

Science Challenge



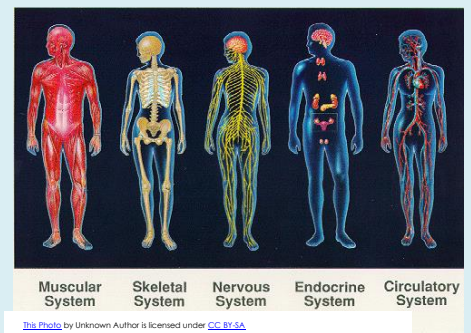
Brilliant Bodies

This week is about learning more about your amazing and brilliant body. This BBC Bitesize page gives you access to a selection of clips and activities on body systems.

Explore the activities here:

<https://www.bbc.co.uk/bitesize/topics/zmjtb9q>

Task 1: Research and find out more about some of the body's main systems such as the digestive, circulatory and respiratory systems.



At the moment, we are all concerned with how our bodies fight infection and the role of our immune system in controlling a virus. This episode of Let's Go Live contains an interesting look at what makes up our blood and how this helps us to keep healthy.

<https://www.youtube.com/watch?v=ro56HE4HQwo>

Think about the components of blood and try to remember what the role of each one was.

Extension Task : Make a labelled drawing of blood as if it was under a powerful microscope. Label the different parts- plasma, platelets, red blood cells, white blood cells and then add a description of their main purpose.

Technology Challenge



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Ready Steady Cook

At a time when we are supposed to limit our visits to supermarkets to maintain social distancing, it is important that we use all the food and ingredients we have in our home so that nothing is wasted.

Can you imitate the television programme, Ready Steady Cook by challenging yourself to create a meal for lunch or dinner, using only a limited number of ingredients?



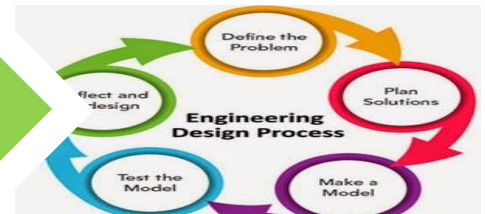
Ask someone in your home to select some ingredients for you to use. You must stick to these ingredients! We suggest you research possible recipes before you start to give you an idea of what you want to achieve (and to make sure the outcome is edible!). Good luck!!

You could write down your recipe and method – incase it is really yummy and you want to recreate it again.



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Engineering Challenge



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Wind Power

We use **electricity** for lots of different things in our day-to-day lives. **Electricity can be generated in different ways for example through wind, water and solar power or by burning fossil fuels.** Watch this [short clip on BBC Bitesize and complete the](#) quick activity after it.

Watch this [interview with William Kamkwamba](#) or the [video of the story 'The boy who harnessed the wind.'](#) They both share the true story of 14 year old William who grew up in a small village in Malawi. **Summarise and share with someone at home** what William did and why he did it. Tell them about challenges he had to overcome when designing and constructing his turbine and how his construction will benefit his community? Are you impressed with his achievement? Why?



Challenge: Construct a wind turbine which can lift a cup off the ground when powered by a hair dryer.

Suggested materials: paper cup, string, straws, paperclips, card, paper, kitchen roll tubes, cellotape or masking tape.

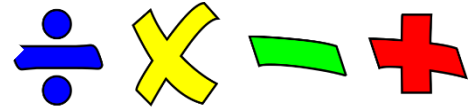
Things to think about when planning and creating your design;

- how you will attach the turbine so that it spins when the hairdryer is on
- size / shape of the blades
- materials and thickness of the blades
- number of blades

[This website](#) has a detailed breakdown of setting up and carrying out the challenge as well as photos of different wind turbine designs which might inspire you!

If your family has **Nefflix**, they have turned William's story into a film: **'The boy who harnessed the wind'**. You might like to watch this inspiring true story together.

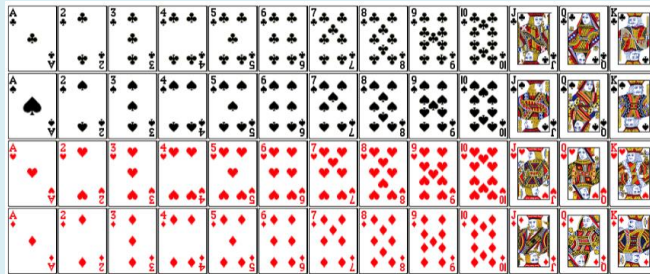
Maths & Numeracy Challenge



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Probability - Pick of the Pack

The probability of an event happening is a measure of how likely it is that it will occur.
 P (probability) = the number of favourable outcomes compared to the number of possible ways it can occur.



Prep

- Pick four types of cards to investigate, such as a colour (red/black), suit (Ace, Hearts, Spades, Clubs), number or face card, and a specific one.
- For example - red cards, spades, kings and the queen of hearts.
- Draw a table to in which to record your data. Make a column for each card type you'll investigate. In the first row write how many of that type of card are in the deck.
- Make 10 rows below this one for the 10 trials you will be doing.

	Red card	Spade	King	Q of Hearts
Probability	26/52	13/52	4/52	1/52
# of turns				

Procedure

- Decide which type of card you will investigate first.
- Draw cards from the top of the deck and flip them over one at a time, counting as you go, and stop when you see that type of card.
 - How many cards did you draw until you reached that card?
 - Write down the answer in your table.
- Shuffle the deck again and repeat this process, flipping over the cards and looking for the same type of card.
 - How many cards did it take this time?
 - Write down the answer in your table.
 - Repeat this for a total of 10 times for one type of card.
- Repeat for the other different types of card on you table

Extra: The probability of drawing a particular type of card also depends on the number of cards drawn each time. Try doing this activity again but draw samples of three, five or seven cards at a time. Do your chances improve as more cards are taken?

Literacy Challenge



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Giving Clear Instructions

Draw, make or print off a map of your local area such as a street map.

Practice giving directions and instructions to find different places.

Describe a route to a family member and see if they can follow it. Write instructions for the quickest route from one place to another. Think about giving clear directions and ensuring they are in sequence.

If you needed to direct someone who did not know the area how well would you do?

For example, could you direct a patient to the nearest hospital? Could you describe the position of the nearest bus stop?

If you have access to a local map such as an ordinance survey map use it to create a route. You could include distances and landmarks and even work out approximately how long the journey could take. If you do not have a map you could use a map view on Google or draw an imaginary one.

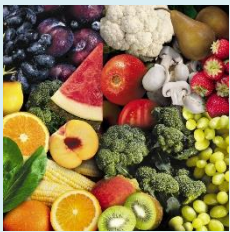




Health & Wellbeing Challenge

Hey, hey! Five a day!

Eating a healthy, balanced diet is really important. A famous initiative promoting a healthy diet is for people to eat their **5-a-day**. You have probably heard of this before!



Watch this [short presentation by Sarah Coe](#), a Research Assistant at the British Nutrition Foundation. Make notes under these headings: **What can be included as one of your 5-a-day? / What counts as a portion? / What are some ways you can easily make sure you have your 5-a-day?**

Using what you've learnt, **design a food menu** for one day in the next week for your family, making sure to include your recommended **5-a-day** of fruit and vegetables. **Create a menu** (hand-drawn or use Microsoft Word/Publisher) showing what the **options for breakfast, lunch, dinner and snacks** are and **find any recipes** you might need to follow to carry it out. **Share it** with your family, **make a shopping list** and **take charge of the meals for a day!**

DAY	BREAKFAST	LUNCH	DINNER	SIDE DISH	SNACK	DESSERT
MON	Paleo Eggs Benedict	Spicy Pulled Pork	Easy Chicken and Vegetables	Kicked Up Artichoke	Collard Wrap	Chocolate Zucchini Brownies

Cooking skills: Improve your skills of **preparing vegetables, cooking and managing your time** by following [this recipe to make a Vegetarian lasagne](#). You might like to make this the dinner option on your menu day!

Social Studies Challenge



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Conduct an Interview

A great way to learn about events in the past is to ask questions of the people who were involved in what took place.

This obviously isn't possible the further back in history that you go but devising an interview with a historical figure can help you understand the event and focus on the aspects which are interesting or important to you.



Choose a person of historical importance and create a list of questions that you'd like to ask that person.

As you write the questions, think of what type of person the figure you have chosen was and how they might be feeling and how they might answer the questions.

If there are questions you want to ask about events but don't know the answers to, then you will need to use your research skills and resources to find what you are looking for.



Expressive Arts Challenge



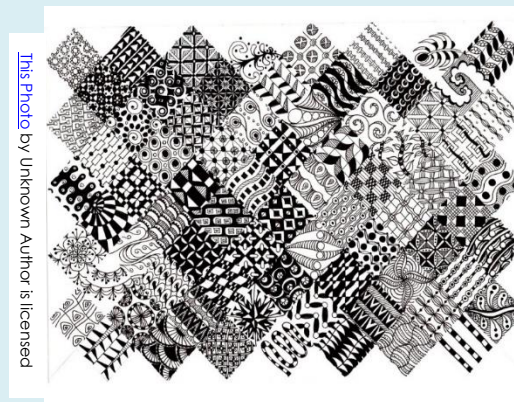
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Zentangles

“Zentangles are miniature pieces of unplanned, abstract, black and white art created through a very specific Method from an ensemble of simple, structured patterns called tangles on a 3.5-inch (89 mm) square paper tile. Zentangles are not only exquisitely beautiful, they are fun and relaxing to create.

The process of creating a Zentangle is a form of “artistic meditation” as one becomes completely engrossed in making each pattern, deliberately focusing on “one stroke at a time”®. The creativity options and pattern combinations are boundless. And anyone can do it!”

from <https://tanglepatterns.com/zentangles>



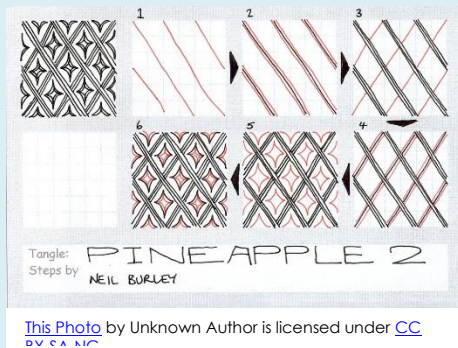
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Challenge:

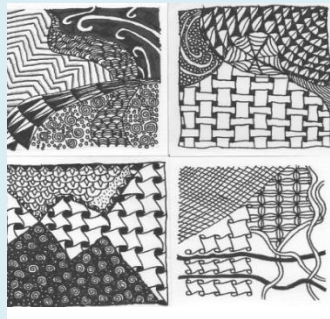
Can you draw some squares and turns them Zentangles?

A video of “20 Easy Zentangle Patterns for Beginners” can be found here –

<https://www.youtube.com/watch?v=yacsONJVXcac>



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