



Science at St. Louis Catholic Primary School

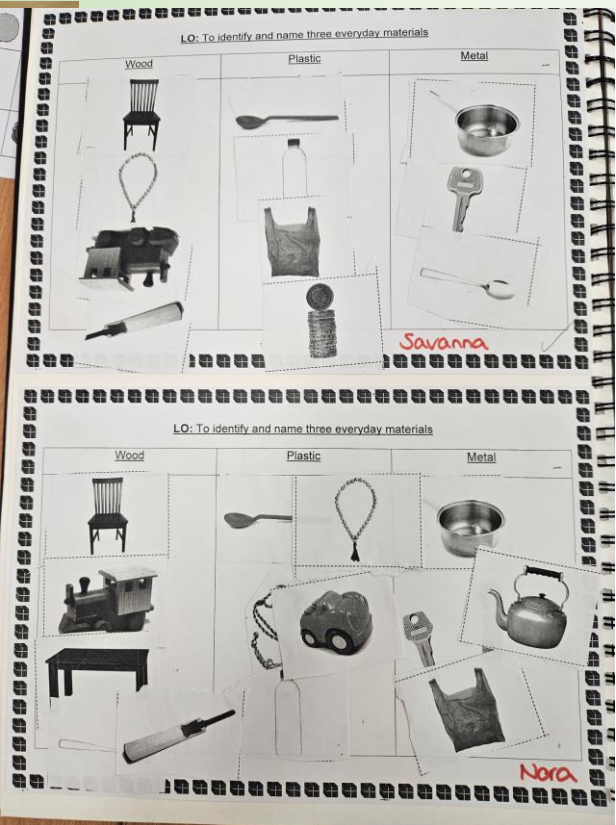
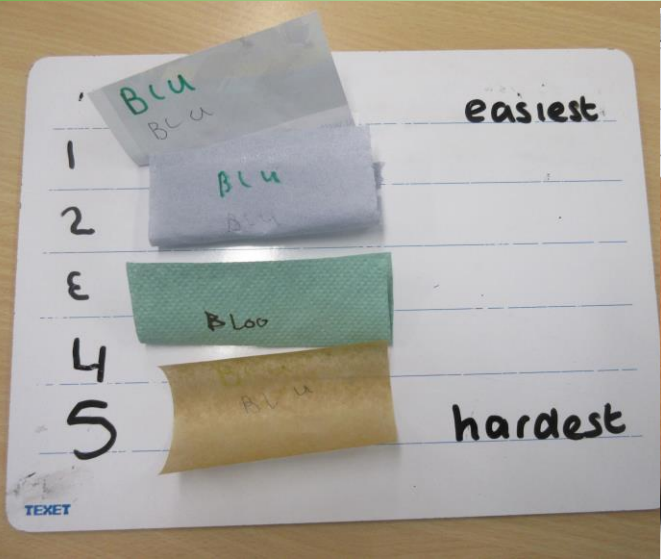
Welcome to our second newsletter of the school year. We have had a busy term learning about science, finishing with celebrating British Science Week. Here are some examples of the children's science from each year group as well as some information and photos from British Science Week and some science activities that will hopefully inspire you to do more science at home too!

Reception have been learning about how to care for plants and describing the changes they have seen as they have grown. They have been on a spring walk to look for signs of spring around our school.



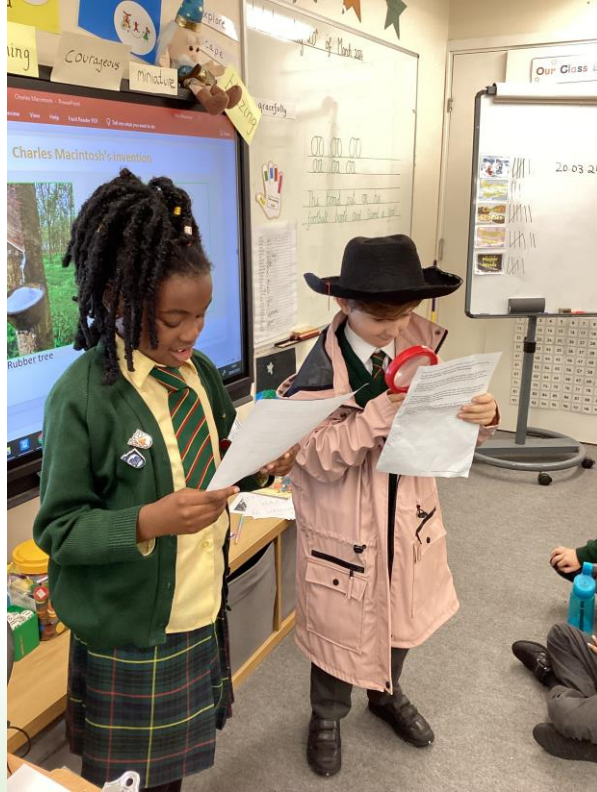
They have learnt about different animals, including matching animals to their young and beginning to learn about camouflage. They have learnt about which animals hatch from eggs and were amazed at watching chicks hatch in an incubator in their classroom.





Year 2 children have built on learning from Year 1 on materials. They have tested a range of different materials for different purposes. They have discovered that some materials have different properties according to how they are shaped and what they are made into. As part of 'Our Changing World' they have observed animals in their school environment and will monitor this at different points throughout the year.

This term Year 1 have made observations of animal life and plants, looking at how this has changed since autumn and winter. They have taken part in the RSPB Big School Birdwatch. They have begun their topic of 'Everyday Materials' and have been introduced to a range of basic materials and their properties. They have completed simple investigations looking at the best type of paper to use.



How is soil made?
 L.O. To understand the properties of soil
 Enquiry type: Grouping and classifying

The particles shape is a circle or a square. They are very small. It is as brown as chocolate. It is dark brown. It feels very crumbly. The soil + does clump. My hands to do become dirty if I roll it in a ball.

Lilac (Calcareous Soil)

The shape of the particles is or minuscule circles. It is light brown soil. It feels soft. It is as dark as the night. The soil does form clumps if I squish it stays the same. It does make me dirty if I roll it into a ball.

Silty Soil

The particles shape is a lump. They are big at the top and small at the bottom. The soil is a light brown. It feels lumpy. The soil forms lots of clumps. I don't become dirty.

Clay Soil

What do we know about leaves?
 L.O. To observe the similarities and differences of leaves
 Enquiry type: Grouping and classifying



Year 4 have built on their understanding of hearing in 'good vibrations.' They have learnt that sounds are made by something vibrating and that these vibrations travel through a medium to the ear so that we hear them. Through 'in a state' they have learnt the characteristic properties of solids, liquids and gases and using first-hand experience and secondary sources they have learnt about changes of state. They have also learnt about the water cycle, modelling it in different ways further developing their understanding of changes of state.

Year 3 have worked as 'Rock Detectives' establishing core knowledge and understanding of rocks, their relationship to soils and how fossils have formed over time.' They have built on their experiences in Key Stage 1 in 'how does your garden grow' and have learnt about the absorption and transport of water and nutrients and the role of the leaf in making food for the plant. They have learnt about the parts of the flower, their roles in plant reproduction and the stages of the life cycle of a flowering plant.

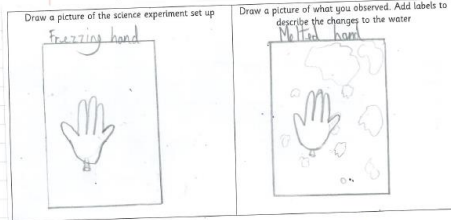
Friday 1st March 2024

What happens to ice hands?

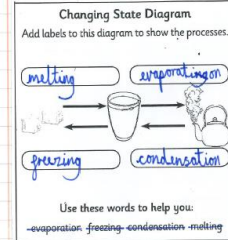
L.O. To collect, present and interpret data about melting ice

Enquiry type: Fair test

I predict that an ice hand will melt jolly but slowly and that there will be water in the glove.



I observed when you freeze a glove it melts after some time like 5 minutes.



If you heat water to a temperature of 100°C it evaporates to form water vapour.

If you heat cool water vapour to a temperature of 0°C, it condenses to form water.

If you heat ice to a temperature of below 100°C it melts to form water.

If you cool water to a temperature of 0°C, it freezes to form ice.

What are my properties?

L.O. To classify materials as solids or liquids by observing their properties

Enquiry type: Grouping and classifying

State	Particle Arrangement	Particle Properties	Material Properties
Solid	Particles are close packed in a regular pattern that vibrates on the spot.	Particles are close together but vibrate on the spot.	Keeps its shape unless a force is applied to it. Remains the same volume.
Liquid	Particles are close together but random that can move over each other.	Particles are close together but random that can move over each other.	Takes the shape of the container. It is in. stays the same volume.
Gas	Particles are spread out and can move through quickly in all directions.	Particles are spread out and can move through quickly in all directions.	Does not keep its shape. Can spread to fill the space it is in.

Why does an object fall? 29.02.24

LO: To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

Enquiry Skill: Carrying out comparative and fair tests

I believe Galileo's theory is correct and that both objects will fall at the same time.

	Cup with Blu Tac (Seconds)	Cup without Blu Tac (Seconds)
Attempt 1 (1 metre)	1.8s	0.76s
Attempt 2 (1 metre)	0.61s	0.39s
Attempt 3 (1 metre)	0.57s	0.72s
Average time	0.983	0.623

We dropped a cup from 1 metre above the ground and measured the time it took to fall with a stopwatch.

Variables we kept the same:

- height
- Cups
- stopwatch
- people

The one that went faster varied but the cup with blu tack went quicker most of the time. Our results also showed that Aristotle was wrong.

21.03.24

Does the shape of an object affect its movement in a liquid?

LO: To measure the effects of water resistance

Enquiry Skill: carrying out simple comparative and fair tests

I predict that the sharp bow will have the least water resistance because it will be able to cut through the water.

I predict that the teeth bow will have the most water resistance because most water will get stuck in the middle.

The variable we will change is the 'Bow'.

To keep this a fair test, we will keep the water the same person doing the height, start and stop times, size of pencil and amount of blueback.

Shape	Time in seconds
Control shape	0.83
Round bow	0.95
Pointed bow	0.58
Sharp bow	0.63
Teeth bow	0.58

Monday 11th March 2024

L4 - How does exercise affect the heart?

LO: To describe how exercise affects the heart

Results

Level of intensity (out of 10)	Heart Rate (bpm)
1/10 - Sitting	(16.6) - 96 bpm (114/66)
3/10 - Walk	(16.6) - 96 bpm
5/10 - Star jumps josing	(17.6) - 145 bpm (145/66) - 144 bpm
7/10 - jumping star jumps	(17.6) - 144 bpm (145/66) - 168 bpm
9/10 - Run	(30.6) - 180 bpm
10/10 - Sprint	(32.6) - 192 bpm

Question: How do different intensities of exercise affect our heart rate?

Prediction: I predict that if you are used to having a lot of exercise, then you won't need as much nutrients, water and oxygen so your heart won't have to beat that much to deliver those things. If you are not used to a lot of exercise then your heart will constantly have to deliver those things, which means the heart would have to beat faster.

Equipment:

- Stopwatch
- Heart rate monitor
- One books
- Pen/pencil

Method:

- Choose the different intensities that you will be doing.
- Start with the lowest intensity (eg. 1/10 - sitting).
- Measure your heart rate and record it.
- Complete an activity for one minute at the next intensity level (eg. star jumps at 3/10). Remember time it.
- Reset your timer and keep it running. Then, straight away, measure your heart rate in beats per minute. Record it in the results table.
- When you have recorded, measured, complete the activity, go to the next intensity.
- Repeat steps

Intensity of Exercise (out of 10)

Intensity of Exercise (out of 10)	Heart Rate (bpm)
1	96
3	96
5	145
7	144
9	180
10	192

Monday 4th March

L3 - To identify the contents of blood and describe their function

LO: What is blood and what is in blood?

Red blood cells: oxygen carrying rubbish. They look like germs or protect us from disease. Transports oxygen round body by the plasma.

White - fighting blood cells

Plasma: Is a liquid that carries the cells around the body. They also transport nutrients.

Platelets: The clot or repair cuts.

Clot forms on a cut to stop the bleeding and heal in it.

It absorbs waste products from cells like carbon dioxide.

Year 5 children have developed their knowledge of the Earth's (and other planets') place in the solar system, and their relationships with other bodies in space, in particular with the Sun. They have built on previous learning in 'feel the force' of how forces affect movement. They have investigated how mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.

Year 6 have built upon their knowledge of living things and how they are adapted to particular environments by learning about evolution in 'everything changes.' In 'body pump' they have learnt about the human circulatory system and how it enables their bodies to function.

This term EYFS and Key Stage 1 were very lucky to have the experience of watching eggs hatch into chicks. Year 2 have used this to learn about animal life cycles by observing how the chicks changed over time. A very big thank you to the PTA for funding this amazing interactive learning opportunity.



Well done to Anastazia in Year 4, who grew her own crystals at home.



Why not try these special science activities at home! We would love to see any photos from any science related activities you complete at home. You may even appear in the next newsletter! Please email these to the school office FAO Science leader.



Upcoming Science related events

Earth Day- 22nd April

<https://kids.nationalgeographic.com/celebrations/article/earth-day>

World Oceans Day – 8th June – See science fun at home activities

Clean Air Day - 20th June – See science fun at home activities

The Great Exhibition Road Festival - 15-16 June - A weekend of free events in South Kensington (booking is required for some activities) celebrating how science and the arts help people, communities and nature flourish

[Home - The Great Exhibition Road Festival](#)

SCIENCE FUN AT HOME



Have some fun at home with these science activities from Science Sparks and the Primary Science Teaching Trust



BEFORE YOU START! Please read through this with an adult.

- ✦ Make sure you have read the 'IMPORTANT NOTICE' on the back of this page.
- ✦ If you have a space outside that you can use safely, then you can do the 'Try this outdoors' activity outside. Don't worry if not as you could still do it indoors.
- ✦ Talk to your adult about sharing the science you have done and if they want to share on social media, please tag @ScienceSparks and @pstt_whyhow and use #ScienceFromHome

SCIENCE FUN FOR WORLD OCEANS DAY

1 TRY THIS INDOORS ... Deeper and deeper

If you took a dive into the ocean, what animals would you find as you got deeper and deeper? Find or draw some pictures of ocean animals. Which zone in the ocean do they live in? How deep is each zone? Find out more [here](#) and try this interactive 'Deep Sea' activity. Cut out your animals and stick them on the 'Deeper and deeper into the ocean' sheet (see end page) to show where they live.

WHAT DO YOU NOTICE?

Things to talk about ...

What is it like at the bottom of the ocean? What do animals in the ocean need to survive? What makes it harder to survive at the very bottom? What makes it easier? If you lived in the ocean, what kind of animal would you rather be? Why? How would you rate your chances of survival?!

I am hungry ... What do I like to eat and where in the ocean will I find it?



You will need

- ✦ Pictures of different ocean animals
- ✦ Scissors and glue
- ✦ Washing-up bowl or large container, filled with water
- ✦ A selection of objects that float, e.g. apple, orange, candle, piece of wood, plastic toy
- ✦ Plastic bottle
- ✦ Ice cubes or an ice balloon (optional)

2 TRY THIS OUTDOORS ... Floating in the ocean

Fill your washing-up bowl with water. Put things you think will float into the water and observe carefully to see how much of the object is under the water and how much is above the water. Try an empty plastic bottle (with the lid on) and see how much of it is above the water and how much is below? Now try filling or half-filling the bottle with water – what difference does this make? You could try an ice cube, or an 'iceberg' (made of lots of icecubes, or water frozen in a balloon). How much of this is under the water and how much is above? Why do you think people in ships need to be careful near icebergs?

WHAT DO YOU NOTICE?

Things to talk about ...

What can you find that floats but most of it is under the water? What can you find that floats where hardly any of it is under the water? What makes the difference? What materials are your floating things made from?



How much more of this iceberg do you think there is under the water?

3 WHAT IS THE SCIENCE?

Whether something floats or sinks depends on its density: how much mass it has for a given volume. If something has a lower density than water, it will float, and if it has a higher density than water it will sink. An object like a beach ball full of air has a much lower density than water, so it will float with most of it above the water. But if an object has a density only slightly lower than that of water, it will float with most of the object submerged. When water freezes, it expands a tiny bit. This means ice has a density that is close to, but slightly less than, water, so it just floats. This is why icebergs are dangerous to ships: most of the iceberg is actually below the waterline, so a ship could crash into it long before it reaches the part that can be seen.

4 MORE ACTIVITIES YOU COULD TRY

MAKE AN ICEBERG! www.science-sparks.com/titanic-science-make-an-iceberg

EXPLORE A CORAL REEF www.encounteredu.com/live-lessons

HOW MUCH DO YOU KNOW ABOUT SHARKS? www.worsscience.co.uk/resource/shark-quiz-2/

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These activities are designed to be carried out by children working with a parent, guardian or other appropriate adult. The adult involved is fully responsible for ensuring that the activities are carried out safely.

DEEPER AND DEEPER INTO THE OCEAN

THE SUNLIGHT ZONE

THE TWILIGHT ZONE

THE MIDNIGHT ZONE

THE ABYSS

SCIENCE FUN AT HOME



Have some fun at home with these science activities from **Science Sparks** and the **Primary Science Teaching Trust**



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SCIENCE FOR CLEAN AIR DAY

1 TRY THIS INDOORS What a stink!

You need two people for this activity, one at each end of a room or corridor, with Person 1 holding some spray air freshener, deodorant or perfume. Person 1 sprays a small puff (**SAFETY NOTE:** always avoid spraying near anyone's face and especially eyes). Person 2 then walks slowly towards Person 1 until they sense the smell at which point, either mark the spot or measure the distance to Person 1. Or, Person 2 could stay still and use a timer to see how long it takes for the smell to reach them. Next try swapping Persons 1 and 2 over, or try using a different scent spray.

WHAT DO YOU NOTICE?

Things to talk about ...

Can you smell some perfumes, air fresheners or deodorants from further away than others? Can some people smell things from further away than others? What types of smell seem to travel fastest or furthest?



You will need

- * Spray perfume, deodorant or air freshener (choose something with a strong scent)
- * Measuring tape/ruler or timer
- * Magnifying glass for examining lichen (optional)

You can also find some activities from the Imperial College London which you can do at home.

<https://www.imperial.ac.uk/be-inspired/schools-outreach/primary-schools/stem-enrichment/science-resources/home-science-experiments/>

2 TRY THIS OUTDOORS Looking for Lichens

Look closely at the trees around you – can you see anything growing on the trunks or branches? If so, you might have spotted some lichen. There are many different types of lichen, but by identifying which species you have found, you can learn about the quality of the air nearby. Some types of lichen struggle to grow in polluted air, while others grow well.



Usnea

WHAT DO YOU NOTICE? Things to talk about ...

Which types of lichen did you find growing near roads? Which types of lichen did you find **not** near a road, or in green spaces like a park?



Hypogymnia



Cushion Xanthoria

3 WHAT IS THE SCIENCE?

We can smell a scent from a distance because the particles of gases in the air and the scent spray are moving randomly. So the scent spray particles gradually spread out, moving away from where they are most concentrated to where it is least concentrated. This process is called **diffusion**.

Lichens consist of two types of organisms - a fungus and either an alga or a type of bacteria - that live together and depend on each other. The fungus makes the body that protects the alga/bacteria, and the alga/bacteria provides the food for the fungus. Common types to look out for: **Hypogymnia** has large, green-grey lobes, but it won't grow where there is air pollution; **Usnea** looks like a green beard and is usually found hanging from tree branches. It indicates a clean-air environment as it doesn't like the nitrogen found in polluted air; **Cushion Xanthoria** is bright-yellow or orange lichen. It loves nitrogen so it is an indicator of polluted air.

4 MORE ACTIVITIES YOU COULD TRY

MAKE A FAKE LUNG www.science-sparks.com/breathing-making-a-fake-lung/

FIND OUT MORE ABOUT LICHEN www.imperial.ac.uk/opal/surveys/alsurvey/

WATCH 'GASES IN THE AIR' – A SCIENCE SHOW WITH SOME EXCITING SUPPRISES!

www.pstt.org.uk/resources/curriculum-materials/citizen-science-air-pollution (to find the video, click on the tab 'Classroom Resources' and scroll to the bottom of this page)

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Nursery explored shadows inside using torches and other light sources



Reception made time capsules, which they will open when they are in Year 6 in 2030!

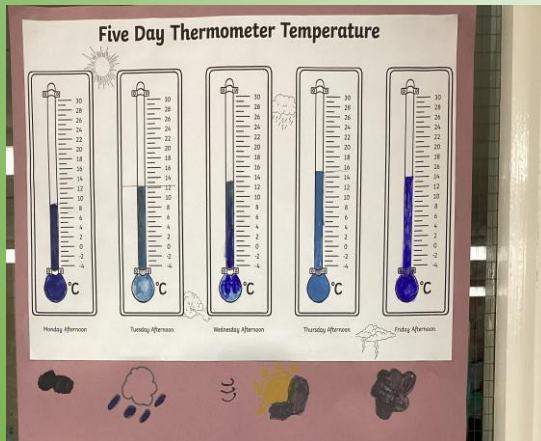


Year 1 made seasons wheels to help them know which month is in each season and what the weather may be like in that season

Year 2 monitored the weather, creating a layer of weather pictures.

British Science Week Class activities

Year 4 made Sundials from a selection of materials and observed how the shadow cast by it changed during the day.



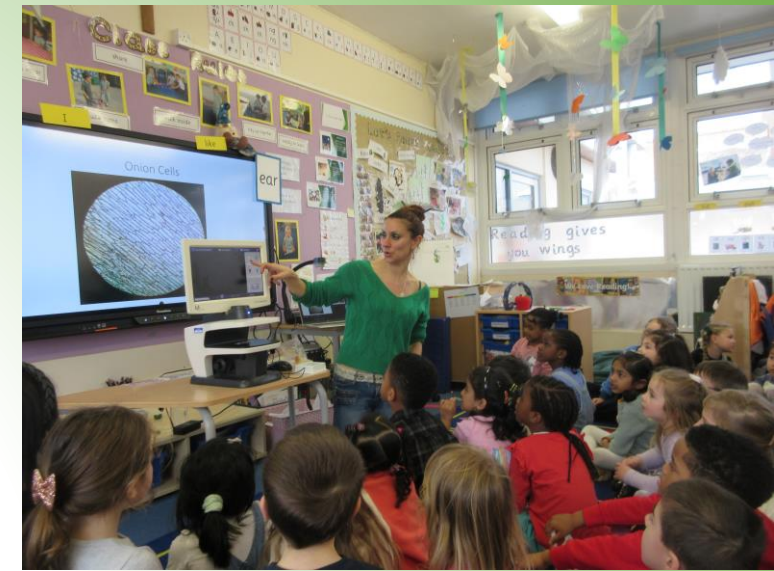
Year 3 designed their own farm for the future. They thought about if they wanted to grow crops (arable), fruit and vegetables (horticulture), raise animals (livestock), supply milk (dairy) or a combination of those things (mixed).



British Science Week

Class activities

Year 5 explored how different-sized particles interact with our respiratory system, using a fun, hands-on model to simulate how we breathe in and filter the air around us.



British Science Week

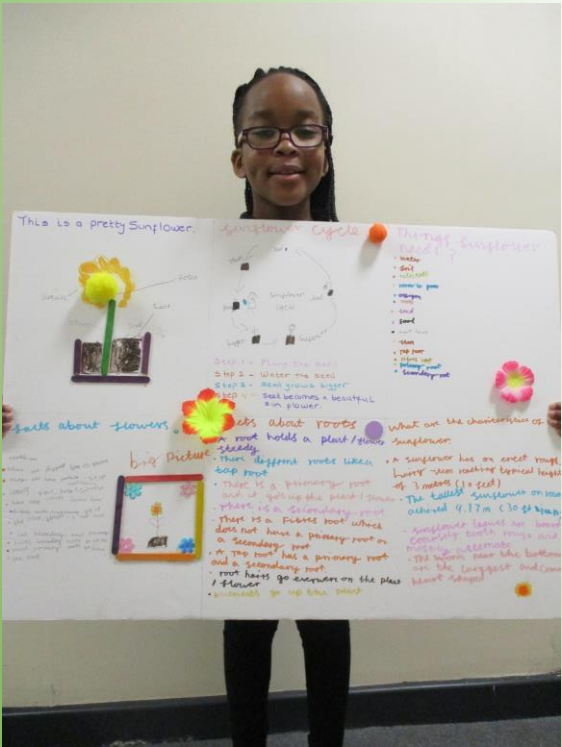
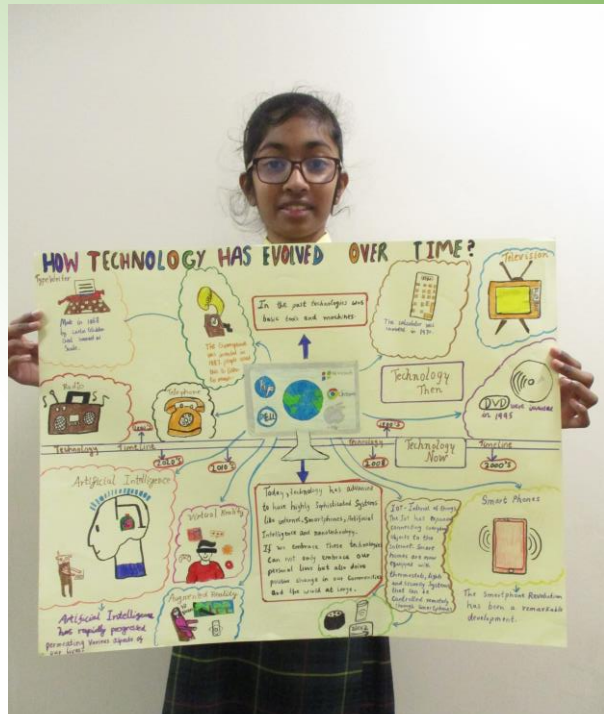
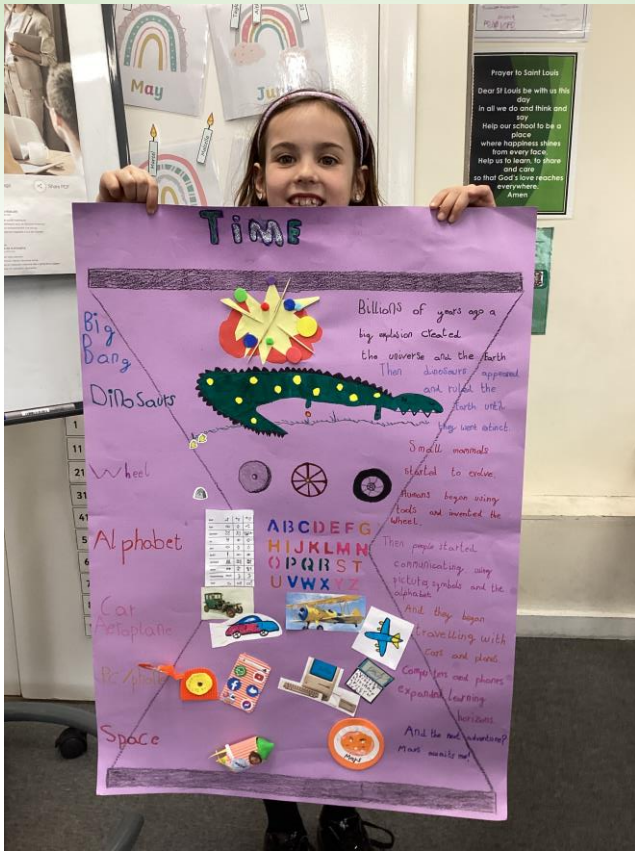
Visits from real life scientists!

Year 6 made their own pendulums. They experimented with ways to slow down its swing and even explore different types of swings.



Many classes were also lucky to have a visit from a parent volunteer who is a 'real scientist' with a science related job. Children looked at onion skin under a microscope, found out how identical our DNA is to chimpanzees and even extracted DNA from a strawberry. They found out some interesting facts: our DNA is 50% identical to that of a banana's! We have 100 billion miles of DNA from all our cells if laid out end to end, that would stretch from the Earth to the Sun 30 times! Thank you again to Nathalie for coming into school.

British Science Week Poster Competition



Well done to those children who entered the poster competition. We were very impressed with the quality of the posters. The winners were Mia - Year 2, Oreoluwa – Year 3, Scarlett – Year 3, Emanuela – Year 6.

