year 6 Lesson Breakdown

Statistics: Graphs and Averages

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 14 – Graphs and Averages	Lesson 1 – Understanding Averages	To calculate the average (mean) of sets of values.
	Lesson 2 – Calculating the Mean	To calculate the mean.
	Lesson 3 – Calculating the Mean	To calculate the mean.
	Lesson 4 – Solving Problems Involving the Mean	To solve problems involving the mean; to use the mean and the number of values to calculate the total; to use given information to find unknown values.
	Lesson 5 – Reading Pie Charts	To read and interpret pie charts.
	Lesson 6 – Reading Pie Charts	To read and interpret pie charts.
	Lesson 7 – Reading Pie Charts	To read and interpret pie charts; to use percentages in pie charts.
	Lesson 8 – Reading Pie Charts	To read and interpret pie charts; to use knowledge of angles to interpret pie charts.
	Lesson 9 – Reading Line Graphs	To read line graphs; to interpret the information in line graphs that show distance and time.
	Lesson 10 – Reading Line Graphs	To read and interpret line graphs; to answer questions about the information in line graphs.
	Lesson 11 – Converting Miles and Kilometers	To convert miles into kilometers and kilometers into miles.

Year 6 Lesson Breakdown

Number and Place Value: Negative Numbers

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 15 – Negative Numbers	Lesson 1 – Adding and Subtracting Negative Numbers	To add and subtract negative numbers using a number line.
	Lesson 2 – Using Negative Numbers	To create number stories using negative numbers.

Year 6 Lesson Breakdown

Measurement: Volume

Maths — No Problem! Book Reference	Lesson Name	Lesson Objective
Chapter 11 – Volume	Lesson 1 – Finding the Volume of Cuboids	To find the volume of cubes and cuboids using concrete materials.
	Lesson 2 – Finding the Volume of Cuboids	To determine the formula for the volume of cubes and cuboids and apply it to calculate the volume of shapes.
	Lesson 3 – Finding the Volume of Cuboids	To estimate the volume of objects and spaces; to calculate the volume of boxes using the formula for volume of cubes and cuboids.
	Lesson 4 – Finding the Volume of Cuboids	To calculate, estimate and compare the volume of cubes and cuboids.
	Lesson 5 – Solving Problems Involving Volume	To solve word problems involving the volume of cubes and cuboids; to apply the formula for the volume of a cube or cuboid.

Year 6 Lesson Breakdown