

Autumn Term

UNIT 1a: BIDMAS, Inverse and Negative Numbers

Prior Learning

Topic	Hegarty Clip Number
Order positive and negative integers and decimals.	37
Square a number	99
Add, subtract, multiply and divide whole numbers	18/19/21/22

Learning Objectives

Topic	Hegarty Clip Number
Simple subtraction	19
Subtracting with negatives	41
Dividing with negatives	43
Worded problems with negatives	41
BIDMAS	24
Adding brackets to make a statement correct	24
Using inverse operations	177
Interpreting a statement with BIDMAS	24

UNIT 1B: Decimals, Rounding and Estimating

Prior Learning

Topic	Hegarty Clip Number
Identify place value.	13
Add and subtract decimal numbers	47
Multiply whole numbers	43
Round to the nearest 100, 10 and whole number.	17
Multiply and divide by powers of 10.	15

Learning objectives

Topic	Hegarty Clip Number
Round to decimal places	56
Round to significant figures	130
Multiplying decimals	48
Multiplying with money	745
Estimation (worded)	131/750
Using estimation to check answers	131
Using related calculations	136
Worded decimal multiplication	51
Worded division with decimals	51
Estimating harder calculations	131
Estimating roots	112

UNIT 1c: Powers, Roots and Index Laws

Prior Learning

Topic	Hegarty Clip Number
Times tables	10
Understand some square and square roots	99/101
Calculate with negative numbers	41/42

Learning objectives

Topic	Hegarty Clip Number
Cube numbers	100
Square a number	99
Square root a number	101
Cube a number	100
Apply powers to negative numbers	100
Simplify using index laws	106
Simplify using power of 0	103
Simplify using negative indices	104
Solve equations using index laws (multiplying)	105
Solve equations using index laws (brackets)	107
Identify cube roots (calculator)	101
Apply a power to a number	102
Apply a power to a decimal	102
Cube root a decimal	101
Use a calculator effectively	129
Complex calculations using a calculator	129

UNIT 1d: Factors Multiples and Primes

Prior Learning

Topic	Hegarty Clip Number
Multiple	33
Factors	27
Prime numbers	28

Learning objectives

Topic	Hegarty Clip Number
Square number	99
Multiple	33
Factors	27
Prime numbers	28
Lowest common multiple	34
Prime factors	29
Lowest common multiple using prime factors	35
Prime factors (higher numbers)	30
HCF and LCM	31/34
Problem solving with factors	27/18
LCM (worded)	36

UNIT 2a: Simplifying Expressions and Index Laws

Prior Learning

Topic	Hegarty Clip Number
Calculate with positive and negative integers.	42
Find the perimeter of 2d shapes	549
Form basic algebraic expressions	151

Learning objectives

Topic	Hegarty Clip Number
Simplifying expressions (basic)	156
Simplifying expressions (different variables)	156
Simplifying (multiplying)	158
Simplifying (multiplying the same variable)	173
Simplifying (dividing)	159
Index laws (multiplying)	105
Index Laws (dividing)	106
Index Laws (brackets)	158
Index Laws (complex division)	159
Forming expressions	153
Forming more complex expressions	153
Forming expressions linked to shape	153/550

UNIT 2b: Expanding and Factorising

Prior Learning

Topic	Hegarty Clip Number
Multiply negative and positive terms.	42
Simplify algebraic expressions.	156
Find HCFs of number pairs.	31

Learning objectives

Topic	Hegarty Clip Number
Expanding a single bracket	160
Expanding and simplifying two brackets	161
Factorising (one factor)	168
Factorising (more than one factor)	169

UNIT 2c: Expressions, Formula and Substitution

Prior Learning

Topic	Hegarty Clip Number
Apply the four operations.	18/19/21/22
BIDMAS	24
Recall square numbers.	99
Write simple expressions.	152

Learning objectives

Topic	Hegarty Clip Number
Substitute into an expression	781
Substitute into an expression with a power	783
Substitute into an expression with negatives	784
Form simple expressions	153
Use a worded formula	155
Substitute into a formula	155

Spring Term

UNIT 3a: Tables

Prior Learning

Topic	Hegarty Clip Number
Counting tally symbols and drawing tally charts.	401
Read values from a frequency table	-
Find the mode from a set of numbers or words	
Convert between 12- and 24-hour clock times.	709
Calculate with time.	711

Learning objectives

Topic	Hegarty Clip Number
Reading information from tables	-
Tally charts	401
Distance tables	-
Problem solving using a table	-
Using multiple tables to solve problems	-
Complete a two-way table	423
Draw a two-way table	424

UNIT 3b: Drawing and Interpreting Charts and Graphs

Prior Learning

Topic	Hegarty Clip Number
Interpret basic bar charts	425
Interpret basic pictograms	426
Place numbers in order of size.	14
Calculate the mode and range from a set of data	404/410

Learning objectives

Topic	Hegarty Clip Number
Reading information from bar charts	425
Drawing a suitable diagram	-
Interpreting a graph	894
Time series graphs	450
Interpret a stem and leaf diagram	430
Draw a stem and leaf diagram	431

UNIT 3c: Pie Charts

Prior Learning

Topic	Hegarty Clip Number
Know the number of degrees in a circle.	812
Draw a given angle.	461
Find a fraction of a quantity.	77
Simplify a fraction	61

Learning objectives

Topic	Hegarty Clip Number
Draw a pie chart	427
Interpret a pie chart	429
Interpret a pie chart (harder)	429

UNIT 3d: Scatter Graphs

Prior Learning

Topic	Hegarty Clip Number
Plot points on a coordinate grid	199
Read values from graphs.	425

Learning objectives

Topic	Hegarty Clip Number
Identify/interpret outliers	454
Draw a line of best fit	454
Identify correlation	454
Estimate a result	454
Interpreting statements about future results	454

UNIT 4a: Fractions

Prior Learning

Topic	Hegarty Clip Number
Identify equivalence in fractions.	59
Show a fraction as a shaded region	58
Interpret a shaded region as a fraction	58
Find the LCM of 2 numbers	34
Write fractions in their simplest form.	61
Convert between units of length.	692

Learning objectives

Topic	Hegarty Clip Number
Compare fractions	60
Order fractions	60
Convert between mixed/improper fraction	63
Multiply fractions	68
Add fractions	66
Fraction of an amount	77
Reserve fractions	79
Worded fraction problems	80
Divide fractions	70

UNIT 4b: Fractions, Decimals and Percentages

Prior Learning

Topic	Hegarty Clip Number
Identify the (place) value of a digit in a decimal number.	45
Convert between common fractions and decimals.	73
Write common fractions and decimals as percentages.	75

Learning objectives

Topic	Hegarty Clip Number
Decimals to percentages	55
Decimals to fractions	52
Fractions to decimals	73
Fractions to percentages	75
Fractions to percentages (harder)	75
Percentage to fraction	82
Writing one number as a fraction of another	62
Writing one number as a percentage of another	76
Order fractions, decimals and percentages	149

UNIT 4c: Percentages

Prior Learning

Topic	Hegarty Clip Number
Find simple percentages of quantities (1%, 10%, 50% etc)	84

Learning objectives

Topic	Hegarty Clip Number
Percentages of amounts	84
Harder percentages of amounts	85
Percentage decrease	88
Percentage increase	88
Repeated percentage change	91
Worded percentage problem	98
Simple interest	93
Compare two values using percentages	753

UNIT 5a: Equations

Prior Learning

Topic	Hegarty Clip Number
Understand and use inverse equations.	-
Simplify expressions.	156
Expand a single bracket, involving positive and negative numbers.	160
Form simple expressions	151

Learning objectives

Topic	Hegarty Clip Number
Solve one step equations	822
Solve two step equations	561
Form and solve equations (shape)	562
Form and solve equations (words)	562
Solve equations (x on both sides)	562
Use inverse operations to solve an equation	563
Use a function machine	564
Solve equations (brackets)	564

UNIT 5b: Inequalities

Prior Learning

Topic	Hegarty Clip Number
Compare integers	14

Learning objectives

Topic	Hegarty Clip Number
List integer values that satisfy a inequality	267
Write an inequality from a number line	266
Solve an inequality	269
Represent an inequality on a number line	265
Solve a double-sided inequality	269
Identify an integer that satisfies 2 inequalities	268/269

UNIT 5c: Rearranging Formulae

Prior Learning

Topic	Hegarty Clip Number
Identify the inverse of all four operations.	18/19/21/22
Substitute into expressions and formulae	780
Solve an equation	179

Learning objectives

Topic	Hegarty Clip Number
Rearranging formulae (2-step)	281

UNIT 5d: Sequences

Prior Learning

Topic	Hegarty Clip Number
Find the missing numbers in simple arithmetic sequences.	197
Write down missing terms in sequences.	197
Find the term-to-term rule.	197
Substitute into a simple expression.	780
Solve simple equations	179

Learning objectives

Topic	Hegarty Clip Number
Find the next term in a sequence	198
Find the nth term	198
Draw the next term in a picture sequence	196
Calculate terms in a picture sequence	196
Find the nth term from a picture sequence	198/196
Determine if a number is in a sequence	198
Work with decreasing sequences	198/197
Recognise patterns in sequences	198

Summer Term

UNIT 6a: Properties of Shape and Parallel Lines

Prior Learning

Topic	Hegarty Clip Number
Identify lines of symmetry in 2D shapes.	827
Identify 2d shapes	822
Identify different types of triangles.	823
Know that the angles in a triangle sum to 180° .	845
Identify acute and obtuse angles.	455
Understand what parallel Lines are	821

Learning objectives

Topic	Hegarty Clip Number
Identify quadrilaterals	824
Properties of quadrilaterals	825/826
Vertically opposite angles	480
Angles in parallel lines/triangles	490
Angles in parallel lines/triangles (harder)	491
Multi-step angle problems (triangles)	488
Isosceles triangles	823
Co-interior angles	482

UNIT 6b: Angles in Polygons

Prior Learning

Topic	Hegarty Clip Number
Know the properties of special triangles and quadrilaterals.	823/824
Angles on a straight line	477

Learning objectives

Topic	Hegarty Clip Number
Identifying polygons	822
Missing angles in quadrilaterals	560
Calculate the sum of interior angles	561
Calculate the size of one angle	562
Missing angles in compound diagrams	562/812
Missing interior angles (split polygon)	562/486
Calculating exterior angle	563
Calculating number of sides	564

UNIT 7: Averages

Prior Learning

Topic	Hegarty Clip Number
Divide numbers	22
Identify the mode.	404
Complete a tally chart and frequency tables	401

Learning objectives

Topic	Hegarty Clip Number
Median	409
Range	410
Mean	405
Mean (with negatives)	406
Mean from a frequency table	417
Choosing the best average	413
Problem solving using the mean	420
Modal class	415
Estimate for the mean	418

UNIT 8a: Area and Perimeter

Prior Learning

Topic	Hegarty Clip Number
Identify different types of triangles and quadrilaterals	823/824
Identify properties of triangles and quadrilaterals	823/824
Convert between metric units of measure	962
Form simple expressions	151

Learning objectives

Topic	Hegarty Clip Number
Find the perimeter using squares	548
Find the area using squares	553
Area of compound shape (rectangle/triangle)	558
Perimeter problem solving	550
Area of a rectangle (worded)	554
Area of a rectangle with unit conversions	554/692
Perimeter given the area	554
Area problem solving	557/554
Forming equations with perimeter	552

UNIT 8b: Surface Area and Volume

Prior Learning

Topic	Hegarty Clip Number
Identify the net of a prism	833
Find the area of rectangles	554
Find the area of triangles	557
Decide whether a 3D solid is a prism.	570
Multiply and divide by large powers of 10.	15/16
Convert between units of length.	692

Learning objectives

Topic	Hegarty Clip Number
Properties of a cuboid	830
Volume of a cuboid	568
Volume of a triangular prism	571
Volume (worded)	568
Find the volume given the surface area	590
Surface area of a triangular prism	585
Surface area (worded)	589
Interpret statement (linked to percentages)	88
Convert between units of volume	702