

What is Core Maths?

In essence, Core Maths is about using the maths skills you learned at GCSE and applying them to real-world situations.

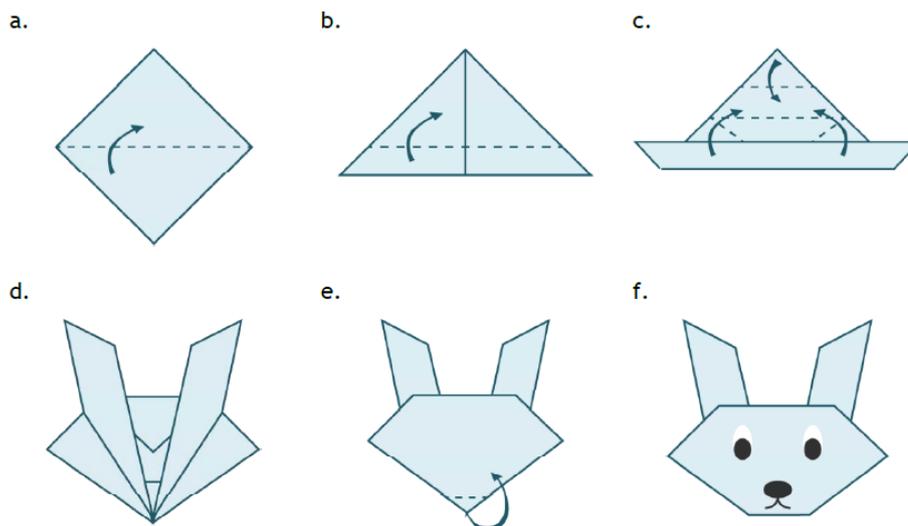
Each week we would like you to complete a practical task and a follow up piece of creative maths. This work will involve research. Revision and use of key maths skills, and developing your communication skills to explain your mathematical thoughts and processes, as well as to justify your conclusions.

Week 1: Cake baking	Metric Measures	Money Calculations	Proportion
<ol style="list-style-type: none">1. Bake the cake. What maths is involved in this activity?2. Write a 1-page plan, including detailed calculations, on how much money you could fundraise from making and selling this cake. You will need to consider:<ul style="list-style-type: none">• Cost of ingredients per cake;• How many cakes you can make, so how many slices you sell;• How much money you make, so how much profit;• Is this a good profit percentage, so worth doing?• Consider time, set-up, energy and other costs.			

Week 2: Climb Ben Nevis	Metric Measures	Estimation
<ol style="list-style-type: none">1. Walk up and down your stairs (or a staircase at school). What height do you climb? How long does it take you?2. Research. How high the largest mountain in the UK, Ben Nevis, is.3. Calculate how long it would take you to complete the challenge of climbing the height of Ben Nevis at home.4. Produce a double page magazine article on the 'Ben Nevis' home challenge. This could be as part of a daily fitness plan over a period of time, or a one-off charity event.		
		

Week 3: Paper folding	2D Shapes	Place value and large numbers	Calculations
<p>1. Mark an origami shape. You can follow the instructions on this page for a simple rabbit face, or find/create your own.</p> <p>2. Investigate the maths of doubling. Each time a piece of paper is folded, the number of layers doubles: 1 fold = 2 layers, 2 folds = 4 layers, 3 folds = 8 layers, 4 folds = ? How thick is a single piece of paper, so how big is it after 5 folds? 50 folds?</p> <p>3. Create a poster or PowerPoint for teaching younger students about large numbers and powers of 2 using this activity.</p>			

- a) Start with a square sheet of paper and fold it in half diagonally, to make a triangle.
- b) Make a vertical crease. Fold up a strip along the bottom, as shown by the dotted line.
- c) Fold down the top triangle, as shown by the dotted line. Fold up the two bottom corners towards the centre line, along the dotted lines.
- d) Turn the paper around.
- e) Fold the bottom triangle up, along the dotted line.
- f) Draw a face!



Week 4: Sprouts Game	Statistics
<p>1. Play the Sprouts game. The instructions for this are on this page. Play it a few times, starting with 2 dots, moving on to 3 dots or more. Can you develop a strategy? Should the player who goes first always be able to win?</p> <p>2. Set-up a Sprouts Tournament and submit a 1-page report. This will need to include:</p> <ul style="list-style-type: none"> • How many players were there? What was the tournament structure (knockout competition or league)? • How many matches were played? • What scoring system was used? Was it fair, so did each player have the same chance of getting through to the final? 	

Rules for the Sprouts game:

- a) Start with 2, 3 or more dots.
- b) Player **A** draws a line between 2 dots (or a dot to itself) and makes a new dot on this line.
- c) Player **B** draws a line between 2 dots and makes a new dot on this line.
- d) No dot can have more than 3 lines out of it and lines can't cross each other. The game ends when no more lines can be drawn. The winner is the last person to draw before this happens. In the example below **A** wins.

