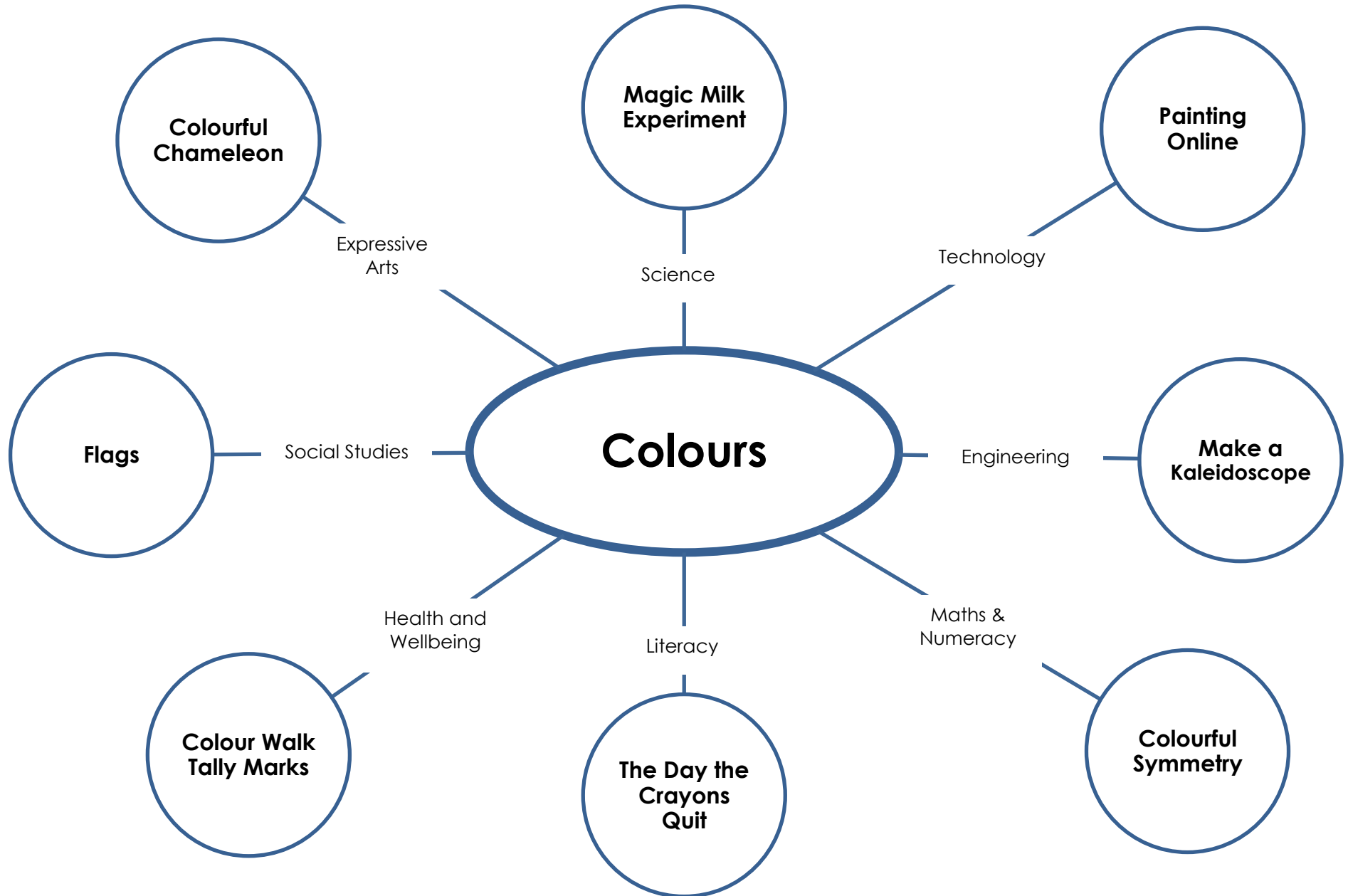


# Learning from Home



# Science Challenge



## Magic Milk Experiment

### You will need:

- Full Fat Milk
- Food Colouring
- Washing up liquid (soap)
- Cotton buds
- Spoon



### Instructions:

1. Start by pouring your milk into a baking dish or a wide bowl. You don't need a lot of milk just make sure you totally cover the bottom.
2. Next add some drops of food colouring. Gently spread some of the colours with a spoon or you could have fun blowing air on the colours and watching them move.
3. Now pour a bit of your washing up liquid into a bowl, touch your cotton swab tip to the soapy liquid to coat it. Bring it over to your milk dish and gently touch the surface of the milk with the soapy cotton bud! What happens?

### The Science:

Milk is made up of minerals, proteins, and fats. When the washing up liquid is added to the milk, the tiny soap particles (molecules) rush around and try to attach to the fat molecules in the milk.



You wouldn't see this without the food colouring! The food colouring looks like fireworks because it is getting bumped around!

The soap heads for the fats creating the cool bursting of colour. When there is no more colour movement, all the fat molecules have been found.

Activity and photos from [littlebinsforlittlehands.com/](http://littlebinsforlittlehands.com/)

# Technology Challenge



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## Painting Online

### Adult Support Required

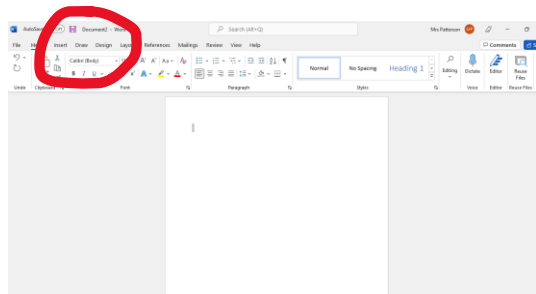
Do you like to draw and paint? Have you ever tried to draw or paint using a computer?

Today we will be trying out some of the tools in Microsoft Paint.

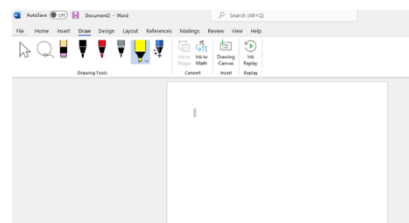
**You will need:** A computer with access to Microsoft Word

### Instructions:

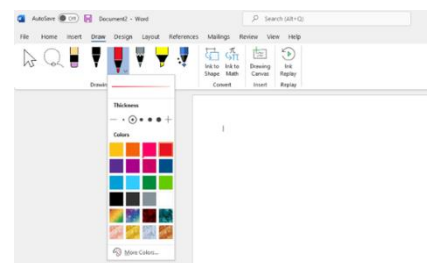
1. Open a **Word** document, then click on the **Draw** option on the Menu bar.



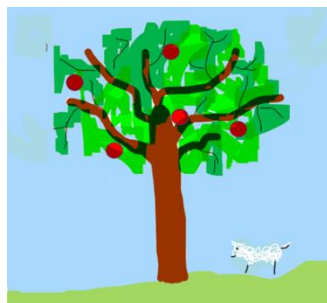
2. Click on the different tools to try them out.




3. Explore the different colours each tool has.

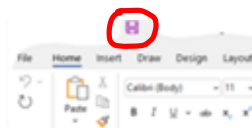


4. Have a go at painting a picture using the different tools and colours.

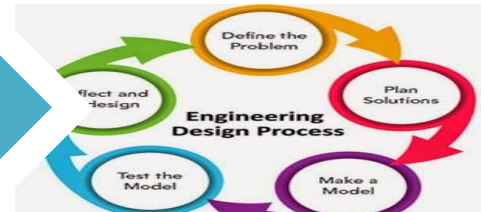


5. When you are happy with your picture, click on **Save**.   
(You might need to ask an adult to help you choose where to save it to.)

**Have fun!**



# Engineering Challenge



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## Make a Kaleidoscope

You will need:

**Adult supervision required!**

- Empty Pringles/ crisps can
- Shimmery scrap-book paper or tin foil
- Scissors
- Tissue paper, glitter, and sequins
- Contact paper (Book film- sticky on one side)
- Clear glue
- Hammer and nail

### Instructions:

1. Rinse and dry the empty crisps can.
2. Roll a piece of shimmery paper /foil and put it inside the can. Cut off any spare.
3. Cover the outside of the can with coloured paper and secure it with tape.
4. Use a hammer and nail to punch an eye hole in the sealed end of the can.  
(Ask an adult to help with this part!)
5. Glue sequins on the inside of the crisps can lid. Add glitter, colourful paper or other embellishments. You can mix clear glue with a bit of water and glitter. Then tear and cut tissue paper to glue to the outside of the lid.
6. You now need a second colourful lens and for this you want to use clear contact paper. Add a little bit of all your decorations. Press another piece of contact paper over the top to seal it.
7. Use scissors and cut the contact paper to fit your can. You will be putting the lid on over this, so make sure it is a tight fit.
8. Glue it to the top of can.
9. Make sure everything is dry then put the lid onto your new kaleidoscope.



**NOTE: Never look directly into the sun as this can seriously damage your eyesight!**

### Using your new kaleidoscope:

While looking through the hole in the base, twist the lid as you point the kaleidoscope up towards a light source. The fixed lens underneath the lid stays in place while the outside lid turns around it mixing all sorts of shimmering colours! The brighter the light the cooler it will look.

The Science: When the light enters the

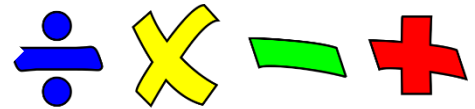
kaleidoscope it bounces off the shimmery paper and is reflected back out in the direction it came in. This creates the colours and patterns you see.



Idea and photos from [littlebinsforlittlehands.com/](https://www.littlebinsforlittlehands.com/)



# Maths & Numeracy Challenge



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## Colourful Symmetry

A shape is symmetrical if a line can be drawn onto it, to show that both sides of the shape are exactly the same. This is called the **line of symmetry**. Shapes can have more than one line of symmetry and some shapes have no lines of symmetry.

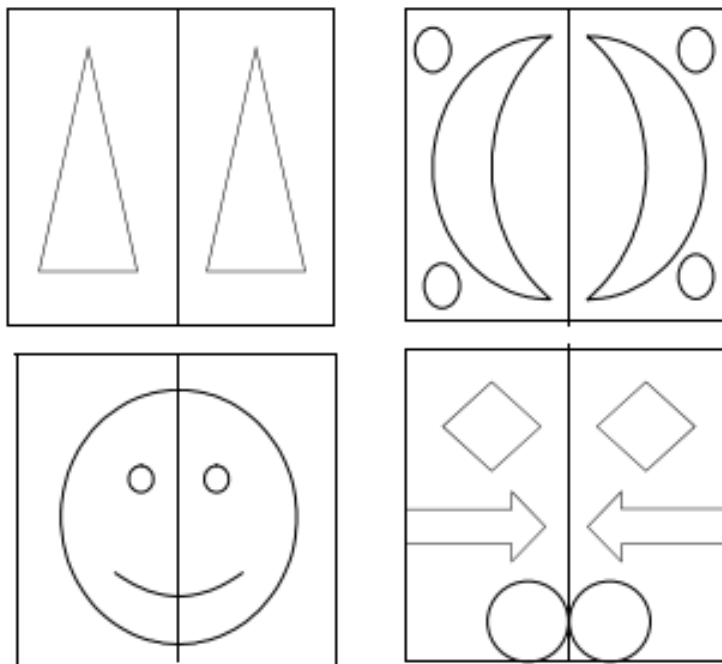
Click here for a fun game about symmetry:

<https://www.topmarks.co.uk/symmetry/symmetry-matching>

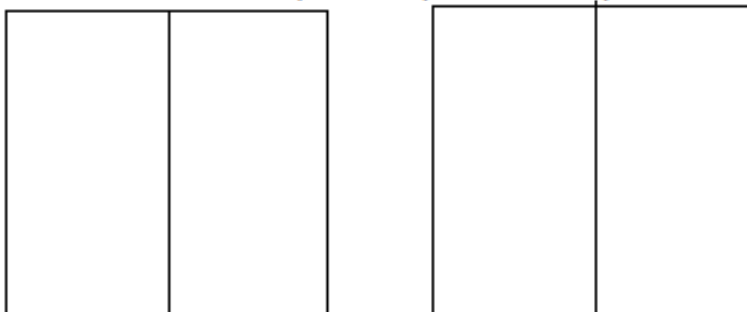


**Task 1: Complete the activity below.**

Make each square symmetrical with colours.



Now make your own symmetrical shapes.

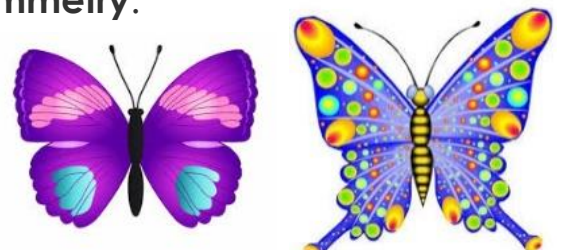


**Task 2:** To check out how symmetry can work in nature, why not make a symmetrical butterfly.

**You will need:** Piece of A4 paper, pencil, paint and paint brushes.

**Instructions:**

1. Fold your paper in half. (Do it longways – vertically)
2. Draw the outline of half of a butterfly on only one half of the paper.
3. Paint your half butterfly – use lots of bright colours.
4. Carefully fold their paper over when still wet and press gently.
5. Now carefully unfold your paper – you should have a beautiful butterfly with a **vertical line of symmetry**.



Clipart from <http://clipart-library.com/>

# Literacy Challenge



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## The Day the Crayons Quit

Watch **The Day the Crayons Quit** by Drew Daywalt @ <https://www.youtube.com/watch?v=489micE6eHU>



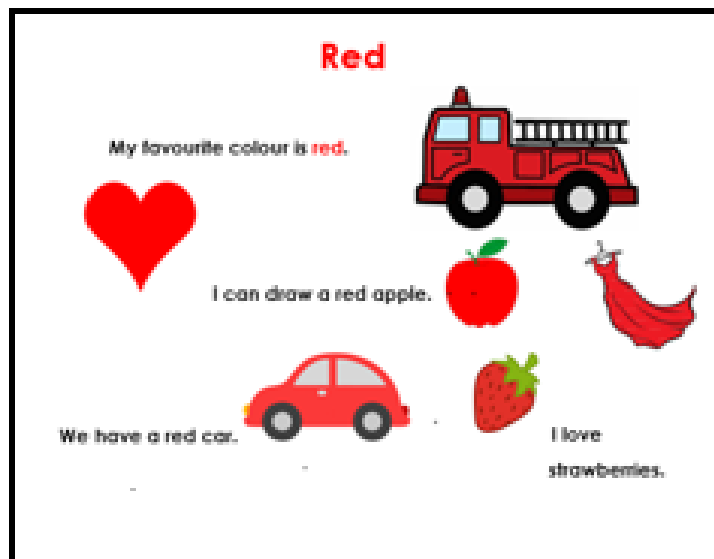
The story is all about colours. Duncan just wants to colour in but when he opens his box of crayons, he only finds letters, all saying the same thing: We quit!

Beige is tired of playing second fiddle to Brown, Blue needs a break from colouring in all that water, while Pink just wants to be used. Green has no complaints, but Orange and Yellow are no longer speaking to each other.

Which colour do you like best? Can you tell someone at home why it is your favourite?

**Your task today** is to make a poster all about your favourite colour. You should include a few sentences explaining your choice. You can also draw some pictures of some things you can draw using that colour. You can ask a grown up at home if you need help with your sentences.

### Example poster



Idea adapted from [www.theoftoolbox.com](http://www.theoftoolbox.com)

Images from <http://clipart-library.com/>





# Health & Wellbeing Challenge

## Colour Walk Tally Marks

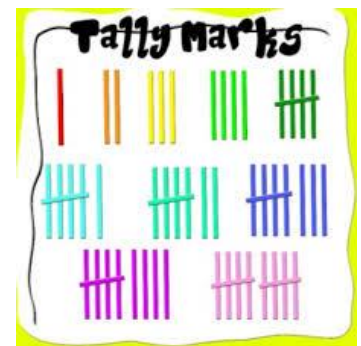
This is a great way to combine exercise with numeracy.












Walking is a very good way to keep fit.

Whether you are walking at school doing a 'mile a day' or if you are at home, going for a daily walk with an adult or even just the walking about that you do within your house and / or garden, you can have a go at this activity.

Tally marks are a form of numeral used for counting. They are most useful in counting or tallying ongoing results, such as the score in a game or when counting a number of objects and you need to be quick without having to rub anything out. Each item you see will earn 1 tally mark. When you count a fifth item you simply put a diagonal line through the 4 tally marks to show you now have 5. When you get to 6, you just start again.



Use this chart to record how many things you spot when you are walking. (Outside in the garden or in the house) **Ask an adult to help count them up at the end if you have lots.**

Colour	Tally Marks
Red 	
Orange 	
Yellow 	
Green 	
Blue 	
Purple 	
Pink 	
Brown 	
Grey 	

# Social Studies Challenge



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## Flags

All countries have their own flags, so do many organisations and groups. The flags are designed to represent the people and the things that are important in those countries, organisations and groups.

**For more information about flags and how they are designed click here:**

<https://www.bbc.co.uk/newsround/26530974>

**Your task:** Design a flag, either for the town or village you live in, a group you belong to – like Cubs, Brownies, Tennis club etc., for your family or even just for yourself.

Think about the colours you would like to use. If you live in the countryside you might want to include lots of green. If you play tennis, you might include yellow circles to represent the tennis balls. Your family might love horses so you could include the horseshoe shapes. If you have a favourite colour you may choose to have this as a background with other important symbols and objects on top.

	<b>Scotland's</b> flag (Saltire), with the cross of Saint Andrew – patron saint of Scotland.
	<b>Canada's</b> flag with a maple leaf which is a Canadian symbol.
	The 'Stars and Stripes' of the <b>USA</b> (the stars represent the different states)
	<b>Argentina's</b> flag - the white strip contains the national emblem called the May Sun. The blue colour in the flag represents the sky, while the white color represents the clouds in the sky.
	The <b>Olympic</b> flag – shows 5 differently coloured rings which represent the 5 different parts of the world united in the games.

Images from <http://clipart-library.com/>

Here are some examples of flags – they use a variety of colours, lines and shapes to split the flags up into sections.

**Try to make your flag stand out, with a simple design. Do not include any words and use four colours at most.**



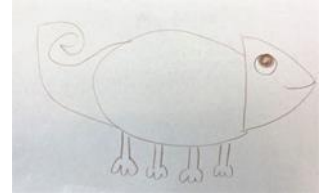
# Expressive Arts Challenge



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## Colourful Chameleon

Chameleons are lizards (reptiles) which can change their own colour to blend in with the background and disguise themselves. When something does this, we say that it is **camouflaged**. Camouflage gives protection to chameleons which means it is harder for other animals which might want to eat them (**predators**) to see them.



Watch **A Color of His Own** by Leo Leoni on YouTube @ <https://www.youtube.com/watch?v=9BiKbspawQM>

### You will need:

- Paper / PDF printout
- Coloured pens and / or pencils (or paints and brushes)
- Black sharpie marker or felt tip
- Scissors
- Glue stick



### Instructions:

1. Go to <https://leahnewtonart.com/wp-content/uploads/2019/08/Gecko.pdf> for a free PDF chameleon outline or have a go at drawing your own.
2. Draw around the outline with a black felt pen or sharpie marker.
3. Using your pens / pencils or paints decorate your chameleon making it very colourful using a range of different colours and patterns. You could use stripes, spots or even blotches of colour. Remember to leave part of the eye white.
4. Next cut out your chameleon. If you have used paint you will need to let it dry first.
5. Make a background for your chameleon. A green background with tree branches would recreate a chameleon's usual habitat.
6. Finally, stick your chameleon down onto the background, ideally making it look like it is resting on a branch.

Idea and images from <https://leahnewtonart.com/>