

Curriculum Overview - Year 8

In Year 8, we aim to consolidate and continue to build on our students' previous learning in maths. Teachers will recap key topics from year 7 and ensure that students who require extra support on these topics are given that whilst the more able students are stretched and challenged through tasks requiring them to apply their knowledge to problem solving tasks. Once the initial foundations that need to be built on are secured we will then introduce new topics and concepts to our students to ensure they are constantly progressing. The focus will again be on the 6 main areas: 'number', 'algebra' 'data and statistics' 'geometry and measure', 'probability' and 'ratio and proportion'.

How can parents best support?

Over the course of the academic year parents and guardians can best support their child in a number of ways.

Firstly a great way to support is by helping your child to complete all of their maths homework on time. At the Sutton Academy we appreciate that maths is not all parents 'cup of tea' so we strive to ensure that you can easily support with any tasks simply by guiding your child in the right direction for support.

Each week your child will be set two pieces of homework by their maths teacher. One of the homework tasks set for our students will be a topic based worksheet designed specifically to aid with retention of key topics that have been learned in previous lessons. You can support your child in completing this by helping them to access the correct Hegarty Maths videos which are provided on every homework task.

The second homework task that students will be set is a Hegarty Maths task. This will be on something that your child needs to revise based on assessment during lesson time and in tracking exams. To support your child in completing this please encourage them to use the website to its maximum potential, completing questions on paper to practise showing their working before inputting their answers. It would also be great if you could ensure that they access the videos that come with any tasks that they struggle with rather than just giving up. As well as completing homework it would be greatly beneficial to encourage your child to use Hegarty Maths independently to practise the skills they have been learning in maths. Using the Hegarty Maths guide that we have created students can easily go over any topics that they have been taught as extra revision.

The document attached details the topics being covered each half term and the respective Hegarty Maths clip numbers that should be used to revise this content.

Unit Title	Learning	How can parents best support specifically each half term?
Half Term 1: Number	<p>At the start of Year 8 the focus is on embedding the key numerical skills that will form the basis of future learning in mathematics. During this time students will learn how to:</p> <ul style="list-style-type: none"> • Understand and use place value • Round accurately to decimal places and significant figures in order to estimate answers • Add, subtract, multiply and divide decimals accurately • Calculate powers and roots including negative powers • Convert numbers in and out of standard form • Identify and list factors, multiples and primes • Calculate fractions of amounts • Add, subtract, multiply and divide fractions and mixed numbers • Solve problems involving percentages with and without a calculator 	<p>This half term it would be great if you could help your child to complete the 'Tracking 1 Revision Guide' given to them by their class teacher. This will be handed out the week before the tracking exams and will replace both pieces of homework that would ordinarily be set that week. Each topic within the revision guide could come on your child's tracking exam so ensuring they spend plenty of time going over these and using the Hegarty clip numbers to revise anything they are a little bit unsure on will really help prepare them for their exams.</p>

<p>Half Term 2: Algebra and Sequences, Ratio</p>	<p>In the second half term our students will begin developing their ability to use algebraic methods to be able to:</p> <ul style="list-style-type: none"> • Construct algebraic expressions from words • Simplify expressions by collecting like terms • Simplify expressions involving multiplication and division • Construct expressions to describe the perimeter of a shape • Expand single brackets • Factorise linear expressions • Substitute numbers into formulae • Solve simple linear equations involving one variable • Solve two step linear equations • Solve linear equations where there is an unknown on both sides of the equal sign • Form and solve linear equations to solve real life problems • Represent and solve inequalities • Rearrange simple formulae • Continue and find terms within a sequence • Determine and use the nth term of a linear sequence <p>Students then move onto study ratio and proportion and learn how to:</p> <ul style="list-style-type: none"> • Simplify ratio • Divide amounts into a given ratio • Convert between currencies • Scale up recipes and solve other real life problems • Use and interpret statements involving direct and inverse proportion 	<p>This half term your child will be bringing home a copy of their personal learning checklist. They will have produced this in lesson time based on their tracking exams and it will clearly show your child's strengths and areas for development. Please celebrate the successes with your child and support them in developing their understanding of the topics that they didn't perform well on using Hegarty Maths. The checklist will state the clip numbers that your child needs to revise to make it easy for them to find what they need quickly. The topics highlighted could come up on the next tracking exams so the more they tick off the better prepared they will be.</p>
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<p>Half Term 3: Geometry</p>	<p>In half term 3 Towards the end of the third half term students begin to study shape and measure, learning how to:</p> <ul style="list-style-type: none"> • Identify irregular and regular shapes by counting faces, vertices, edges • Identify lines of symmetry within 2D shapes. • Draw and measure angles accurately using a protractor • Calculate missing angles around a point, on a line and in triangles • Calculate missing angles in polygons • Calculate missing angles in parallel lines • Construct shapes using a pair of compasses and a protractor • Construct regions using a pair of compasses • Calculate perimeter and area of 2D shapes 	<p>This half term it would be great if you could help your child to complete the 'Tracking 2 Revision Guide' given to them by their class teacher. This will be handed out the week before the tracking exams and will replace both pieces of homework that would ordinarily be set that week. Each topic within the revision guide could come on your child's tracking exam so ensuring they spend plenty of time going over these and using the Hegarty clip numbers to revise anything they are a little bit unsure on will really help prepare them for their exams.</p>
<p>Half Term 4: 2D shapes, Data and Statistics</p>	<p>At the beginning of half term 4 we will continue to study 2D shapes learning how to:</p> <ul style="list-style-type: none"> • Calculate the area and circumference of circles • Forming algebraic expressions involving area and perimeter • Calculate missing lengths using Pythagoras' theorem • Calculate missing lengths and angles using SOHCAHTOA <p>Once students have learned about the properties of 2D shapes they then move onto the Data and Statistics Unit of work learning about:</p> <ul style="list-style-type: none"> • Different methods of data collection • How bias impacts on the accuracy of data • Averages and the range • Representing and interpreting data in pictograms, bar charts, stem and leaf diagrams, two way tables, pie charts and scatter graphs. <p>Towards the end of half term 4 students then go back to learning about shapes by focusing on 3D shapes and learning how to:</p> <ul style="list-style-type: none"> • Identify 3D shapes • Draw nets, plans and elevations for 3D shapes • Calculate the volume of prisms • Calculate surface area • Calculate density 	

<p>Half Term 5: Volume and Surface Area, Graphs and Transformations</p>	<p>In the fifth half term students will then move onto studying graphs looking at:</p> <ul style="list-style-type: none"> • Speed, distance and time • Real life graphs • Straight line graphs • Quadratic graphs • Cubic graphs • Reciprocal graphs <p>Before finishing the half term by looking at how to transform shapes by</p> <ul style="list-style-type: none"> • Reflection • Rotation • Enlargement • Translation 	<p>This half term it would be great if you could help your child to complete the 'Tracking 3 Revision Guide' given to them by their class teacher. This will be handed before the May half term holidays to give your child plenty of time to prepare for the end of year exams. Each topic within the revision guide could come on your child's tracking exam so ensuring they spend plenty of time going over these and using the Hegarty clip numbers to revise anything they are a little bit unsure on will really help prepare them for their exams.</p>
<p>Half Term 6: Probability</p>	<p>At the beginning of half term 6 students conclude their learning on shape for the year by studying similarity and congruence before spending the final weeks focusing on developing an understanding of probability. They will look at how to:</p> <ul style="list-style-type: none"> • Represent probabilities on a probability scale • Write the probability of an event as a fraction, decimal or percentage • Conduct probability experiments • Strategically list the outcomes of an event • Use $1 - p$ to calculate missing probabilities in a table • Use probability to calculate relative frequency • Tree diagrams • Venn diagrams 	<p>Following the end of year exams, your child will be bringing home a copy of their personal learning checklist. They will have produced this in lesson time based on their tracking exams and it will clearly show your child's strengths and areas for development. Please celebrate the successes with your child and support them in developing their understanding of the topics that they didn't perform well on using Hegarty Maths. The checklist will state the clip numbers that your child needs to revise to make it easy for them to find what they need quickly. The topics highlighted are topics that will be built upon in the next academic year so the more they tick off and improve on the better prepared they will be for Year 9.</p>