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Year: 5 **Term: Summer** **Teacher: Mrs Tinker and Mrs Collins**

Week	Topic	Objectives
Week 1	NUMBER AND PLACE VALUE TO SOLVE PROBLEMS	To order and compare negative numbers, recognising that the value of negative numbers decreases as they move further away from 0. To count forwards and backwards with positive and negative numbers, including through zero. To interpret negative numbers in context. To carry out simple calculations involving negative numbers. To solve simple problems involving ordering, adding, subtracting negative numbers.
Week 2	MULTIPLICATION AND DIVISION TO SOLVE PROBLEMS	Multiply numbers up to 4 digits by a one- digit number including using a compact written method. Multiply numbers up to 4 digits by a two-digit number including using a compact written method of long multiplication. Divide numbers up to 4 digits by a one-digit number including using a written method of short division. To identify and obtain necessary information to carry through a task and solve mathematical problems. To use their own strategies within mathematics and in applying mathematics to practical context. To search for a solution by trying out ideas of their own. To present information and results in a clear and organised way. To show understanding of situations by describing them mathematically using symbols, words and diagrams. To be able to express a rule or pattern as an algebraic equation.

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Week 3	DIVISION TO SOLVE PROBLEMS (REVISIT FROM LAST TERM)	Consider the most appropriate strategy to solve a calculation: calculate mentally, use a jotting or a written method. Divide numbers up to 4 digits by a one-digit number using a written method of short division. Divide numbers up to 4 digits by a two-digit number using a written method of expanded division (chunking). Interpret remainders appropriately for the context. To be able to divide 3 digit numbers inc decimals to 2 places, by a single digit number. To be able to write a remainder as a fraction and as a decimal. Worded problems; whether to round up or down after dividing. Solve problems involving division, including scaling by simple fractions and problems involving simple rates.
Week 4	MEASURES – TO SOLVE PROBLEMS	Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}). Continue to calculate and compare the area of rectangles (including squares), using standard units, square centimetres (cm ^{2}) and square metres (m ^{2}). Continue to estimate (and find) the area of irregular shapes. Use all four operations to solve problems involving measure (for example, mass, capacity and volume) using decimal notation, including scaling. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

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Week 5	SHAPE AND POSITION AND DIRECTION TO SOLVE PROBLEMS	I can reflect shapes. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Use the properties of rectangles to find missing lengths and/or angles. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Describe positions on the first quadrant of a coordinate grid. Plot specified points and complete shapes. Continue to 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.
Week 6	ALGEBRA / PROBLEM SOLVING	Introduction to Algebra. To understand the convention of brackets within algebra. To understand and use BODMAS to solve calculations. To solve calculations involving letters where the value of the letter is known. To calculate the value of an unknown letter within a calculation. To understand the term equation. To be able to express an equation in its simplest form. Solve problems involving addition, subtraction, multiplication and division, and combinations of these.
Week 7	FRACTIONS – ADDITION, SUBTRACTION & MULTIPLICATION	To continue to recognise mixed numbers and improper fractions and convert from one form to another. To continue to compare and order fractions whose denominators are all multiples of the same number.

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	TO SOLVE PROBLEMS	To express one amount as a fraction of another. To add fractions with the same denominator and denominators which are multiples of the same number. To subtract fractions with the same denominator and denominators which are multiples of the same number. To multiply proper fractions by whole numbers, supported by materials and diagrams – link to equivalent fractions and factors. To multiply mixed numbers by whole numbers, supported by materials and diagrams – link to equivalent fractions and factors.
Week 8	PERCENTAGES – TO SOLVE PROBLEMS	To find any percentage of an amount by finding 10% / 5% / 1% and adding or subtracting them. I can give equivalent fractions, decimal and percentages. I can use mathematical knowledge to solve word problems involving fractions, decimals and percentages. To find a proportion of an amount. To be able to calculate ratio. To identify patterns and relationships in number problems. To solve worded problems involving ratio and proportion. I can solve problems involving ratio and proportion and scale the ingredients up or down.
Week 9	ADDITION AND SUBTRACTION TO SOLVE PROBLEMS	Add whole numbers with more than 4 digits and decimals with two decimal places, including using a compact written method.

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		Subtract whole numbers with more than 4 digits and decimals with two decimal places, including using a compact written method To identify and obtain necessary information to carry through a task and solve mathematical problems. To use their own strategies within mathematics and in applying mathematics to practical context. To search for a solution by trying out ideas of their own. To present information and results in a clear and organised way. To show understanding of situations by describing them mathematically using symbols, words and diagrams. To begin to be able to express a pattern as an equation.
Week 10	MEASURES – TIME TO SOLVE PROBLEMS	Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks. Complete, read and interpret information in tables, including timetables. Solve problems involving converting between units of time. Understand and use approximate equivalences between metric and common imperial units such as pints. Solve problems involving capacity. Solve comparison, sum and difference problems using information presented in all types of graph and tables including a line graphs.
Week 11	Mathematics from History	To understand the influence that Greek Mathematicians had. To be introduced to the most prominent mathematicians of the time: Thales & Pythagoras. To begin to understand some of their ideas and the main mathematical concepts involved. • Measuring Shadows – Multiplication and division by 2 and 3. Using multiples of 10.

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		• Lines and Angles – Measuring acute angles. Angles that total 180 degrees on a straight line. • Circles, Lines and Angles – Semicircles and diameter of a circle. Right angled triangles within a semicircle. • Square and Triangular Numbers – Patterns in a sequence of numbers. • The Shapes of Numbers – Addition patterns in a sequence of numbers.
Week 12	Mathematics from History	To understand the influence that Greek Mathematicians had. To be introduced to the most prominent mathematicians of the time: Pythagoras, Euclid & Archimedes. To begin to understand some of their ideas and the main mathematical concepts involved. • Perfect Numbers – Divisors or factors of numbers. Addition and comparisons of numbers. • Dots, Lines and Shapes – Number patterns and multiplication relationships. • Transforming Triangles – Shape recognition and conservation of area. Counting squares inside a shape. • Balancing Mobiles – Addition, doubling and halving numbers. Recognition of multiples of 8, 16, 32 and 64.
Week 13	Mathematics from History	To understand the influence that Greek Mathematicians had. To be introduced to the most prominent mathematicians of the time: Eratosthenes & Hypatia. To begin to understand some of their ideas and the main mathematical concepts involved. • Rectangular Numbers – Factors of numbers and recognition of times tables. • The Prime Number Sieve – Multiples of numbers and prime numbers. • The Stamp Problem – Addition, multiplication and algebraic number patterns.

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		• The Coin Problem – Addition and multiplication number relationships.