



**Lode Heath School**  
**Mathematics Department**  
**Year 8 Foundation**  
**Spring Term**

<b>Assignment Title</b>	<b>Unit 5: Percentages, decimals and fractions</b>	<b>Date set</b>	<b>Spring 1</b>
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<b>Summary of Unit 5</b>	<b>Key Words</b>
Recall and compare similar fractions, decimals and percentages. Work out percentage problems using a multiplier.	Fraction, Decimal, percentage, compare, unitary method.

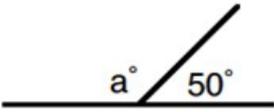
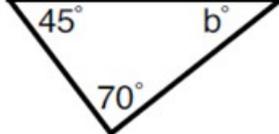
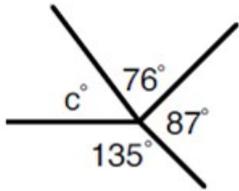
<b>Prior Knowledge:</b>
<p>1. Write down three fractions that are equivalent to <math>\frac{1}{2}</math></p> <p>2. What fractions are equivalent to: a) 50%      b) 25%      c) 75%</p> <p>3. How many quarters make 2 wholes?</p> <p>4. Calculate 10% of 200</p>

## LEARNING JOURNEY

	<b>Task Description</b>
	<b>10.1 Fractions and decimals</b> Recall equivalent fractions and decimals. Recognise recurring and terminating decimals. Order fractions by converting them to decimals or equivalent fractions.
	<b>10.2 Equivalent proportions</b> Recall equivalent fractions, decimals and percentages. Use different methods to find equivalent fractions, decimals and percentages. Use the equivalence of fractions, decimals and percentages to compare proportions.
	<b>10.3 Writing percentages</b> Working out one number as a percentage of another. Working out percentage increase and decrease.
	<b>10.4 Percentages of amounts</b> Use a multiplier to calculate percentage increase and decrease. Use the unitary method to solve percentage problems.
	<b>10.5 FINANCE: Solving problems</b> Use strategies for calculating fractions and decimals of a given number. Use mental strategies of conversion and equivalence of fractions, decimals and percentages to solve word problems mentally.

Assignment Title	Unit 6: Lines and angles	Date set	Spring 1
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Summary of Unit 6	Key Words
Apply the properties of angles to solve geometric problems. Find missing angles in polygons including interior and exterior angles.	Line segment, parallel, perpendicular, horizontal, vertical, diagonal, adjacent, opposite, angle, degree, acute, obtuse, reflex, corresponding, alternate, interior, exterior, bearing, compass, polygon, quadrilateral.

Prior Knowledge
<p>1) Name 2 shapes where all the angles are right angles? How many lines of symmetry does each of your shapes have?</p> <p>2) Find the value of the missing angles:</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>3) What does parallel mean?</p>

## LEARNING JOURNEY

Task Description
<b>6.1 Quadrilaterals</b> Matching quadrilaterals to their descriptions. Using known facts about quadrilaterals to solve problems.
<b>6.2 Alternate angles and proof</b> Using alternate angles to find unknown angles. Using reasoning to complete mathematical proofs.
<b>6.3 Geometrical problems</b> Solving geometrical problems using side and angle properties of triangles and quadrilaterals. Identifying corresponding angles. Solving problems using properties of angles in parallel and intersecting lines.
<b>6.4 Exterior and interior angles</b> Calculating the sum of the interior and exterior angles of a polygon. Calculating the interior and exterior angles of a polygon.
<b>6.5 Solving geometric problems</b> Finding unknown angles by forming and solving equations. Solving geometrical problems showing reasoning.

Assignment Title	Unit 7: Decimals and ratio	Date set	Spring 2
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Summary of Unit 7	Key Words
Order and round positive and negative decimals. Perform the 4 operations with 3 digit decimals. Multiply and divide by 0.1 and 0.01. Solve ratio problems involving decimals.	Unit, ratio, proportion, decimal, place value, inequality, rounding, decimal place, calculate, power, tonne.

Prior Knowledge
<p>1) What is <math>9 \times 0.3</math>?</p> <p>2) What is <math>46.8 \div 9</math>?</p> <p>3) Using estimation, decide if the answers to the following questions are likely to be correct (DO NOT WORK THEM OUT)</p> <p style="text-align: center;">a) <math>232 \times 1.5 = 348</math>                      b) <math>752 \div 13 = 578</math></p> <p>4) Simplify the ratio 15 : 45</p>

## LEARNING JOURNEY

Task Description
<p><b>7.1 Ordering decimals and rounding</b></p> <p>Rounding whole numbers and decimals, to decimal places AND significant figures. Writing large numbers as a decimal number of millions. Ordering positive and negative decimals. Using the symbols <math>&gt;</math> and <math>&lt;</math> between two negative decimals. Using inequality symbols and identify numbers that satisfy them.</p>
<p><b>7.2 Place-value calculations</b></p> <p>Multiplying larger numbers. Multiplying decimals with up to two decimal places. Multiplying any number by 0.1 and 0.01.</p>
<p><b>7.3 Calculations with decimals</b></p> <p>Adding and subtracting decimals of any size. Multiplying and dividing by decimals. Dividing by 0.1 and 0.01.</p>
<p><b>7.4 Ratio and proportion with decimals</b></p> <p>Using ratios involving decimals. Solving proportion problems involving decimals.</p>
<p><b>7.5 STEM: Using ratios</b></p> <p>Solving engineering problems using ratio and proportion. Using unit ratios.</p>

Assignment Title	Unit 8: Calculating with fractions	Date set	Spring 2
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Summary of Unit 8	Key Words
Calculate exactly with fractions and rationalise denominators. Work interchangeably with terminating decimals and their corresponding fractions.	Fraction, decimal, percentage, numerator, denominator, equivalent, cancel, simplify, improper, mixed, express, compare, reciprocal.

Prior Knowledge:
1) a) How do you find $\frac{1}{2}$ of 48?  b) How do you find $\frac{1}{4}$ of 36?  c) Could you explain how to find $\frac{3}{5}$ of 40?  2) Put these fractions in ascending order: $\frac{1}{2}$ , $\frac{1}{8}$ , $\frac{1}{10}$ , $\frac{1}{12}$  3) What is 25% as a fraction and decimal?

## LEARNING JOURNEY

Task Description
<b>8.1 Adding and subtracting fractions</b> Adding and subtracting fractions with any size denominator.
<b>8.2 Multiplying fractions</b> Multiply integers and fractions by a fraction Use appropriate methods for multiplying fractions.
<b>8.3 Fractions, decimals and reciprocals</b> Convert fractions to decimals. Write one amount as a fraction of another. Find the reciprocal of a number.
<b>8.4 Dividing fractions</b> Divide integers and fractions by a fraction. Use strategies for dividing fractions.
<b>8.5 Calculating with mixed numbers</b> Use the four operations with mixed numbers.