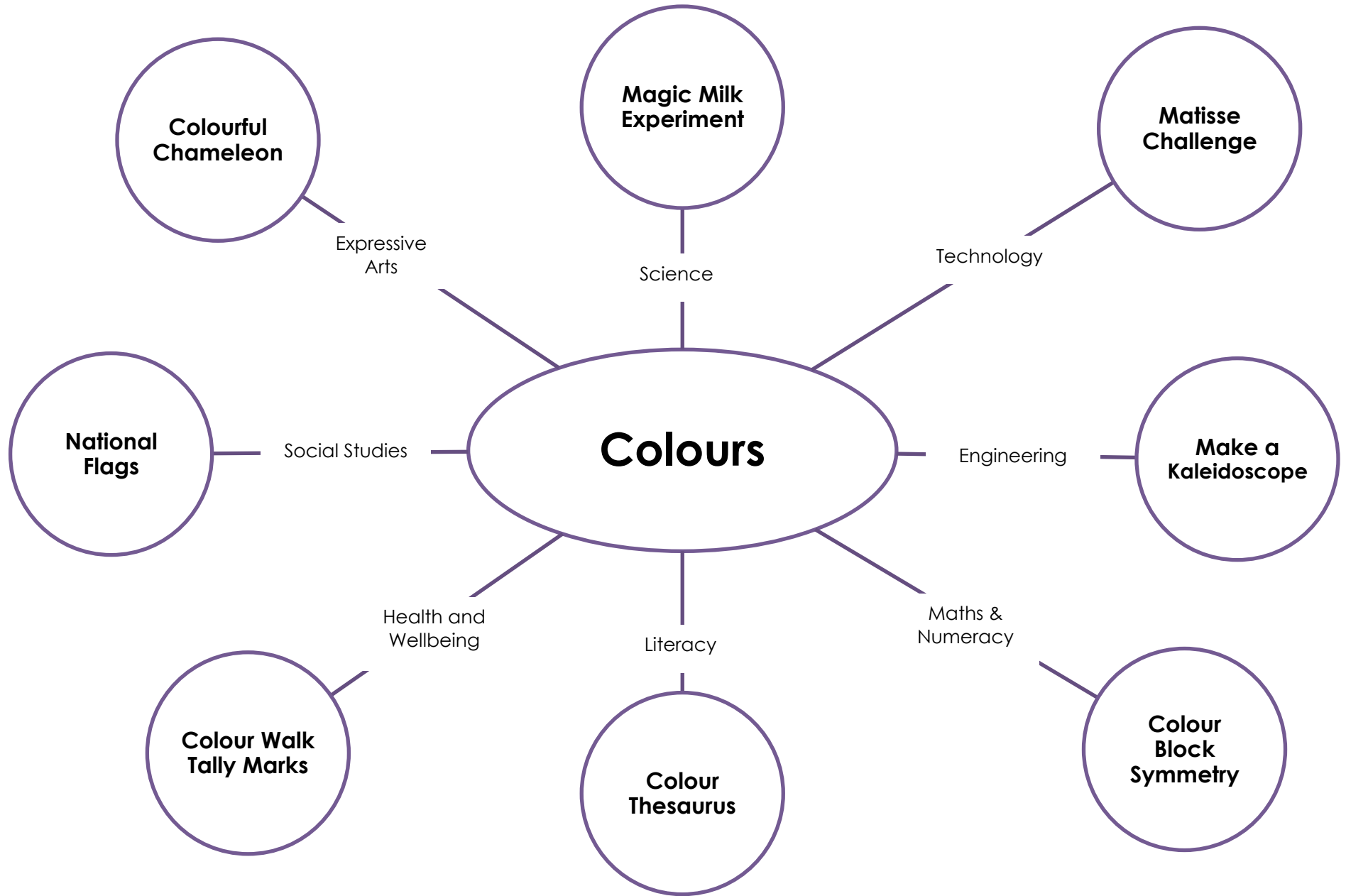


Learning from Home



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 bud 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 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/

Technology Challenge



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Matisse Challenge



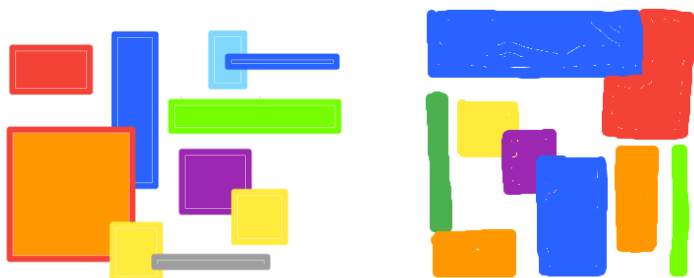
Henri Émile Benoît Matisse (31 December 1869 – 3 November 1954) was a French artist, known for his use of colour.

Matisse made shapes from ripped up paper.

Your challenge is to make a Matisse style painting of your own using the different paint tools on a computer.

Go to <https://paintz.app/> and have a go. Don't worry if you don't know what all the tools are for – this is a chance to explore and see the different effects you can create.

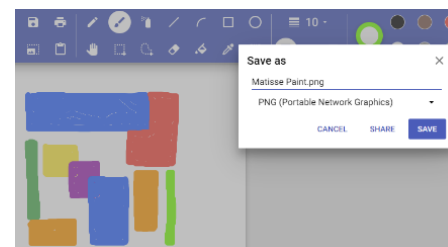
The 2 pictures below were created using different tools on the app. Which do you prefer?



To save your work click on the disk image as shown here.

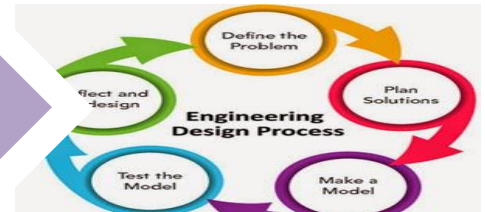


Then give your work a name and save as shown here. You should be able to find your work in **Downloads**.



Activity and top image from <https://teachcomputing.org/>

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:

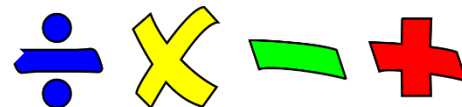
While looking through the hole in the base, twist the lid as you point the kaleidoscope up towards a light source. The fixed lens underneath the lid stays in place while the outside lid turns around it mixing all sorts of shimmering colours! The brighter the light the cooler it will look.



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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Colour Block Symmetry

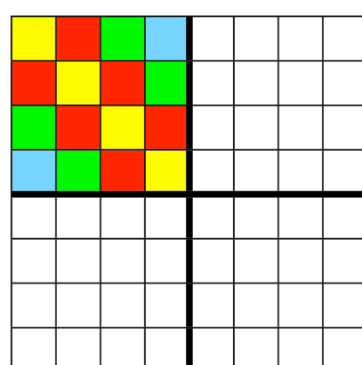
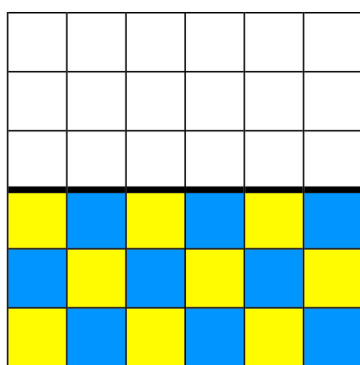
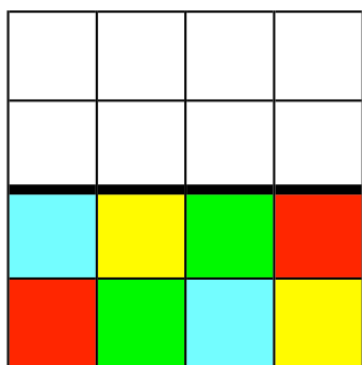
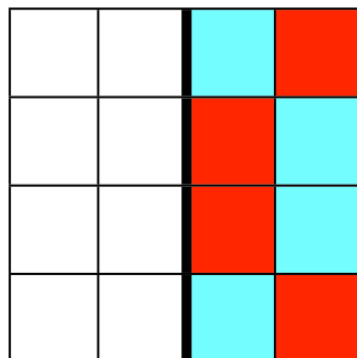
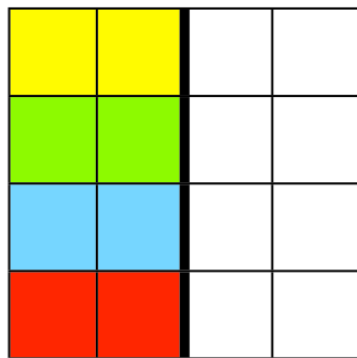
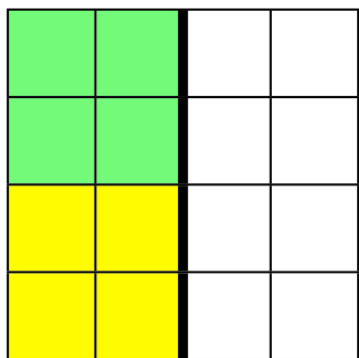
A shape is symmetrical if a line can be drawn on it, to show that both sides of the shape are exactly the same. This is called the **line of symmetry**. Shapes can have more than one line of symmetry and some shapes have no lines of symmetry.

Click here for a game about symmetry:

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

Now see if you can finish colouring in these grids to make them symmetrical. When you have finished the task above you could create your own symmetry puzzle and ask a grown up at home to complete it.

You will need: coloured pens or pencils (and some squared paper for your own grids)



Activity and images from <https://www.teachingideas.co.uk/>

To find more online symmetry activities click on this link:

<https://pbskids.org/peg/games/symmetry-painter>

Have fun!



Literacy Challenge



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Colour Thesaurus

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.

A **synonym** is a word (or words) which mean the same thing as another word. So big = large, great = fantastic or wonderful, simple = easy etc. There are also synonyms for different colours, so red = crimson, maroon, rose or cherry. (There are even more!)

A **thesaurus** is a synonym dictionary. You may have one at home or there are lots of free ones you can access online. Here is an example: <https://www.thesaurus.com/>

Your task today is to make a colour **thesaurus** using colour **synonyms**. If you keep this safe, then it could be useful later on in your own writing.

See how many colour synonyms you can find. You might want to write them in a table like this. Are there other colours you could add?



Colour	Synonyms
beige	
blue	
brown	
green	
orange	
pink	
purple	
red	crimson, maroon, rose, cherry
yellow	



Health & Wellbeing Challenge

Colour Walk Tally Marks

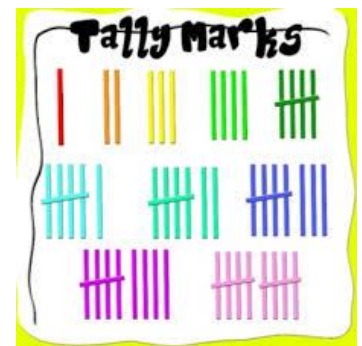
This is a great way to combine exercise with numeracy.












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 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 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 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 	

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

Social Studies Challenge



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National Flags

Flags are national symbols, and every country has their own specific flag. Flags represent the people in those countries and the communities that they belong to.

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

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

National Flags of 20 Largest Countries by Population



Image from <https://playworksheets.com/>

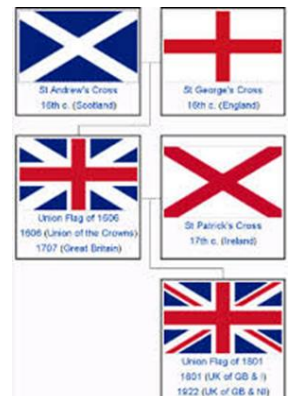
© playworksheets.com

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

Your task: Design a flag for the town or village you live in. Think about the colours you would like to use. If you live in the countryside you might want to include green. If you often see black and white cows in surrounding fields, then you might want to use black and white. You might just have a favourite colour and maybe you would like to have this as a background with other important symbols and objects on top.

Look at the flags on the left – they use a variety of colours, lines and shapes to split the flags up into sections.

If we think about the Union Jack, which is the flag of the UK, it is a mixture of the flags of Scotland, England and Ireland.



Note: According to Malcolm Farrow, President of the Flag Institute, "A great flag has a bold, simple design to grab people's attention. It should have no words and a maximum of four strong contrasting colours. It shouldn't be fashionable, and it must be distinctive from other flags."

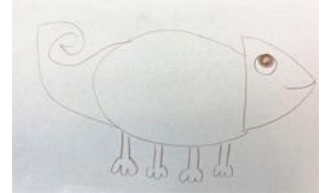
Expressive Arts Challenge



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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 him 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 his 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/>