Lesson Breakdown Summery

Entry Level Mathematics

Autumn 1	**Whole number calculations.** *Write, read, order and compare whole numbers up to 1000. *Know the value of each digit in a 3-digit number. *Understand vocabulary associated with numerical calculations such as: multiply, times, half, divide, ×, ÷.sum, difference, share, total, twice, triple.	**Properties of number** *Add whole numbers up to 1000. *Subtract whole numbers from an initial value no greater than 1000 *Add and subtract decimals in context, i.e. money, mensuration etc. *Use inverse operations to find missing numbers * Use and interpret +, –, x ,÷ and = in real-life situations for solving problems * Estimate the answer to a calculation	**Fractions and decimals.** *Identify or show unit fractions up to one tenth of a quantity up to 100 * Recognise equivalent fractions, including fractional quantities greater than 1. *Understand and use mixed fraction and vulgar ('top heavy') fraction notation. *Calculate thirds, quarters, fifths and tenths of quantities where the answer is an integer. * Add and subtract fractions with the same denominator within one whole *Use fractions in context *Order decimals and fractions. *Recognise equivalent fraction, decimal and percentage notation * Work out amounts 5, 8 or 10 times the size of a given amount	
Autumn 2	**Percentage** * Understand that 1% is equivalent to dividing by 100. * Find 1%, 25%, 50% for three digit numbers, limited to results which are whole number answers. *Find other percentage quantities by combining results.	**Multiples** * Know and use multiplication of whole numbers up to 12 × 12, and use this knowledge in multiplication and division problems. * Multiply a whole number by 10. *Recognise when any number will give a whole number when divided by 10. * Understand the index notation for squared and cubed and be able to calculate the results of squared and cubed powers on the numbers 1–5 and 10. *Divide a two digit whole number by a single digit whole number	**Place Value** * Understand and use place value to order 2 significant figure integer numbers up to 1000, e.g. 580, 120, 91 * Understand and use place value to order numbers given to 2 decimal places. *Use decimal values in real life contexts (i.e. money) * Perform simple calculations where the units of the quantities are whole numbers of thousands or millions	**Estimation and Approximation** *Round numbers less than 1,000 to the nearest 10 and 100. *Find 10 or 100 more or less than a given number *Use approximate values to obtain an estimation. * Estimate approximate cost of a list of multiple items to determine if purchases can be made within a stated budget.

Lesson Breakdown Summery

Entry Level Mathematics

Spring 1	**Proportionality** ***** Solve simple proportion problems using systematic analysis, e.g. adapt a 2 person recipe for 1 person, 3 people, 20 people etc * Solve simple inverse proportion problems using systematic analysis, e.g. if speed doubles then the time taken will halve.	**Formulae** ***** Complete sequences of increasing or decreasing integers where the common difference is less than 10 or a multiple of 10 * Substitute positive integers into a formula given in words and calculate answers i.e. average speed is distance travelled divided by time taken. * Use a simple two-step function machine to determine outputs for given inputs.	**Scales and Graphs** ***** Read and mark a scale or dial whose divisions are labelled appropriately. * Work with *x*- and *y*-coordinates in positive quadrant. * Interpret graphs in real-world contexts, e.g. money conversion, cost-time. * Construct and interpret graphs in real-world contexts, e.g. distance-time, money conversion, cost-time.	**Shapes and Solids** *Sort and classify polygons by number of sides, e.g. triangle, quadrilateral, pentagon, hexagon. *Distinguish between different triangles (equilateral, isosceles, right angled and scalene). *Distinguish between different quadrilaterals (square, rectangle, kite, trapezium, parallelogram and rhombus). * Recognise and name prisms, cylinders and cones * Know and use the terms: side, edge, corner, square face, rectangular face, triangular face, cube, cuboid, cross section, pyramid, sphere, cone, cylinder. *Identify pictures of three dimensional objects. *Identify and sketch nets cubes and cuboids.

Lesson Breakdown Summery

Entry Level Mathematics

Spring 2	**Symmetry and Transformations** * Identify lines and draw shapes with single vertical lines of symmetry. * Identify lines and draw shapes which have horizontal and/or vertical lines of symmetry. * Understand the terms reflection and reflectional symmetry. * Recognise simple plane shapes, patterns or pictures that have reflectional symmetry *Rotate, reflect and translate simple shapes to form tessellated pattern * Use different polygons to form regular and semi-regular tessellation patterns. *Draw a simple transformation on a coordinate grid: – reflection in horizontal and vertical lines – rotation about (0,0) through multiples of 90 degrees – translations, e.g. 3 forward, 5 down.	**Units and Measures** * Add lengths, capacities and weights and compare the total to another total or a requirement * Convert standard units of length, capacity and weight * Compare and order lengths, capacities and weights in different standard units * Use given measurements to calculate perimeter in mm, cm or m as appropriate * Calculate area of rectangles and triangles drawn to scale on square grids * Understand and use the terms ‘clockwise’ and ‘anticlockwise’ and the idea of ‘quarter turn’, ‘half turn’ and ‘three quarters turn’. * Understand and use the four points of the compass .	**Units and Measures** * Know and use the terms ‘acute’, ‘obtuse’ and ‘reflex’ to describe angles. *Measure angles to +/– 2 degrees. * Use a ruler and protractor to draw and measure polygons, up to hexagons **– Money** * Select coins and notes equivalent to an amount of money up to £20. * Add amounts of money and give change from £20. * Exchange notes for an equivalent value in coins *Solve problems involving multiplication or division of money by a whole number no greater than 10.

Lesson Breakdown Summery

Entry Level Mathematics

Summer 1	**Units and Measures - The Calendar and Time** * Know and use time conversion facts to solve time problems e.g. 24 hours = 1 day, 60 minutes = 1 hour, 60 seconds = 1 minute * Understand and use 12 and 24-hour clock notation. * Convert between 12 and 24-hour clock notation. *Convert between hours, minutes and seconds * Read and write time for digital and analogue clocks (in hours and in five minute intervals) including using Roman numerals from I to XII * Use a calendar to solve problems. * Read and use simple travel timetables and other common two-way tables *Add up to three lengths of time given in minutes and hours *Solve problems involving time **- Thermometer** * Read scales showing temperatures above and below zero and compare temperatures.	**Lists and Outcomes** ***** Use a two-circle Venn Diagram to sort and classify numeric and graphic data by two criteria. * Use systematic listing strategies to identify different outcomes of three combined events, i.e. drink, meal, dessert. * Understand and complete a tally chart including numerical frequency. * Complete or extract information from printed lists with more than two columns or rows	**Averages and trends – Statistic** * Construct and interpret a bar graph, using a frequency scale in 5s, 10s, 50s or 100s * Draw and interpret pictograms * Find mode, median, mean and range of a small list of numbers (up to ten numbers) [formulae to be given]. * Understand and use 'range' as the difference between the biggest and smallest recorded values on an appropriate frequency diagram * Understand and use 'median' as the middle item in a cumulative count of items using an appropriate frequency diagram * Plot scatter graphs for pairs of data values. * Interpret given lines of best fit for points on a given scatter graph * Draw and interpret trends on scatter graphs using terms 'increase or decrease' and 'positive or negative'. *Solve one-step and two-step problems based on statistical information
Summer 2	Past papers		