Maths: Year 10 & 11

We strongly encourage all Key Stage 4 students to access their main school's online learning platforms as these resources will be tailored specifically towards the GCSE syllabus you are entered for.

We know, however, that sometimes it can be difficult to access these platforms from inside the hospital, so we want to also show you some of the Oak National Academy online resources that you can access through your laptop, tablet or phone.

As well as pinpointing the resources we think might be useful for you, we are happy to offer you online face to face sessions through zoom or google meet. These sessions will allow you to speak to a qualified teacher and ask them any questions you might have. You can also request teaching sessions that are focused upon particular skills or content that you would like help with. You will also be able to email work to the teacher who will provide you with feedback and ideas for improving your understanding.

Provided on the next page is suggested maths topics and lessons. This is an "express" sequence to consider that there has been disrupted learning in 2019-20. There are 3 possible pathways available:

- **i) Foundation for pupils aiming for a Grade 4**
- **ii) Core for pupils who will take the Higher Tier paper but are aiming for a grade 5 or 6**
- **iii) Higher Tier for pupils aiming for a Grade 7+.**

If units are labelled in red then they are a combination of the units. Click on the topic hyperlinks to take to the series of lessons for that topic.

Topic	Aiming for a 4	Aiming for 5/6	Aiming for 7/8/9
Number 1	Directed Numbers and 4 rules, Rounding and Estimating	Types of Number, Roots and indices	Fractional indices
	Fractions 1 and 2	Rounding and Estimating	Upper and lower bounds
Algebra 1	Expand and Simplify, Factorise Linear, Solving Equations 1 and 2	Solving Equations 1 and 2	Algebraic Fractions
		Inequalities	Factorise and solve a quadratic (a>1)
		Factorise and solve a quadratic (a=1)	Further quadratics equations
FDP	Percentages and FPD Equivalence	Percentage Increase/Decrease	Recurring decimals
Shape 1	Angle Facts and Parallel Lines	Angle Facts and Parallel Lines	Circle theorems 1
	Polygons 1 and 2	Polygons 1 and 2	Circle theorems 2
Graphs	Simple Graphs and Straight Line Graphs 1	Straight line graphs 1/2	Quadratic Graphs, Cubic and reciprocal graphs, Circle Graphs

	Quadratic Graphs and Travel Graphs	Quadratic Graphs, Cubic and reciprocal graphs	Straight line Graphs 2, Higher Straight lines
Ratio and proportion	Ratio	Ratio 1 and 2	Compound Measures/ Direct and Inverse Proportion
	Ratio 2	Compound Measures/ Direct and Inverse Proportion	Further Graphs
Shape 2	Area and Perimeter, Circles	Parts of circle 1/2	Parts of circle 1/2
	Volume and Surface Area 1	Volume and surface 2 and Views and Maps	Volume and surface 2 and 3
Data	Charts and tables and Frequency Charts	Scatter graphs and Frequency Trees and Averages	Higher Data Collection
	Scatter graphs and Frequency Trees and Averages	Higher Data 1	Histograms
Algebra 2	Substitution and rearranging formulae and rules of indices	Substitution and rearranging formulae and rules of indices	Quadratic Sequences and Further Algebra
	Linear Sequences	Linear and Quadratic sequences	Algebraic Proof and Functions
	Pythagoras 1	Pythagoras 1 and 2	Advanced Trigonometry 1,2 and 3

Pythagoras and Trigonometry	Pythagoras 2	Trigonometry 1 and 2	
Number 2	Factors, Multiples and Primes/ Venn Diagrams	Repeated Percentage Change	Simplify Surds and Add Surds
	Standard Form Convert/4 Operations	Standard Form - 4 operations	Multiply and Divide Surds
Probability	Probability 1 and 2	Probability 2 and 3	Higher Probability
Transformations	Bearings/Reflection	Rotation and Enlargement	Enlargement and Similarity
	Rotation and Enlargement	Similarity	Other graphs (Transforming)
Constructions	Views and Maps/Constructions	Constructions and Loci	Constructions and Loci
Algebra 3	Solving Equations 2	Simultaneous Equations	Simultaneous Equations Linear/Quadratic
	Simultaneous Equations	Simultaneous Equations Linear/Quadratic	Solve equations numerically
Vectors	Translate and vectors 1	Vectors 2	Higher Vectors 1 and 2