Nursery

Reception

Primary Science Quality Mark
Stillness Infant School

Year 1

Year 2

Children are **engaged** in topics and **excited** about science.

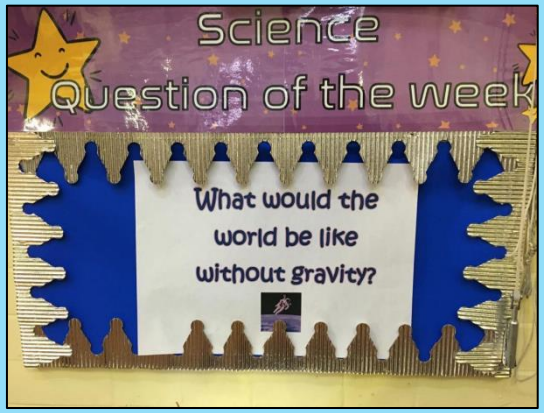
Children sending in photos of science at home

KS1 Science Ambassadors

"I want to be a palaeontologist when I grow up."

Science ambassadors excited about the new science library books

"I wish I could do science all the time!"



Science question of the week display in the hall

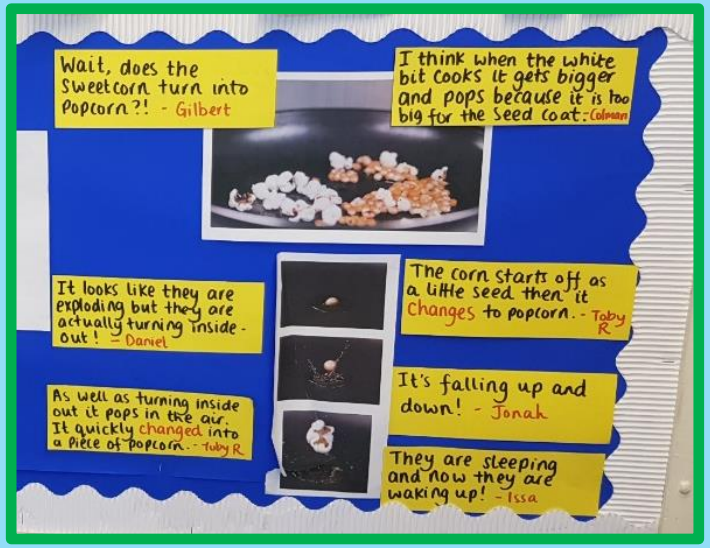
Children excited to receive a science award

L3, T3, WO2, SL2

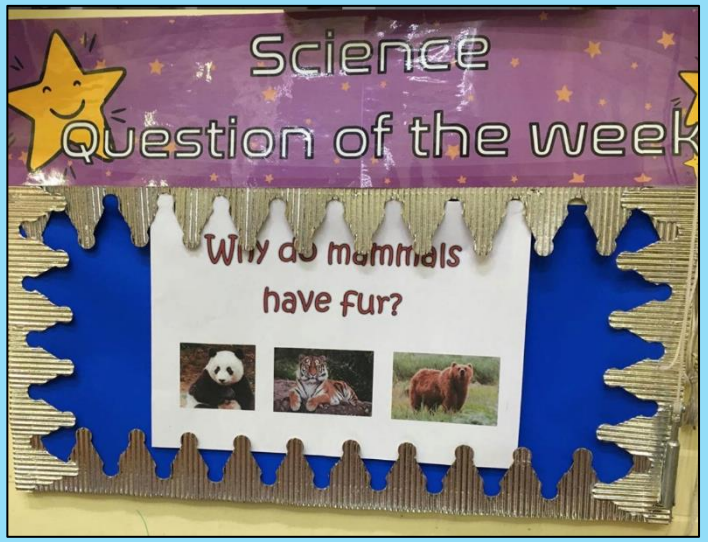
Teachers aim to spark children's **curiosity** and encourage them to ask **questions**

Bright Ideas Time- an example using zoom in, zoom out on explorify website

"I like finding out the animal or creature on zoom in, zoom out."

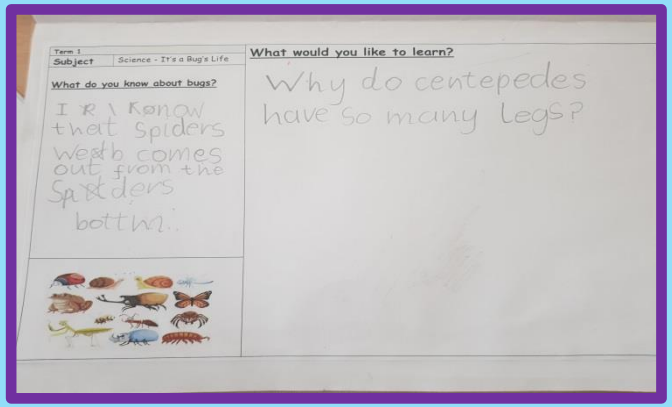


SL1, SL2, SL4, T1, T2



Science ambassador came up with science question of the week

Launching a topic with children's questions about animals



Writing questions about minibeasts at the beginning of a topic

Writing questions and statements about bees

Adopting a **multi-sensory** approach through **practical** activities provides children with first hand experiences to **explore** science.

Exploring vegetables

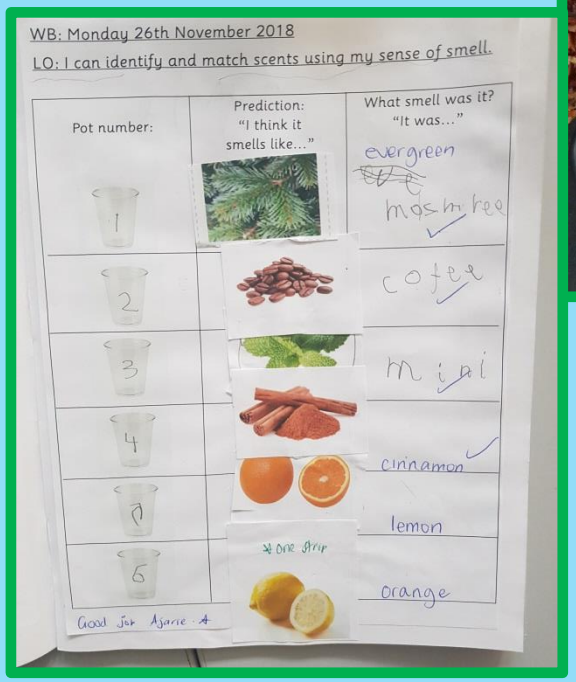
Floating and sinking

Releasing the tadpoles back into the pond

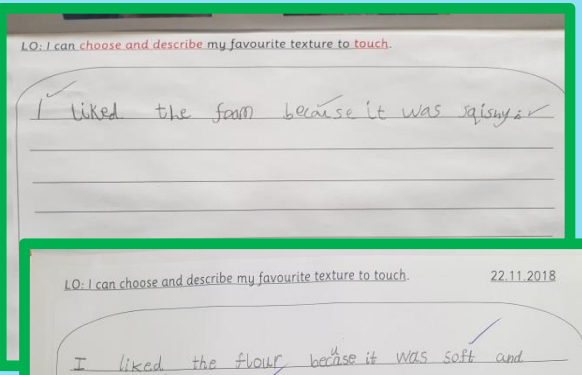
Exploring the sense of touch

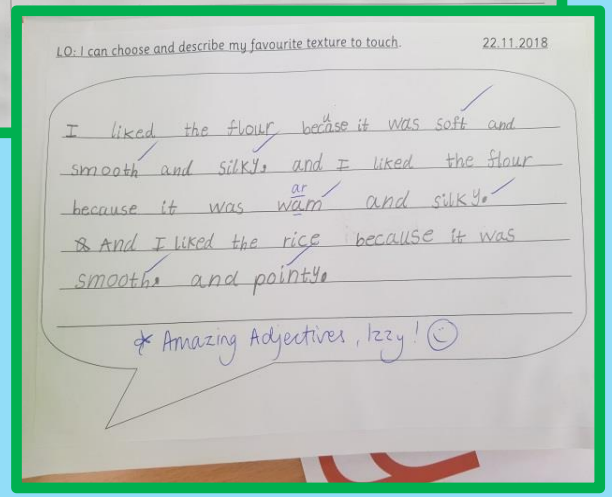
Making pancakes and exploring the ingredients

The Mud Kitchen



Testing their sense of smell using mystery smell pots

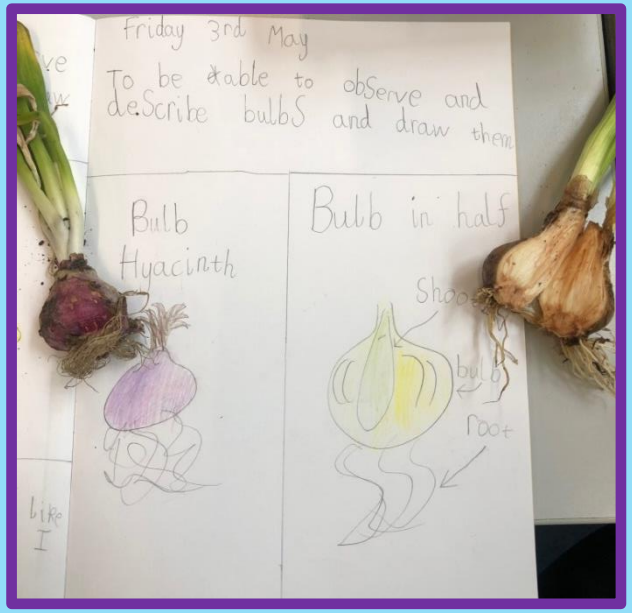




SL1

Adopting a **multi-sensory** approach through **practical** activities provides children with first hand experiences to **explore** science.

Digging up bulbs to compare



Investigating how to keep a jacket potato warm

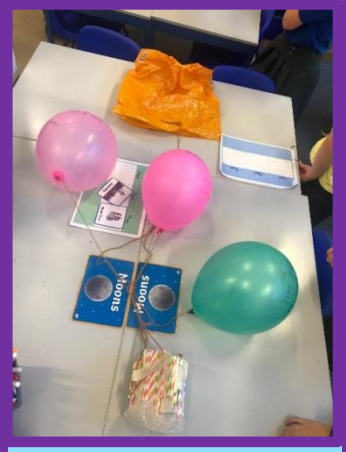
What are the best conditions for germination?

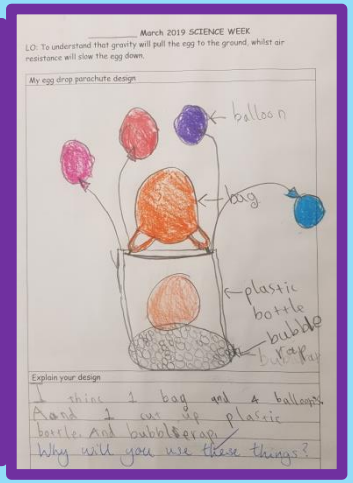
Weekly messy activities in the early years

Gingerbread biscuit ingredients

SL1, T3

Adopting a **multi-sensory** approach through **practical** activities provides children with first hand experiences to **explore** science.





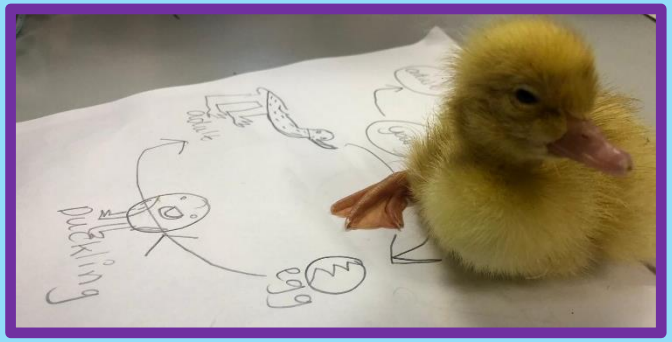
Designing, making and testing parachutes to land an egg safely

Testing the speed at which different liquids travel

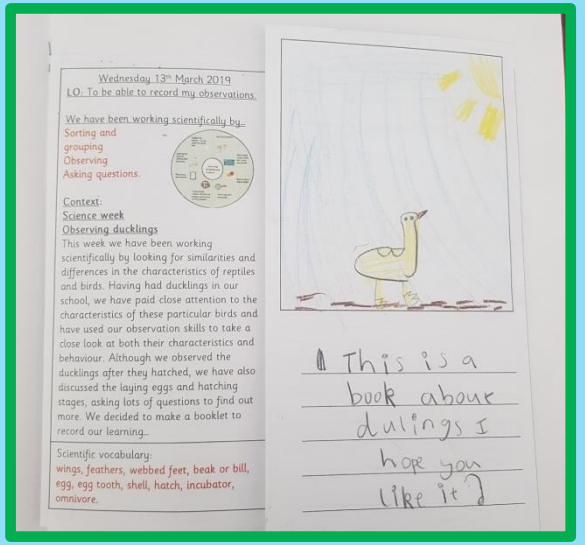
Exploring what happens when you add food colouring to milk

Science Week on the theme of Journeys

There is always a buzz in school with the arrival of the duckling eggs!



Learning about the life cycle of a duckling



Observing the ducklings

Watching the ducklings swim!

SL1, T3, WO2

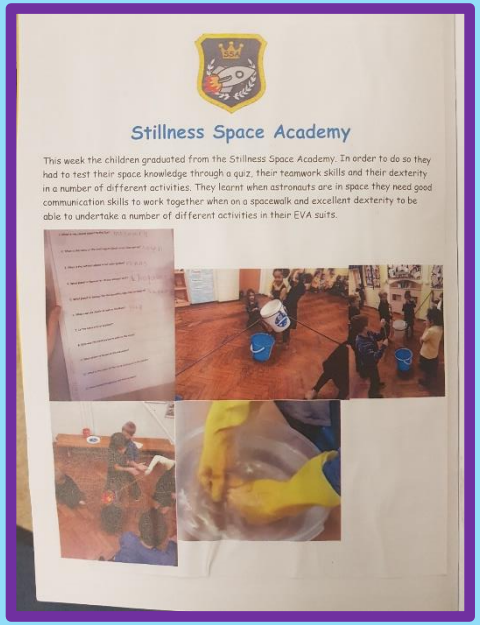
Science is presented in **meaningful contexts** that encourage children to make **links** to real life.

After school Art club using their observation skills

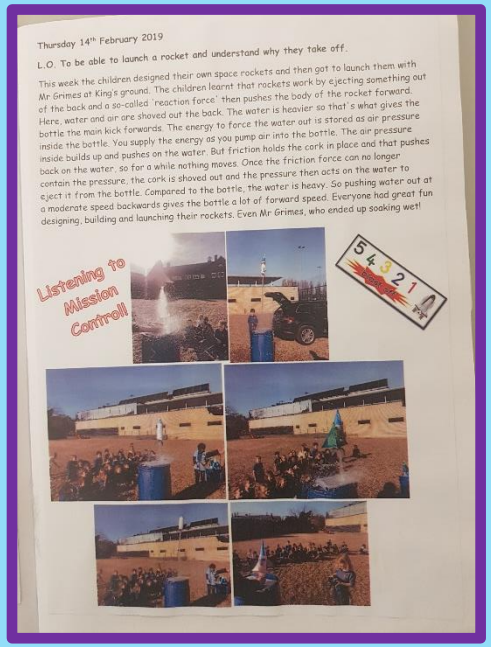
"Science is everywhere. It is in your back yard- it is plants, flowers, animals."

Planting in the wildlife garden in the after school Eco club

Role play areas linking to topics- dinosaur park, space station, minibeast investigation lab and car mechanics

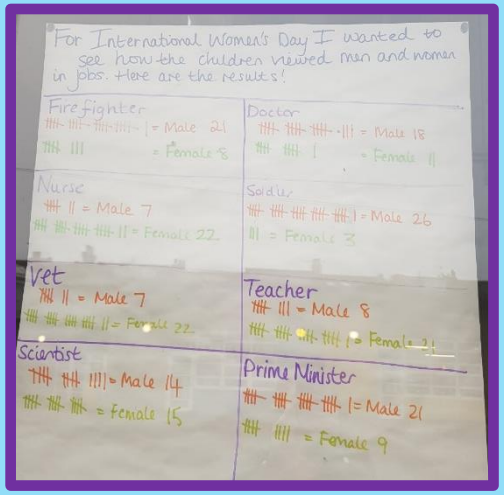


Children graduated from space academy



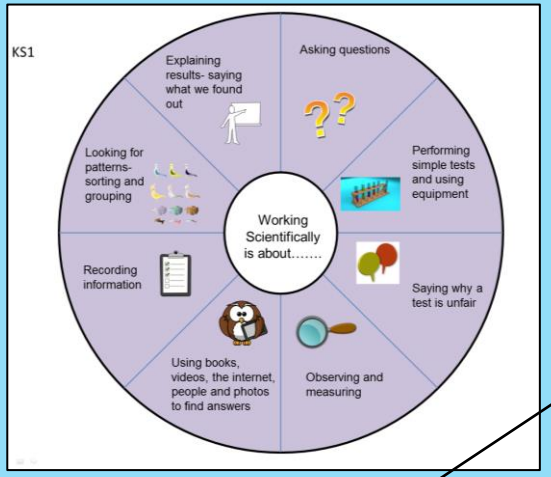
Building and launching rockets

Tally chart of children's drawings of different professions-14 male scientists and 15 female



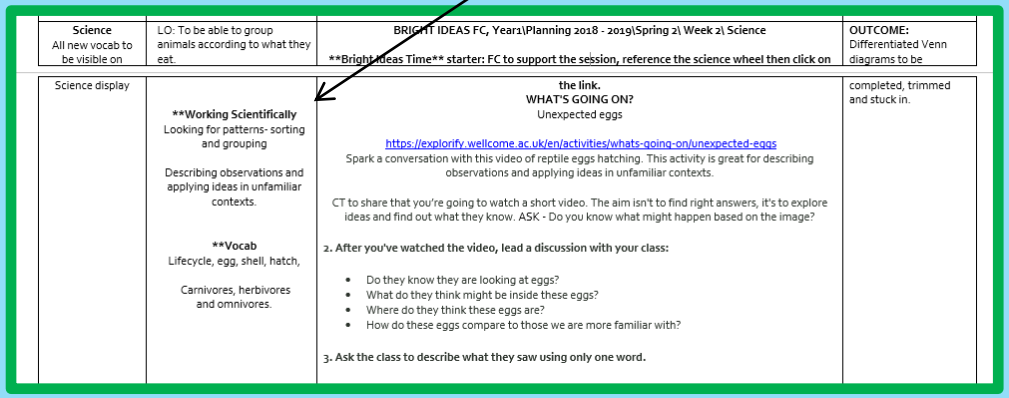
SL1, SL2

Science is presented in **meaningful contexts** that encourage children to make **links** to real life.

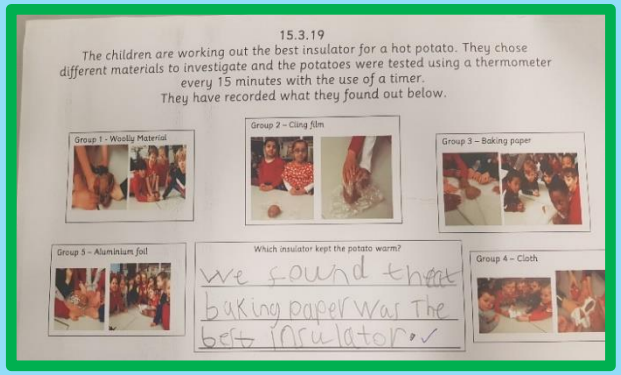


CPD session- Introduced a working scientifically wheel for teachers and children

It is now used on planning documents



Science All new vocab to be visible on	LO: To be able to group animals according to what they eat.	BRIGHT IDEAS FC, Year1\Planning 2018 - 2019\Spring 2\ Week 2\ Science **Bright Ideas Time** starter: FC to support the session, reference the science wheel then click on	OUTCOME: Differentiated Venn diagrams to be
Science display	**Working Scientifically** Looking for patterns- sorting and grouping Describing observations and applying ideas in unfamiliar contexts. **Vocab Lifecycle, egg, shell, hatch, Carnivores, herbivores and omnivores.	the link. WHAT'S GOING ON? Unexpected eggs https://explorify.wellcome.ac.uk/en/activities/whats-going-on/unexpected-eggs Spark a conversation with this video of reptile eggs hatching. This activity is great for describing observations and applying ideas in unfamiliar contexts. CT to share that you're going to watch a short video. The aim isn't to find right answers, it's to explore ideas and find out what they know. ASK - Do you know what might happen based on the image? 2. After you've watched the video, lead a discussion with your class: • Do they know they are looking at eggs? • What do they think might be inside these eggs? • Where do they think these eggs are? • How do these eggs compare to those we are more familiar with? 3. Ask the class to describe what they saw using only one word.	completed, trimmed and stuck in.



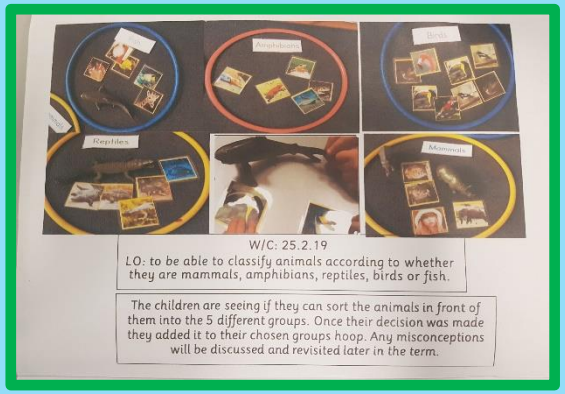
Using simple equipment to carry out a test

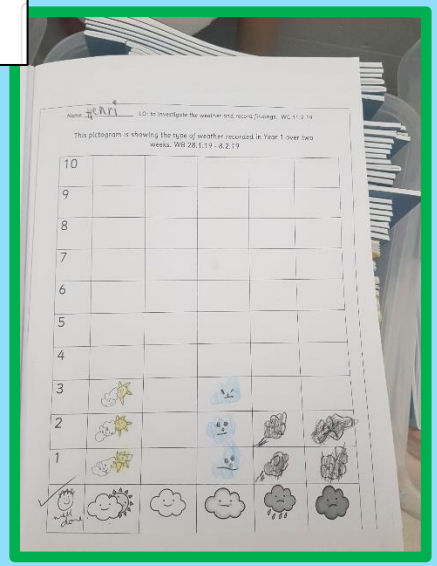
L1, SL1, SL2, SL3, SL4, T2, T3

Comment by the author Yuval Zommer!

Children now have a new selection of science books to read

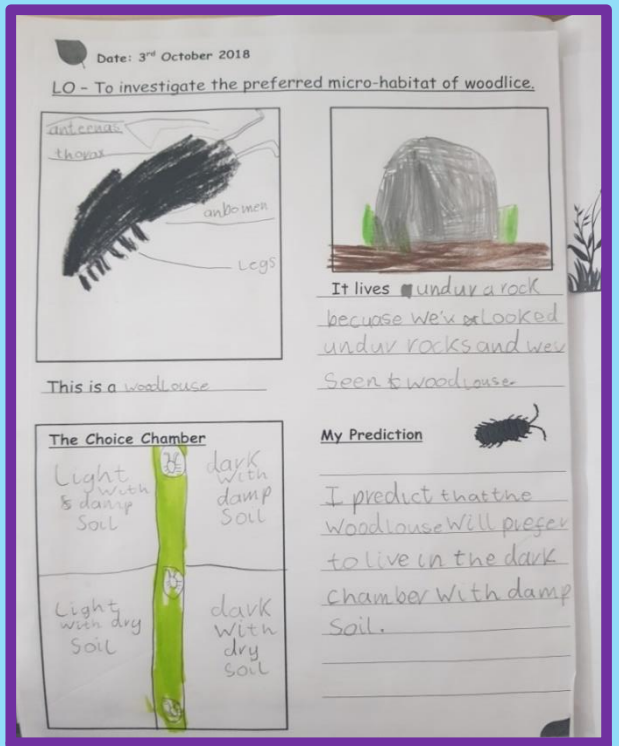
Animal classification

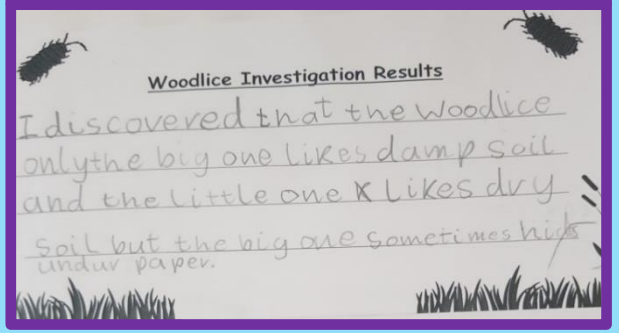




Gathering information on the weather

Investigating habitats- this was a favourite science lesson of many!



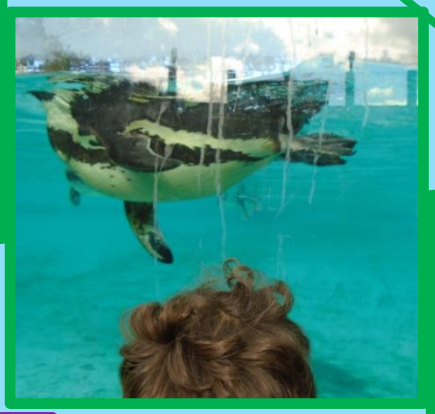


Children **experience** science **beyond the classroom** through outdoor activities, regular trips, forest school and visitors to the school.

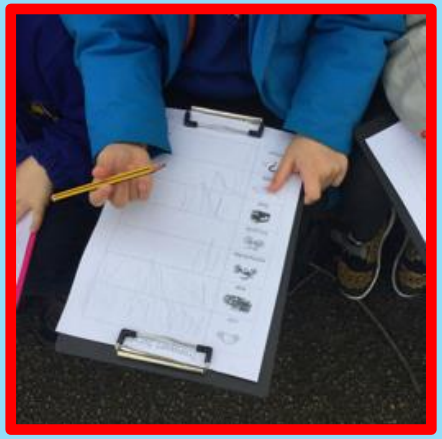
Trip to see the animals at Kent Life for 'Hooves, Claws & Paws' topic

London Zoo for 'Go Wild' topic

"Science is fun and I like that I get to discover new things."



Identifying plants and trees in the local park



Local traffic survey tally chart for 'On the Move' topic

Maritime Museum and the Cutty Sark

Y2 Chessington trip to see the animals as part of their Rainforest topic

SL1, L3

Children **experience** science **beyond the classroom** through outdoor activities, regular trips, forest school and visitors to the school.

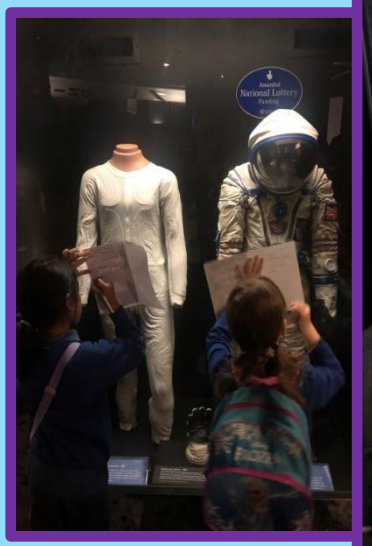
"I love learning new flowers at forest school."

"I love getting messy!"

Forest School sessions

Trip the Science Museum as part of 'To Infinity and Beyond' topic

"I want to be an astronaut when I grow up and work for NASA."

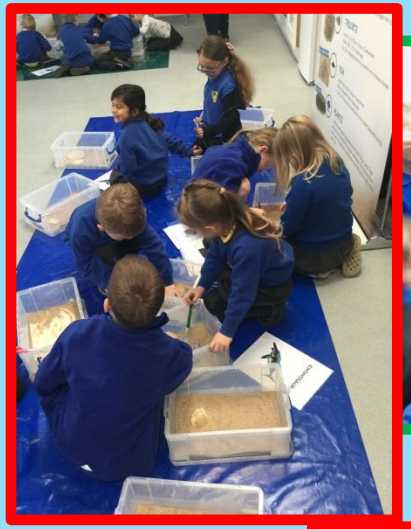


SL1, L3

Children **experience** science **beyond the classroom** through outdoor activities, regular trips, forest school and visitors to the school.

Secondary School parent visited with their students. They showed the children how to care for the animals

"This is the best day ever!"



Dry Ice Science week workshop for KS1

Dinosaur theme day- workshop classifying dinosaur fossils by what they eat

Parent visitor to talk about her job as an architect

Space theme day and workshop

SL1, SL2, WO2, L3

Science is **valued** by all and is taught through a **cross- curricular** curriculum.

Key Priority 2: Curriculum Development			
Target 3 : To raise the profile of Science across the curriculum by gaining the Science Mark			
Why are we doing this? We would like the school to work towards gaining the Science mark, as a recognition of the curriculum work we are implementing this academic year. Lisa Matheson, the science leader, has just completed a middle leader's course at the Institute of Education, and we would like her to further develop her role within the school. As a result of our school monitoring we would like to raise the profile of Science this year, ensuring that the school's provision of science teaching and learning is of a high standard across the year groups.			
Resource implications: (e.g. cost, time, training) £1000 Initial registration cost for Science mark and release time cost for - CPD led by Lisa Matheson - half termly staff meeting time allocated. Pupil voice – school council feedback on science learning. Monitoring by Science leader and support for NQT / planning.			
How will we get there (Key Actions 2018-19)	**Personnel incl. Govs**	**Timescale**	**Intended outcomes / impact What difference will the actions make? What will we see that we didn't see before?**
SCIENCE LEADERSHIP Support Lisa Matheson in her subject leadership role to • develop a clear vision for the teaching and learning of science across the school • develop a shared understanding of the importance and value of science • ensure monitoring processes inform the development of our science teaching and learning.	SLT Pupil voice	Start in autumn 2018	Staff will have a shared understanding of the importance and value of science teaching and learning through CPD led by LM. Through increased focused monitoring, teachers will see improvements in the children's science learning.
PROFESSIONAL SUPPORT FOR TEACHERS • LM to provide professional support to teachers as required linked to the development needs, for example NQT in Y1, Science displays /Learning walls. • Support with a range of strategies in teaching science which will both challenge and support the learning needs of all children. • Ensure that teachers are skilled in using a range of resources	LM	Throughout the year	Teachers will confidently use new ideas for teaching science, evidenced in books. Children will confidently use a wider range of resources to develop their curiosity in science lessons.

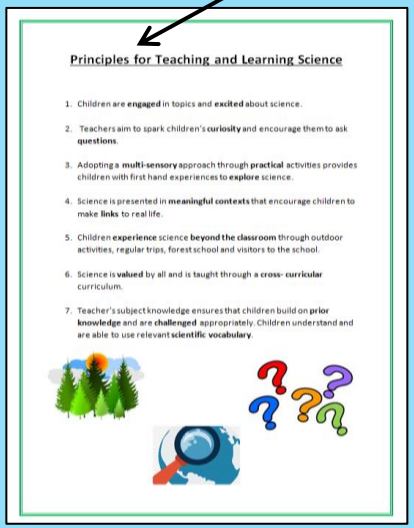
Developing the science provision has been a key priority on the SDP

Whole school home learning art challenge

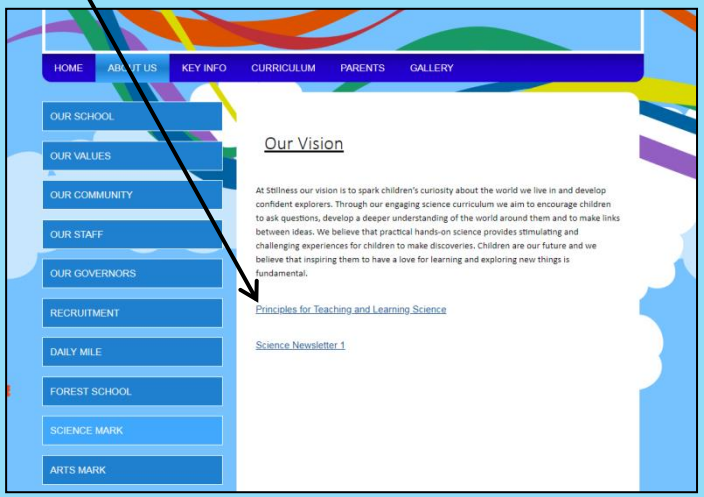
Solar system using oil pastels and paint

Colourful bugs using oil pastels

Science principles on school website and to be reviewed for new academic year



SL1, SL3, WO2



Links with Art

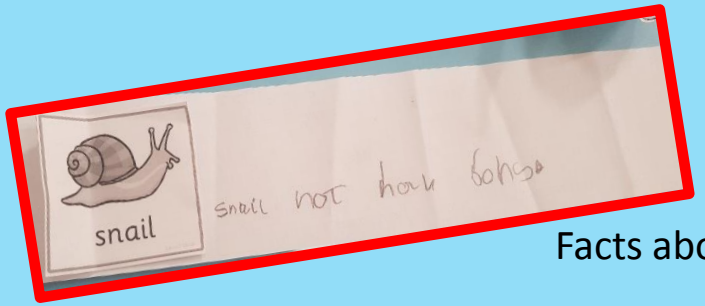
Printing of flowers and leaves

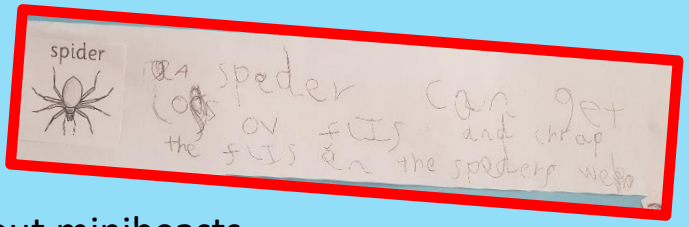
Paint and silhouettes

Collage egg designs

Using junk modelling to make jet packs

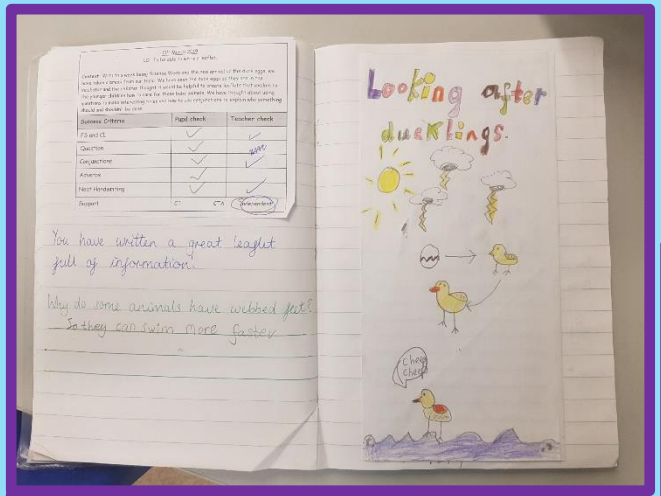
Science is **valued** by all and is taught through a **cross- curricular** curriculum.

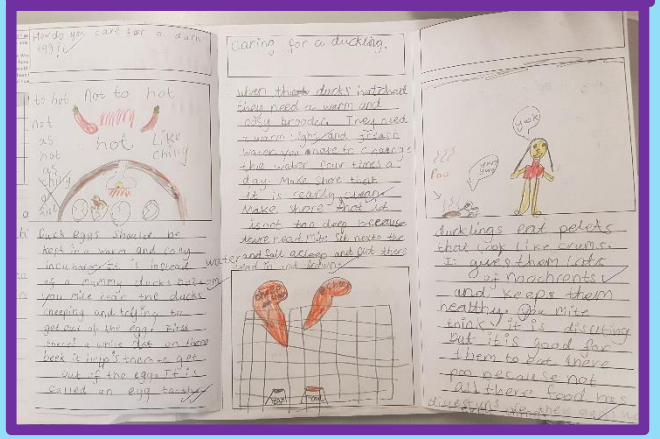




Facts about minibeasts

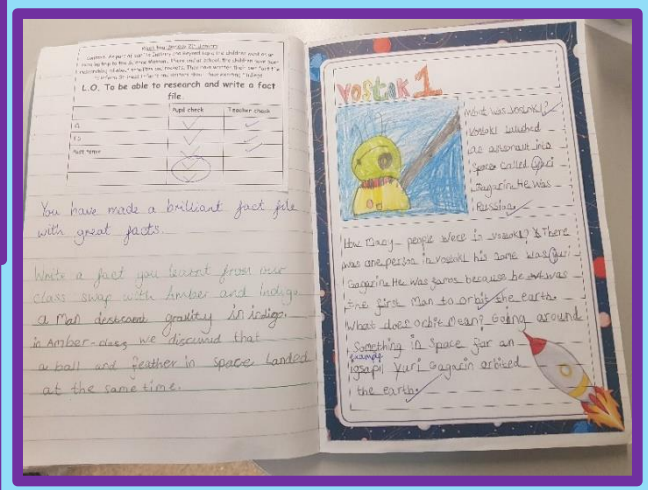
Links with English and Maths

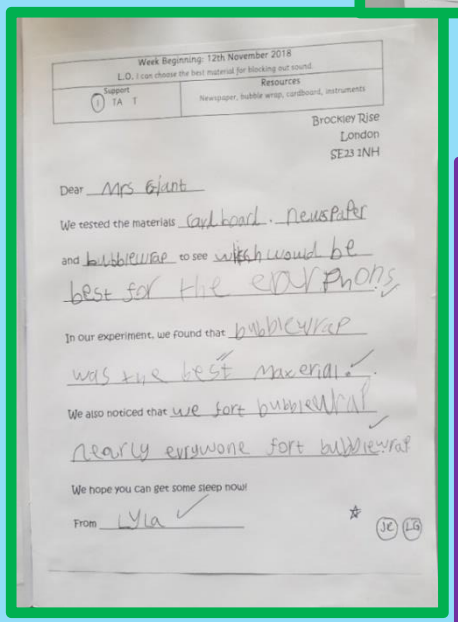




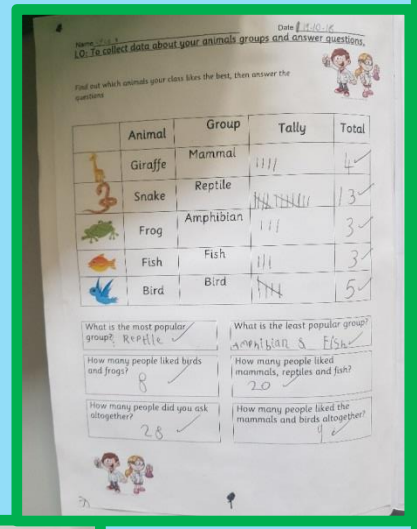
Writing a leaflet about how to look after ducks

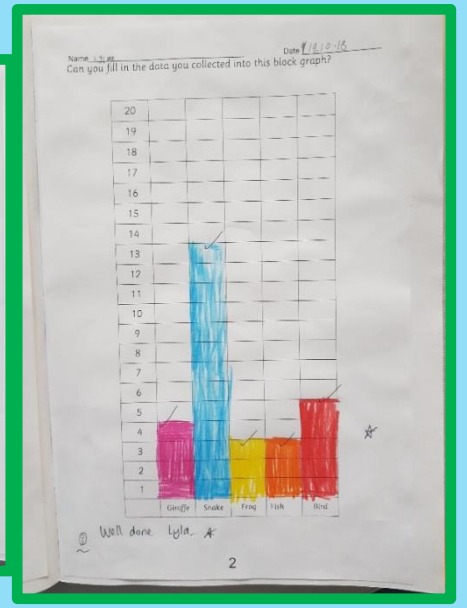
Fact file about Vostak 1



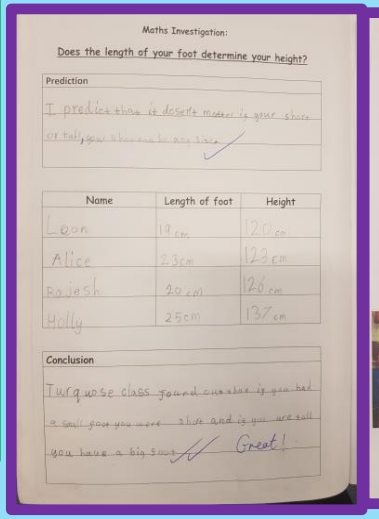


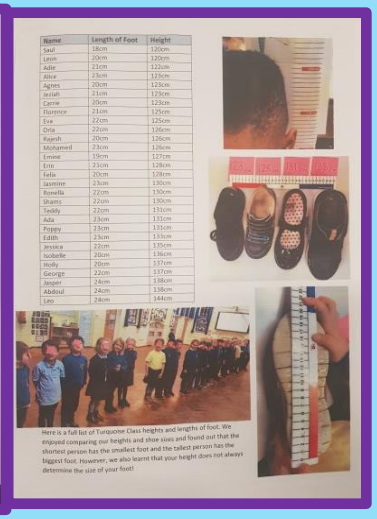
Letter to Mrs Giant to inform her which material is the best ear defender to help with Mr Giant's snoring.





Tally chart and bar graph with classes favourite animals





Does the length of your foot determine your height?

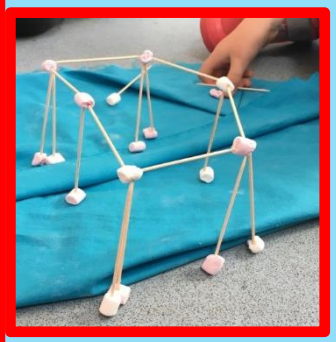
WO1

Science is **valued** by all and is taught through a **cross- curricular** curriculum.

Baking gingerbread biscuits

Observing what happens to gingerbread biscuits in different liquids.

The Gingerbread Man story



Building a bridge for the gingerbread man to cross the river

Testing boats during our Transport topic

Astronaut training day- building models wearing gloves

STEM links

Building a strong house for the three little pigs

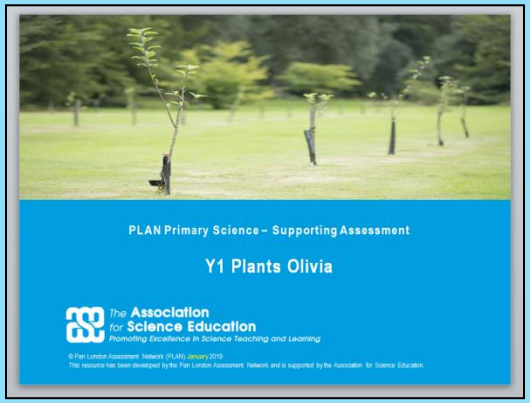
4 The Gingerbread Man 13.5.19 Red Class Forest School am Gingerbread man baking- Yellow- Wednesday Red-Thursday Blue- Friday	Show sensitivity towards others' needs and feelings Monthly value: Respect	Speech bubbles and thought bubbles Recipes Write another way to cross the river Small World: (on rotation) The Gingerbread Man Little Red Riding Hood Princesses, castles Writing: (flexible depending on when you are cooking) - Thought bubbles (all 30 chn to complete one independently) - List of ingredients for Gingerbread cooking -Writing some of the story with picture prompts and booklets (opportunity to challenge HA) - optional decorate Gingerbread man on template and label parts	Cooking - weighing and measuring quantities/ capacity Maths M+T- Weighing scales with different objects W.Th- How many scoops of rice/poms poms does it take to fill up these containers? (blue rice to be like water- Gingerbread and fox characters on table) F- Subtraction squash!	Crossing the river - how did he cross. Senses smelling Ginger and other ingredients. ICT: http://www.starfall.com/n/holiday/gingerbread/play.htm?f Outdoors: Construction: mobilo Sand: weighing scales Water: coloured water with jugs and containers of different sizes Small world: Dolls house Clipboards: gingerbread man bingo with large dice Green area: making bridges to cross 'river' Painting and chalk BIKES on big playground Phonics- High five words around the area with clipboards Outdoor role play - builders	Messy -Flour, sugar, cinnamon, salt with sieves and measuring spoons and bowls. Add water Indoor role play- Baking Creative: Decorating gingerbread templates Alternative ways to cross the river junk modelling- makes boats/canoes/ bridge Water, river pictures using wax resist Bake gingerbread men 	Make a path with 2 planks to cross a river Outdoor role play - Shop Bakery Playdough- Gingerbread men/women-googly eyes, buttons and cutters

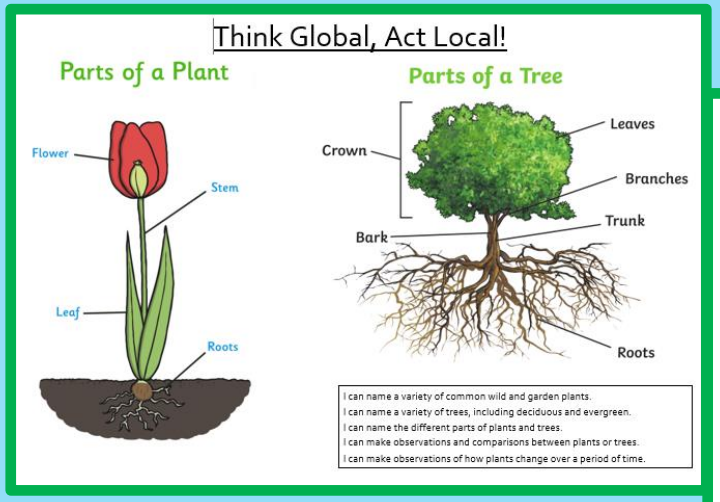
Cross curricular planning

SL4, WO1

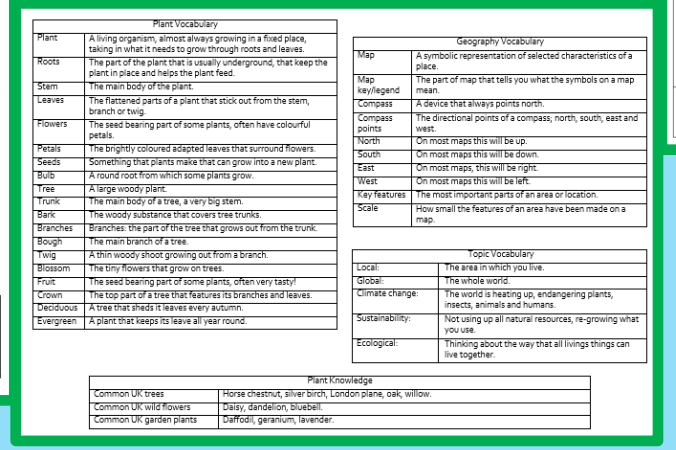
Teacher's subject knowledge ensures that children build on **prior knowledge** and are **challenged** appropriately. Children understand and are able to use relevant **scientific vocabulary**.

Assessment CPD using ASE PLAN resources- staff aware of the knowledge children need to be secure for topics





Draft knowledge organisers for each topic identify the relevant science vocabulary



Plant Vocabulary

Plant	A living organism, almost always growing in a fixed place, taking in what it needs to grow through roots and leaves.
Roots	The part of the plant that is usually underground, that keep the plant in place and helps the plant feed.
Stem	The main body of the plant.
Leaves	The flattened parts of a plant that stick out from the stem, branch or twig.
Flowers	The seed bearing part of some plants, often have colourful petals.
Petals	The brightly coloured adapted leaves that surround flowers.
Seeds	Something that plants make that can grow into a new plant.
Bulb	A round root from which some plants grow.
Tree	A large woody plant.
Trunk	The main body of a tree, a very big stem.
Bark	The woody substance that covers tree trunks.
Branches	Branches: the part of the tree that grows out from the trunk.
Bough	The main branch of a tree.
Twig	A thin woody shoot growing out from a branch.
Blossom	The tiny flowers that grow on trees.
Fruit	The seed bearing part of some plants, often very tasty!
Crown	The top part of a tree that features its branches and leaves.
Deciduous	A tree that sheds it leaves every autumn.
Evergreen	A plant that keeps its leave all year round.

Geography Vocabulary

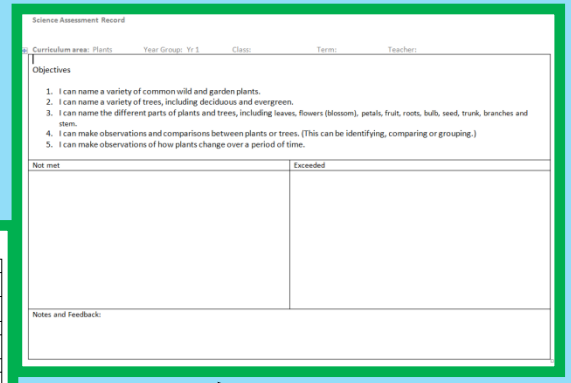
Map	A symbolic representation of selected characteristics of a place.
Map key/legend	The part of map that tells you what the symbols on a map mean.
Compass	A device that always points north.
Compass points	The directional points of a compass; north, south, east and west.
North	On most maps this will be up.
South	On most maps this will be down.
East	On most maps, this will be right.
West	On most maps this will be left.
Key features	The most important parts of an area or location.
Scale	How small the features of an area have been made on a map.

Topic Vocabulary

Local:	The area in which you live.
Global:	The whole world.
Climate change:	The world is heating up, endangering plants, insects, animals and humans.
Sustainability:	Not using up all natural resources, re-growing what you use.
Ecological:	Thinking about the way that all livings things can live together.

Plant Knowledge

Common UK trees	Horse chestnut, silver birch, London plane, oak, willow.
Common UK wild flowers	Daisy, dandelion, bluebell.
Common UK garden plants	Daffodil, geranium, lavender.


Science Assessment Record

Curriculum area: Plants Year Group: Yr 1 Class: Term: Teacher:

Objectives

1. I can name a variety of common wild and garden plants.
2. I can name a variety of trees, including deciduous and evergreen.
3. I can name the different parts of plants and trees, including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem.
4. I can make observations and comparisons between plants or trees. (This can be identifying, comparing or grouping.)
5. I can make observations of how plants change over a period of time.

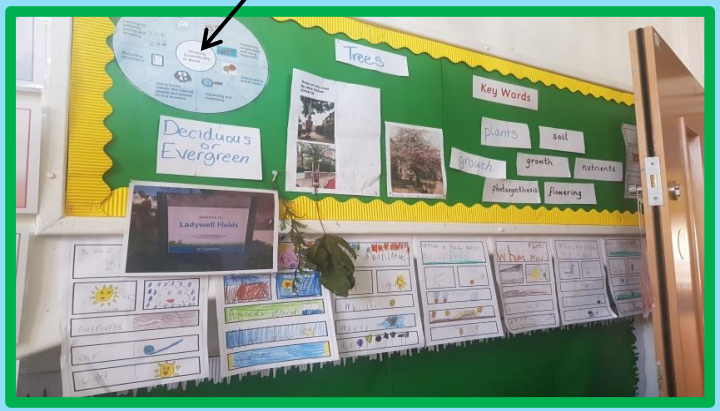
Not met	Exceeded

Notes and Feedback:

Knowledge Organisers now link to our KS1 assessment sheets for science topics

Science CPD sessions have emphasised the importance of developing vocabulary- this is evident on all displays across the school

Working scientifically wheel

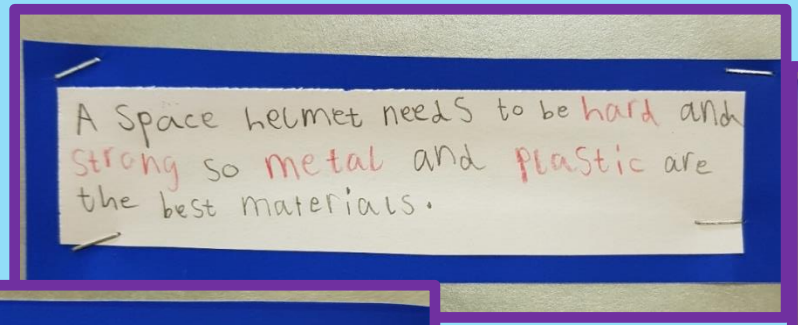


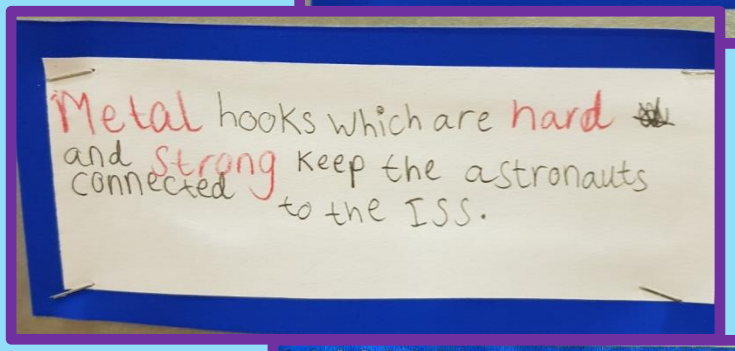
L1, L2, L3, SL2, SL3, SL5, T1, T2

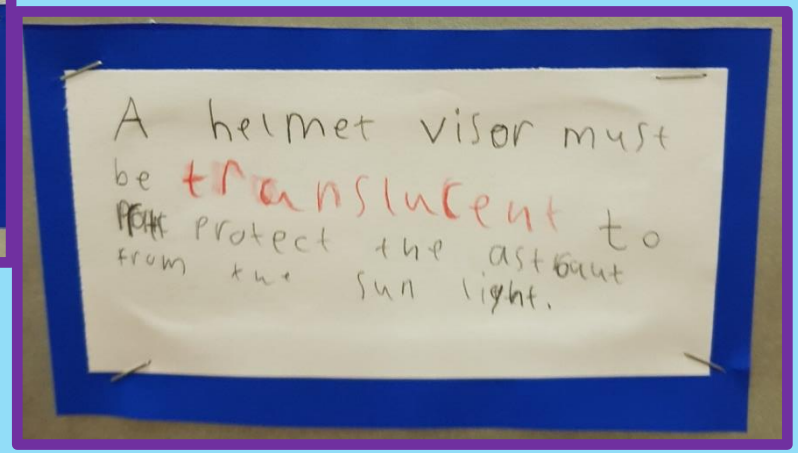
Teacher's subject knowledge ensures that children build on **prior knowledge** and are **challenged** appropriately. Children understand and are able to use relevant **scientific vocabulary**.

Explicit vocab naming trees in the local area

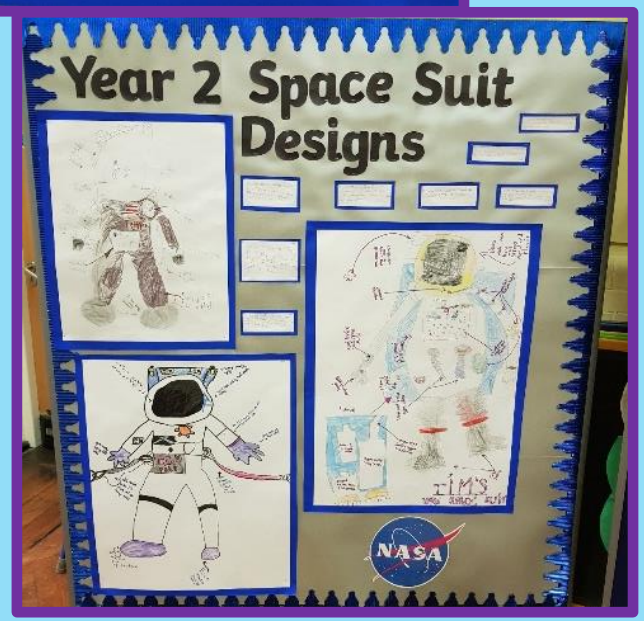
"I didn't know many different trees because they all looked similar and now I've learnt to recognise them by their leaves."

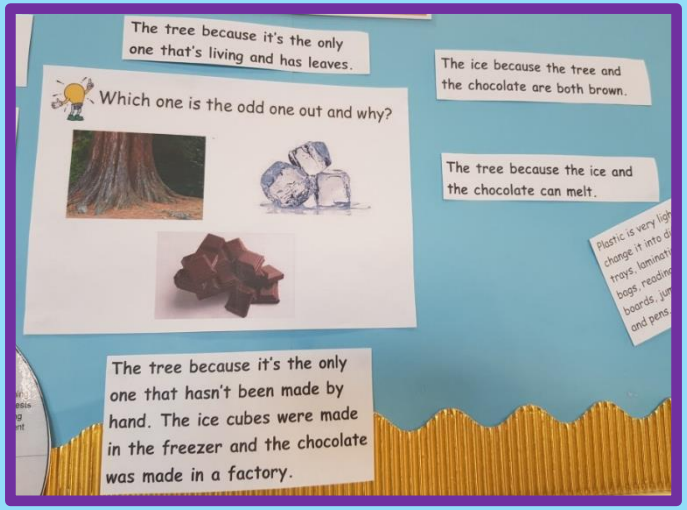






Children using key vocabulary when designing space suits





Bright ideas time- challenging children's science understanding

L2, L3, SL1, T1, T2