Lode Heath School

Mathematics Department

**Year 7 Higher
Spring Term**

Assignment Title	Unit 5: Decimals	Date set	Spring 1

Summary of Unit 5	Key Words
Ordering and rounding decimals, use of all 4 operations with decimals, conversion between fractions, decimals and percentages, finding percentages of amounts, including increasing and decreasing.	Decimal, integer, order, place value, thousands, hundreds, tens, units, tenths, hundreds, thousandths, percentage, fraction, decimal, equivalent

Prior Knowledge:

1. Write these numbers in order, smallest to largest: 6, 18, -3, 1, -7

2. Multiply 45 x 8

3. Divide 168 ÷ 3

4. What is ½ as a decimal and percentage?

LEARNING JOURNEY

	Task Description
	5.1 Ordering decimals Write decimals in ascending and descending order.
	5.2 Rounding decimals Round to decimal places.
	5.3 Adding and subtracting decimals Add and subtract decimals.

	5.4 Multiplying decimals
	      Multiply a decimal by an integer.
	      Use place value to multiply decimals.

	5.5 Dividing decimals
	      Divide a decimal by a whole number.
	      Divide a number by a decimal.

	5.6 Fractions, decimals and percentages
	      Convert between fractions decimals and percentages.
	      Compare different proportions using percentages.

	5.7 FINANCE: Working with percentages
	      Calculate percentages with and without a calculator.
	      Calculate percentage increases and decreases.
	      Work backwards to solve a percentage problem.

Assignment Title	Unit 6: Angles and shapes	Date set	Spring 1

Summary of Unit 6	Key Words
Know and apply angle properties of lines and shapes. Use congruence and similarity properties. Solve problems using coordinate axes.	Opposite, parallel, angle, perpendicular, degree, acute, prove, horizontal, obtuse, proof, vertical, reflex, diagonal, polygon, triangle, congruent, quadrilateral, equilateral, isosceles, scalene, interior, exterior, right-angle, alternate, corresponding, co-interior.

Prior Knowledge:

1) Complete the sentences:

   a) An _____ angle is less than 90°

   b) An _____ angle is between 90° and 180°

   c) A _____ angle is over 180°

2) What is the total of the angles in a triangle?

3) What is the total of the angles in a quadrilateral?

LEARNING JOURNEY

	Task Description
	6.1 Angles and parallel lines Work out unknown angles when two or more lines meet or cross at a point. Work out unknown angles involving parallel lines.
	6.2 Triangles Describe the line and rotational symmetry of triangles. Understand how to prove that a result is true. Use properties of a triangle to work out unknown angles. Use the properties of isosceles and equilateral triangles to solve problems.
	6.3 Quadrilaterals Describe the line and rotational symmetry of quadrilaterals. Describe the properties of quadrilaterals. Solve problems involving quadrilaterals.
	6.4 Polygons Work out the interior and exterior angles of a polygon.

Assignment Title	Unit 7: Multiplicative reasoning	Date set	Spring 2

Summary of Unit 7	Key Words
Simplify and share in ratio Solve problems involving proportion	Simplify, common factor, share, ratio, inverse, directly, proportional

Prior Knowledge:

1. Find the highest common factor of:

   a) 20 and 8   b) 32 and 16

2. To make some squash you use one part squash for every 100ml of water. I make a jug of squash which holds 850ml of water. How many parts of squash do I need?

LEARNING JOURNEY

	Task Description
	7.1 STEM: Metric and imperial units Convert between metric and imperial units. Use metric units.
	7.2 Writing ratios Write a ratio in its simplest form. Simplify a ratio expressed in fractions or decimals.
	7.3 Sharing in a given ratio Share a quantity in 2 or more parts in a given ratio.
	7.4 Proportion Understand the relationship between ratio and proportion.
	7.5 Proportional reasoning Solve simple word problems involving ratio and direct proportion. Solve simple word problems involving ratio and inverse proportion.
	7.6 Using the unitary method Solve problems involving ratio and proportion using the unitary method. Write ratios in the form 1 : n Solve best buy problems.

Assignment Title	Unit 8: Sequences and graphs	Date set	Spring 2

Summary of Unit 8	Key Words
Find terms in a sequence and find the rule for a sequence. Plot straight line graphs using a variety of methods.	Term, nth, rule, proportion, gradients, plot, gradient, equation, linear function, midpoint.

Prior Knowledge:

1. What comes next in the sequence:

a) 5, 9, 13, 17...

b) 22, 17, 12, 7...

2. Find the value of $2x+3$ when x =4

3. Describe how you would plot these Plot these coordinates (3,2)   (-2 4)

LEARNING JOURNEY

	Task Description
	8.1 Sequences Work out the terms of an arithmetic sequence using the term-to-term rule. Work out a given term in a simple arithmetic sequence.
	8.2 The nth term Work out and use expressions for the nth term in an arithmetic sequence.
	8.3 Pattern sequences Generate sequences and predict how they will continue. Recognise geometric sequences and work out the term-to-term rule.
	8.4 Coordinates and line segments Use positive and negative coordinates. Work out the midpoint of a line segment.
	8.5 Graphs Draw straight-line graphs. Recognise straight-line graphs parallel to the axes. Recognise graphs of y = x and y = −x