



Homework map: Mathematics

Year 8 Term 1 - 2019/2020

Students will be set Mathematics homework following the school homework timetable by their class teacher. This will usually take the format of completing activities on Pearson Active Learn that relate to the work that they have been completing in class, to reinforce and strength their knowledge of this work. However, we have also included some research tasks below that students can do on top of the work that will be set by their class teacher.

Enabling individuals to unlock their unique potential			
Homework week	Challenge 1	Challenge 2	Challenge 3
2nd September	Complete a poster or information booklet that shows people how to find the area of different 2-d shapes.	Add to your poster or information booklet details of how to find the volume of different shapes.	Create some questions with model answers on finding the area and volume of shapes.
9th September			
23rd September	Create a poster that explains the order of operations. Remember to give examples and to explain words that you think people may not understand.	Write a series of questions (and model answers) that test a student's ability to complete order of operation questions. Try to create questions that will "trick" them into giving the wrong answer.	Write a couple of paragraphs on why you think we need to have a set way for order of operations.
30th September	Design an information leaflet detailing the different types of graphs and charts that you can use in mathematics.	Find some real-life examples of when graphs and charts are used in the real world. Make a collage of them.	Design a help guide showing some of the mistakes that people make when drawing certain graphs and charts.
14th October	Create a fact sheet that explains the terms "factor", "multiple", "prime numbers", "LCM" and "HCF"	Any whole number can be written as a product of prime factors, research this and explain what it means by way of examples.	Show how you can use product of prime factors to find the HCF and LCM of two numbers.
21st October	Give 5 examples of mathematics in the 'real' world. Why are these useful to understand?	Research 5 careers where an understanding of maths is important—Why?	Find 5 other subjects in school where you need to use mathematics and give examples of the maths that you use in them.

11th November	Design an information booklet that gives the names of 2d shapes. Make sure that you draw pictures for each shape as well using your ruler.	Investigate what the angles add up to in different shapes making sure that you illustrate why this is the case by drawing appropriate diagrams, to explain the method. Also mention the difference between irregular and regular shapes.	
18th November	List the first 12 square numbers and the first 12 triangular numbers. Draw diagrams to represent each one.	Can you find a relationship between two triangular numbers and a square number? Again, use diagrams to help illustrate your point.	Investigate Pascal's triangle. Be creative in what you can find out.
2nd December	Use the internet to research the names of different units that are in use to represent distance, mass, and volume.	What unit conversions do you need for everyday life? (cm to m) How do you convert between units? Draw diagrams and pictures to help students remember what they must do.	If $100\text{cm} = 1\text{m}$, then how many cm^2 are there in 1m^2 . Use the internet to help you and then design a poster on how you convert between units that are squared and units that are cubed.
9th December	Explain who Fibonacci was and what he did for the world of mathematics.	Explain what a Fibonacci sequence is, giving examples and explanations as to how it works.	Give examples of where Fibonacci sequences are found in nature.
16th December	Design a leaflet showing the best thing that you have learnt in Mathematics this year.	Write a 'Fact File' on 3 famous mathematicians. Include a picture, why they are famous and at least 5 facts. Do not copy from the source!	What is the golden ratio?
Useful resources and websites			