Lode Heath School

Mathematics Department

Year 10 Higher

Assignment Title	Unit 4: Probability	Set	Spring

Summary of Unit 4	Key Words
Calculate probability for mutually exclusive, combined, and independent events. Calculate probabilities for repeated events and conditional events. Use Venn diagrams and set notation.	Events, outcomes, experimental, theoretical, independent, combined, conditional, Venn diagrams, set notation,.

Prior Knowledge:

1. In a game, a fair spinner is spun; the probability of landing on each of the four colours is equal. If I spin it 100 times, how often would I expect to see a green?

2. 32 pupils are asked if they wear glasses. 6 of the 18 girls who were asked said they wore glasses. 10 of the boys asked did not wear glasses.

    a) Draw and complete a table to show this information

    b) What is the probability a person chosen at random is a boy with glasses?

LEARNING JOURNEY

Level	Task Description
4-6	**4.1 Combined events** Use the product rule for finding the number of outcomes for two or more events. List all the possible outcomes of two events in a sample space diagram.
4-5	**4.2 Mutually exclusive events** Identify mutually exclusive outcomes and events. Find the probabilities of mutually exclusive outcomes and events. Find the probability of an event not happening.
4-5	**4.3 Experimental probability** Work out the expected results for experimental and theoretical probabilities. Compare real results with theoretical expected values to see if a game is fair.
4-6	**4.4 Independent events and tree diagrams** Draw and use frequency trees. Calculate probabilities of repeated events. Draw and use probability tree diagrams.
6-7	**4.5 Conditional probability** Decide if two events are independent. Draw and use tree diagrams to calculate conditional probability. Draw and use tree diagrams without replacement. Use two-way tables to calculate conditional probability.
5-7	**4.6 Venn diagrams and set notation** Use Venn diagrams to calculate conditional probability. Use set notation.

Assignment Title	Unit 5: Similarity and congruence	Set	Spring

Summary of Unit 5	Key Words
Be able to spot and prove if shapes are congruent. To use the ratios to find missing lengths, areas and volumes in similar shapes.	Congruence, side, angle, compass, construction, shape, volume, length, area, volume, scale factor, enlargement, similar, perimeter, frustum.

Prior Knowledge:

1) What is the missing angle in a triangle if the other two angles are 65° and 85°?

2) What do angles around a point add up to?

3) What do you know about opposite angles in a parallelogram?

4) What is the volume of a cuboid of lengths 4cm, 5cm and 8cm?

5) What is the scale factor of a side that has increased from 4cm to 12cm?

6) What is the cube root of 125?

LEARNING JOURNEY

Level	Task Description
4-5	**5.1 Congruence** Show that two triangles are congruent. Know the conditions of congruence.
5-7	**5.2 Geometric proof and congruence** Prove shapes are congruent. Solve problems involving congruence.
4-5	**5.3 Similarity** Use the ratio of corresponding sides to work out scale factors. Find missing lengths on similar shapes.
6-7	**5.4 More similarity** Use similar triangles to work out lengths in real life. Use the link between linear scale factor and area scale factor to solve problems.
6-8	**5.5 Similarity in 3D solids** Use the link between scale factors for length, area and volume to solve problems.