Home-School Learning Collaboration – Mathematics

Topics in this cycle: Summer 2	Taught:	Year Group: 9

Key knowledge/concepts to be learnt ('Tell me about….')	Websites/blogs/YouTube links and further reading to deepen and consolidate learning
Rates • Solve SDT problems • Use distance-time graphs • Solve DMV problems • Solve flow problems and their graphs • Rates of change and their units	https://vimeo.com/542185518 https://vimeo.com/542187014 https://vimeo.com/542186927
Probability: • Relative frequency / expected outcomes • Use tree diagrams • Use tree diagrams 'without replacement' • Use diagrams to work out problems • Probability - mixed problems	https://vimeo.com/548330422 https://vimeo.com/696461943
Algebraic Representation: • Draw quadratic graphs • Interpret quadratic graphs • Interpret other graphs, including reciprocal and piece-wise • Represent Inequalities on a number line • Solve simultaneous equations Graphically	https://vimeo.com/597236425 https://vimeo.com/617794436 https://vimeo.com/643414214

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Key Vocabulary and Definitions To Be Learnt	
Gradient	Steepness on a line
Rate of change	Tells us how fast something changes in tame
Event	A set of outcomes
Outcome	Is a possible result of an experiment
Probability	A chance that something will happen
Fair	Equal chances
Biased	Probabilities of outcomes are different
Experimental probability	Probability found based on an experiment (trial)
Independent outcomes	When one outcome does not influence the answer for another
Parabola	A graph of quadratic function (u-turn)
Turning point	A maximum or minimum point of a quadratic function
Roots	Points where a quadratic function passes through x-axis (function can have one, two or no roots)

What Will The Assessment Look Like?

During assessment week students will be assessed on questions applying their skills on these units, including problem solving tasks, which could link multiple topics. They may also require the use of a calculator.

Family Learning Opportunities

Support you child at busting XP levels on SPARX MATH HOMEWORK.

Test understanding by asking questions:

Rates

- Convert compound units

If you know a speed in kilometres per hour, what steps would you take to convert it to metres per second?
What's the same and what's different about the units g/cm3 and kg/m3?
What do these units both measure?
Explain why 1 m3 is not equal to 100 cm3

Probability:

- Use tree diagrams

How many branches need to be drawn for the information given?
Why do we multiply probabilities along the branches of a tree diagram but add probabilities of outcomes?

- Use tree diagrams 'without replacement'

Why the probability of picking and eating sweets from a bag is different each time?

	Algebraic Representation: • Solve simultaneous equations graphically What values of x and y do you use to find where straight line graphs meet the coordinate axes? How do you check the solution to a pair of simultaneous equations? **More:** Challenge: finding out what conditional probability is: https://vimeo.com/696462401