

Oswaldtwistle School KS3 Maths Long Term Plan

	Topic	Key Words	Links to previous learning	Links to wider curriculum	
AUTUMN 1	<u>Calculations</u> Addition/Subtraction Multiplication/Division BIDMAS Indices	addition, subtraction, sum, total, difference, minus, less, column addition, operation, multiply, multiplication, times, product, short multiplication, long multiplication, commutative, divide, division, divisible, divisor, dividend, quotient, long division, short division, remainder, operation, inverse operations	Multiplying and Dividing by Powers of 10, BIDMAS, Place Value, Calculating by Addition, Subtraction, Division and Multiplication	Humanities - population growth	English - mathematical vocabulary
	<u>Number 1</u> Properties of numbers Factors and Multiples HCF and LCM Prime factorisation	square and cube numbers, powers, roots, triangular square numbers, prime numbers, factors, multiples, HCF, LCM	Positive and Negative Numbers, Multiples, Factors, Primes, HCF and LCM	Science – cell division	
AUTUMN 2	<u>Number 2</u> Rounding/Estimating Approximation Ordering integers and decimals	estimate, approximate, round, decimal place, check, solution, answer, accurate, accuracy, significant figure, positive number, negative number, integer	Place Value, rounding to 10, 100, 1000 and Decimal Places; Read, Write, Order and Compare Positive and Negative Numbers,	Science - accuracy	
	<u>Shape 1</u> Properties of shapes Parts of a circle Constructions	edges, faces, vertex, vertices, plane, parallel, perpendicular, regular polygon, reflective symmetry, rotational symmetry, locus, locii, compass, right-angle, equilateral, scalene, isosceles, radius, diameter, circumference, arc, sector	Knowledge of basic 2D and 3D shapes; Drawing and Measuring Angles	Technology – packaging Art – shape, proportion and scale drawings Technology – isometric drawing Outdoor Education - bearings	

Oswaldtwistle School KS3 Maths Long Term Plan

	Topic	Key Words	Links to previous learning	Links to wider curriculum	
SPRING 1	<u>Algebra 1</u> Basic algebra Collecting like terms Substitution Expanding brackets Factorising	algebra, expression, term, formula, formulae, equation, variable, represent, substitute, evaluate, like terms, simplify, collect, negative numbers, factors	Factors, BIDMAS, Addition, Subtraction, Multiplication, Division	PE – substituting in football Science – molecules, reproduction rates	English - mathematical vocabulary
	<u>FDP 1</u> Convert between Fractions, Decimals and Percentages Ordering Fractions, decimals and percentages Fractions of amounts	fraction, mixed number, improper fraction, proper fraction, top heavy fraction, percentage, decimal, terminating, recurring, simplify, cancel, numerator, denominator	Equivalents between fractions, decimals and percentages, Ordering whole numbers, negatives and decimals, Simplifying fractions	Art – fractal patterns, proportions	
	<u>Proportion 1</u> Multiplicative relationships Unitary Method Simplifying ratio Applied ratio and scales Sharing in a ratio Direct proportion Currency conversions Compound measures	ratio, proportion, compare, comparison, part, whole, scale, simplify, common factor, cancel, lowest terms, unit, proportional, multiplier, speed, unitary method, direct proportion	Multiplication and Division, Factors and Multiples, Currency, Ratio, Scale Factors, Simplifying Fractions	Art - shape, proportion and scale drawings Science – proportion of components, scaling amounts, compound measures Arts Award – drawing maps to scale Humanities – international currencies	
SPRING 2	<u>Sequences</u> Number sequences Nth term	sequence, linear, term, difference, term-to-term rule, position-to-term rule, ascending, descending	Sequences and patterns, Differences, Counting on and back	Art – patterns and repeating designs	
	<u>Shape 2</u> Using measuring instruments accurately Metric units	length, distance, mass, weight, volume, capacity, m, cm, mm, tonne, kilogram, g, milligram, L, ml, inch, foot, yard, pound, ounce	Place value, Ratio, Using a ruler	Arts Award – drawing maps to scale Science – units of measure Outdoor Education – average speeds Nurture – maps	
	<u>Shape 3</u> Types of angles Angles in Triangles Angles in special quadrilaterals Angles at a point Angles on a straight line Angles in parallel lines	angles, degrees, right angle, acute angle, obtuse angle, reflex angle, protractor, vertically opposite, geometry, geometrical, alternate, corresponding, congruent	Acute, Obtuse and Reflex Angles, Angles in Triangles, Quadrilaterals, Around a Point and on a Straight Line	Construction – measuring and constructing non-perpendicular joins	
	<u>FDP 2</u> Percentages of an amount Decimal multipliers Simple interest	percent, percentage, multiplier, increase, decrease	Order FDPs, Calculating 10%, 5%, 25% and 50%	Construction – enlargement/reduction CFL – financial skills Science – analysing results of practical work	

Oswaldtwistle School KS3 Maths Long Term Plan

	Topic	Key Words	Links to previous learning	Links to wider curriculum	
SUMMER 1	<u>Algebra 2</u> Function Machines Solving single step equations Solving 2 step equations Solving multi-step equations Rearranging formulae	algebra, algebraic, algebraically, unknown, equation, operation, solve, solution, brackets, symbol, substitute	Solving Simple one Step Equations, Collecting Like Terms, Expanding Brackets	Science – scientific equations	English - mathematical vocabulary
	<u>Shape 4</u> Area Perimeter Volume Parts of a circle	perimeter, area, volume, surface area, capacity, square, rectangle, parallelogram, triangle, trapezium, polygon, cube, cuboid, mm^2 , cm^2 , m^2 , km^2 , cm^3 , m^3 , formula, formulae, length, breadth, depth, height, width	Knowledge of formulae for area and perimeter for all 2D shapes, Units of measure, Names of 2D and 3D shapes	Technology – packaging, product design Science – surface area, capacity	
SUMMER 2	<u>Transformations</u> Reflections Rotations Translations Enlargements	coordinates, axis, axes, x-axis, y-axis, origin, quadrant, translation, reflection, rotation, transformation, object, image, congruent, congruence, mirror line, vector, centre of rotation	Coordinates, symmetry	Art – enlargements	
	<u>Statistics 1</u> Mean, Median, Mode and Range Frequency Tables Estimated Mean	mean, median, mode, range, measure, data, statistics, approximate, round, data, categorical data, discrete, data	Averages, simple graphs	English – Oliver Twist – analysing data PSHE – statistics/trends on various key topics Humanities – population growth	
	<u>Statistics 2</u> Bar Charts Line Graphs Frequency Diagrams Pie Charts Scatter Graphs	pictogram, symbol, key, frequency, table, frequency table, tally, bar chart, time graph, time series, scale, graph, axis, axes, line graph, pie chart, sector, angle, maximum, minimum, average, spread, consistency	Knowledge of graphs, Tables and Charts, Read and Represent Data, Ordering Numbers, X and Y Axis	English – Oliver Twist – analysing data PSHE – statistics/trends on various key topics Humanities – population growth	