PSQM

Ingol Community Primary School

2019

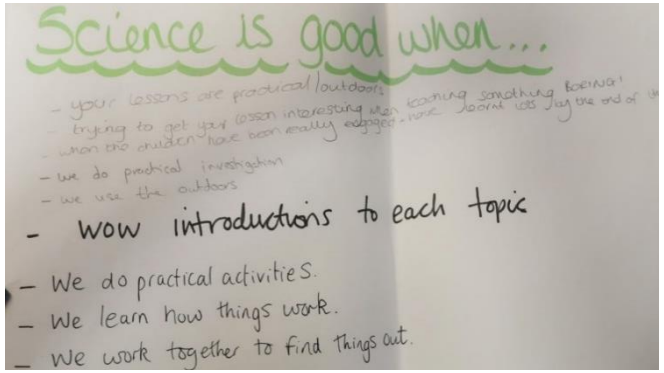
SL1 There is a clear vision for the teaching and learning of science

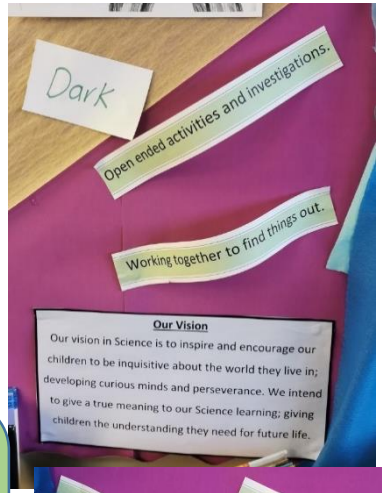
- A clear vision for science is established.
- School principles for science teaching and learning have been developed by teachers and children.

Fun and excitement!

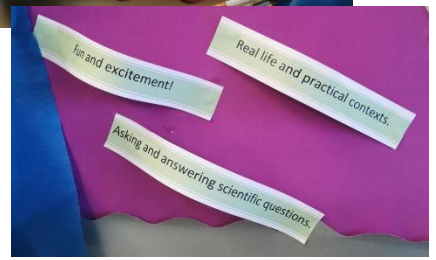
Open ended activities and investigations.

Working together to find things out.

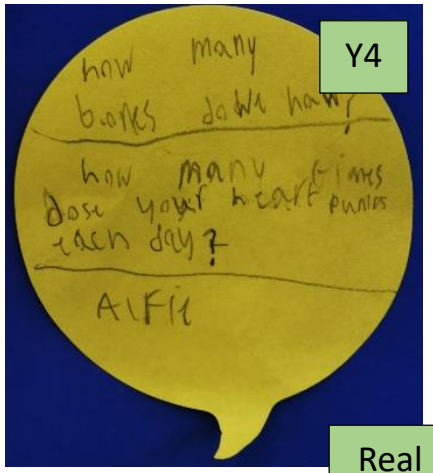


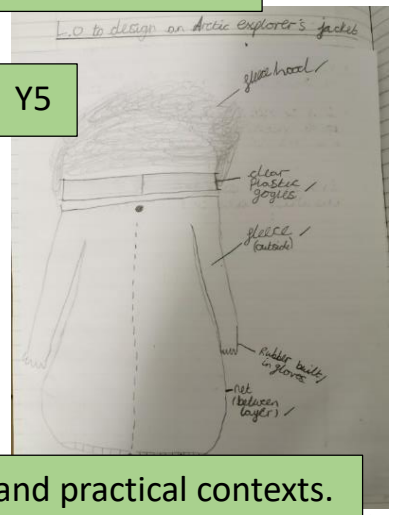


To Mrs Jones, today Eva went on a spring walk with her dad and they looked for signs of spring. Eva told her dad that the lambs are a sign of spring, the sheep have their babies in Spring.
Messaged received from a parent during lockdown on class DoJo.

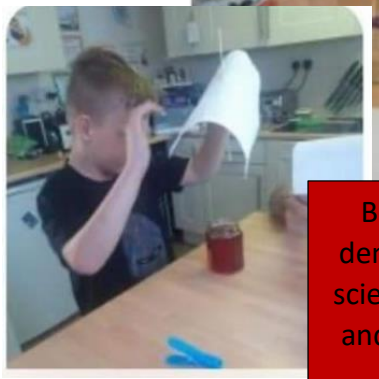


Asking and answering scientific questions.





Real life and practical contexts.



Principles continued at home for remote learners.

We used to have principles, but we don't use them in Year 5 now. (Pupil Voice)

Before PSQM, learning walks and book monitoring demonstrated that children were not engaged in their science learning, there was no clear vision for teachers and children to work towards and principles were not over arching everything we did in science.

SL2: There is a shared understanding of the importance and value of science

- **The school community has a developing understanding of the importance and value of science.**

Y3

Y1

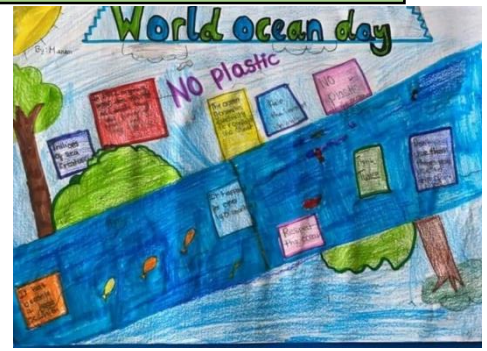
KS2 Science club. Next year we will look at hosting an EYFS/KS1 club too!

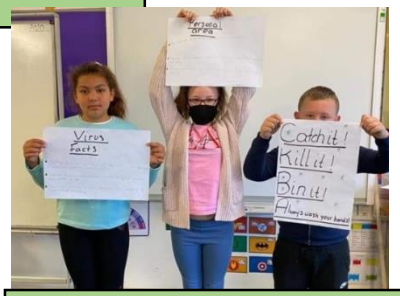
Mrs Baron, will it still explode if we use less vinegar or different liquids?

We listened to what the children wanted, and arranged a science club full of making slimes and explosions!

Class blogs on the website began to showcase science in the classroom, showing that as a school we have a shared understanding of the importance of science.

Events such as World Ocean Day, were still celebrated during school closures





During lockdown, science continued to be a priority in school. The children decided we needed to develop our outdoor gardens and habitats for animals! They also wanted to learn about the virus and understand how the scientists were trying to help us!

Core Documents produced from SLT meetings.

Science Catch up Curriculum Plan 2020-2021

	Autumn term Approx 16 weeks	Spring term Approx 11 weeks	Summer term Approx 14 weeks
	Seasonal Change Humans Materials Forces	Seasonal change Materials	Materials Animals Plants
Year 1	Materials Seasonal Change	Plants Seasonal Change	Animals including Humans Seasonal Change
Year 2	Materials Year 1 coverage Materials Year 2 coverage	Animals including humans Plants	Living things and habitats
Year 3	Forces Lights	Plants (Recap over year 2 coverage) Materials	Animals Including Humans Living things and habitats Year 2 Coverage
Year 4	Electricity Materials	Animals Including Humans Living things and Habitats	Lights Year 3 coverage Sound
Year 5	Materials Including water cycle Year 4	Living things and habitats Animals including humans Including year 4 food chains	Earth, Space and Forces Sound Year 4 coverage
Year 6	Living things and habitats Including year 5 coverage	Living things and habitats Electricity	Animals including humans Light

BIOLOGY - ANIMALS INCLUDING HUMANS PROGRESSION

EYFS
Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Pupils should be taught to: • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • identify and name a variety of common animals that are carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Pupils should be taught to: • notice that animals, including humans, have offspring which grow into adults • find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Pupils should be taught to: • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Pupils should be taught to: • Describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators and prey.	Pupils should be taught to: • Describe the changes as humans develop to old age.	Pupils should be taught to: • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • Describe the ways in which nutrients and water are transported within animals, including humans.

KS3
Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta.
The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases.
The effects of recreational drugs (including substance misuse) on behaviour, health and life processes.
The structure and functions of the gas exchange system in humans, including adaptations to function.
The mechanism of breathing to move air in and out of the lungs.
The impact of exercise, asthma and smoking on the human gas exchange system.

PSHE LINKS – Sex education, healthy lifestyles from Y1 – Y6 (spring and summer terms)

SL3 There are appropriate and active goals for developing science

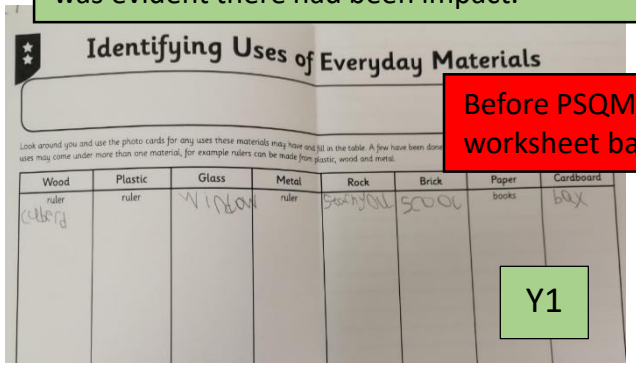
- **School strategic planning processes provide effective support for the subject leader's development of science.**

SL4 There is a commitment to the professional development of subject leadership in science

- The subject leader engages with professional development and learning.
- The subject leader is interested in science, and communicates this interest to others.

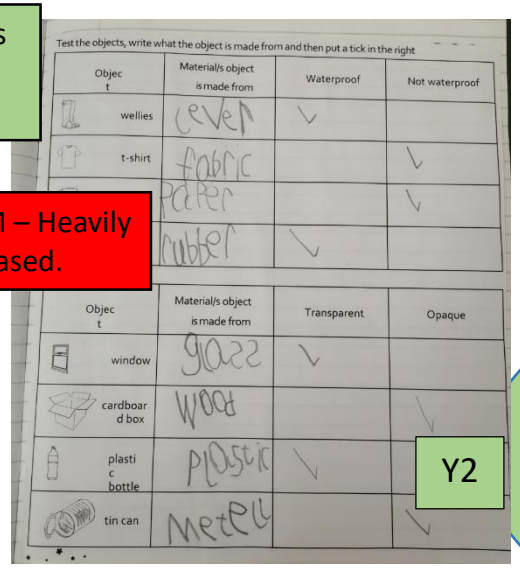
The Association for Science Education

The subject leader has conducted book looks and gave feedback. On a second book look it was evident there had been impact.



Before PSQM – Heavily worksheet based.

Y1

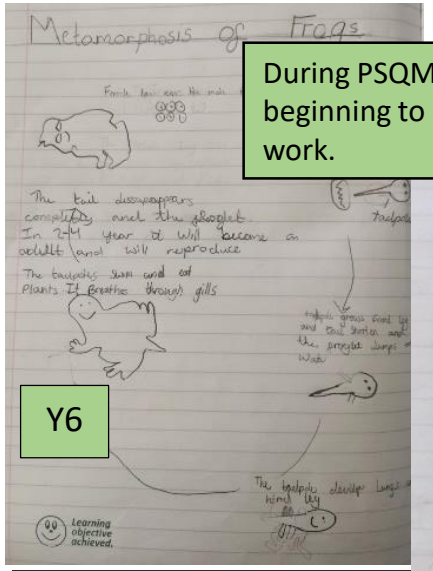


Y2

ReachOut CPD

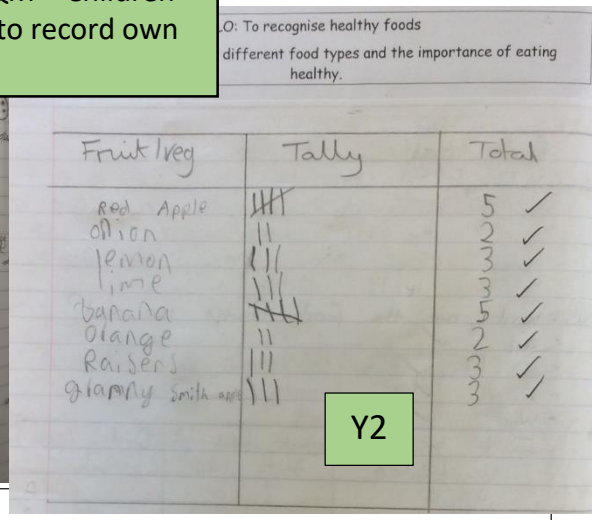
"After the science club, Zac came home and showed us and his younger brother how to create a volcano in a cup and he explained to us about the chemical reactions happening. He really enjoyed it."

Parent's feedback from Science Club.

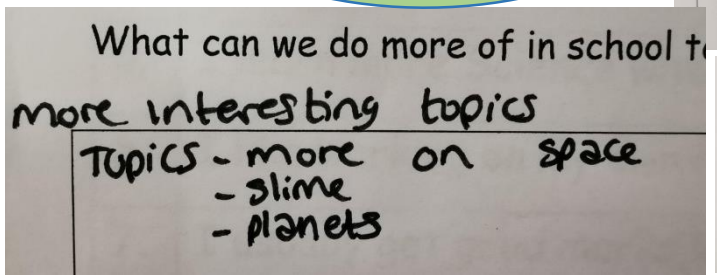


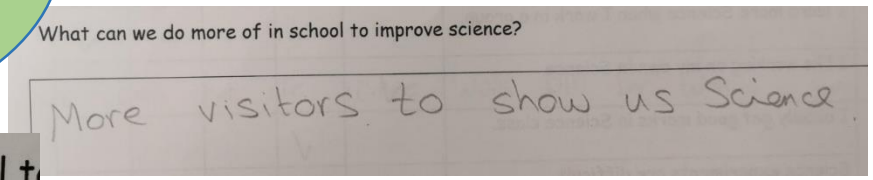
During PSQM – Children beginning to record own work.

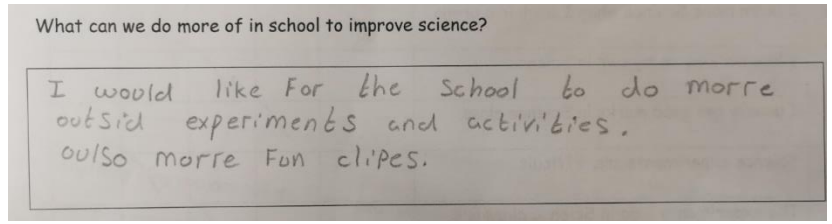
Y6

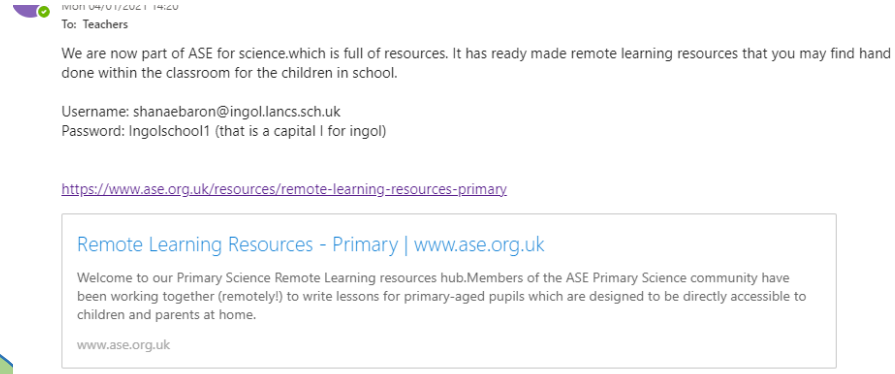


Y2









Areas to develop

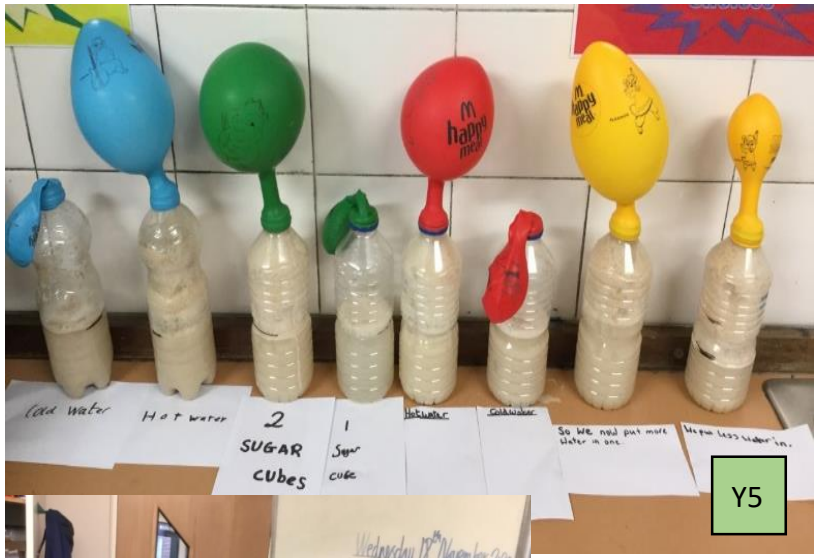
- Children to find their own ways to record their findings/work – less worksheet based activities.

SL5 There are monitoring processes to inform the development of science teaching and learning

- The subject leader uses a range of processes to monitor science teaching and learning.
- The subject leader ensures that pupil voice is valued and responded to.
- The subject leader shares outcomes with colleagues and implements appropriate actions.

L1: There is a shared understanding of the purpose and process of science enquiry.

- Children use different enquiry types to answer scientific questions about the world around them.
- Children are developing independence in:
  - asking scientific questions
  - planning how to investigate them,
  - carrying out and evaluating investigations.



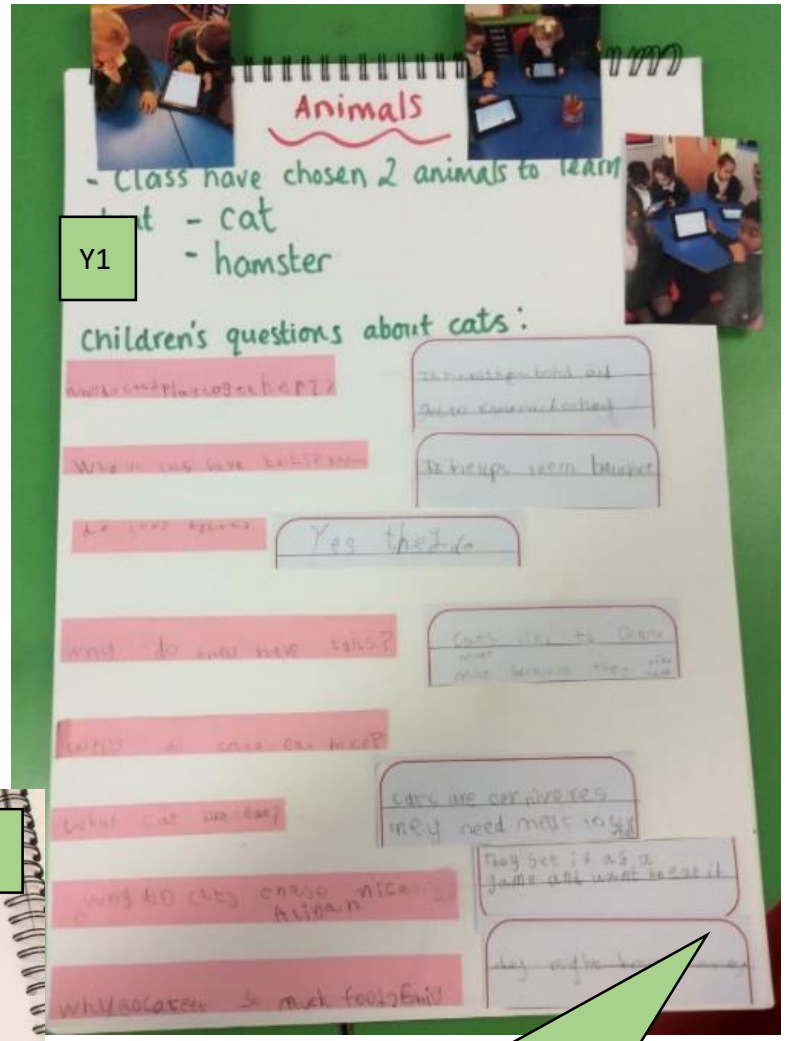
Date 07
Time
Observed by sarahs ingol.lan
Parent Share

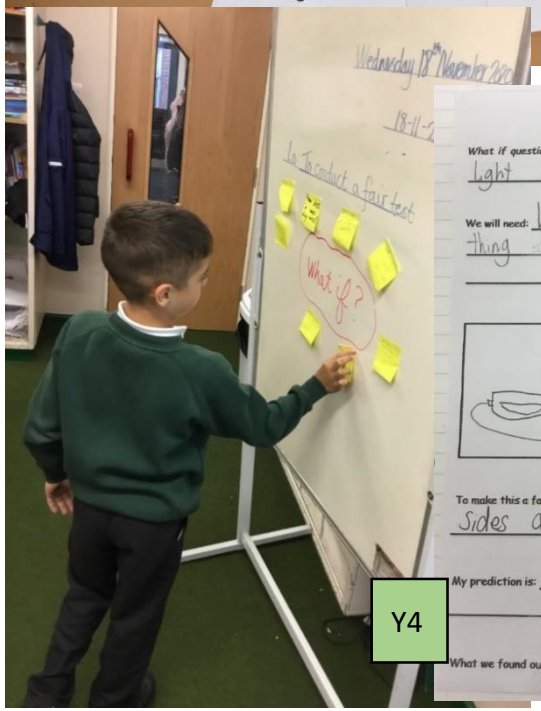
Last updated by sarahsmalley@ingol.la .sch.uk on 07 Oct 202 08:42pm

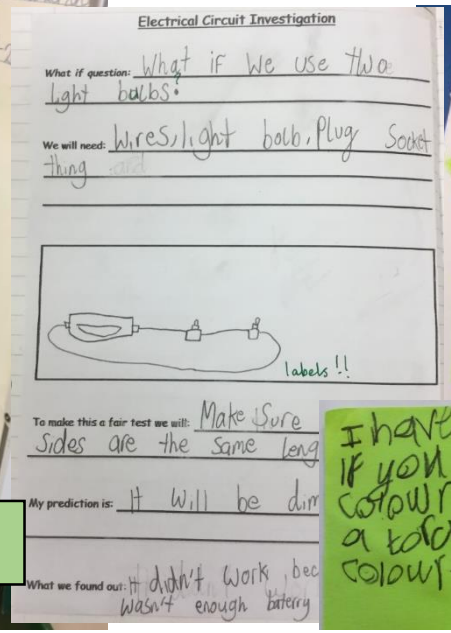
Notes See all N

Lucas and Sienna created a game of rolling the ball down the drain pipe, they played beautifully t...

EYFS – In the reception area, the class teacher has been leaving out different types of equipment for open ended play, which links to our child led investigating. These two children were investigating how the ball rolled down the drains when they changed the angle of the drains.







I have found that if you put different colour cellophane on a torch it will change colour.

It was really nice to be able to let the children find out things for themselves. Sometimes as teachers we get carried away with just teaching the children what they need to know. They got really excited and I was surprised how interested they were!
Mrs Jones Year 1

L1: There is a shared understanding of the purpose and process of science enquiry.

- Children use different enquiry types to answer scientific questions about the world around them.
- Children are developing independence in:
  - asking scientific questions
  - planning how to investigate them,
  - carrying out and evaluating investigations.

Our principles are now on our planning templates so that all teachers use them whilst planning their lessons, which impact the different enquiry types being taught.

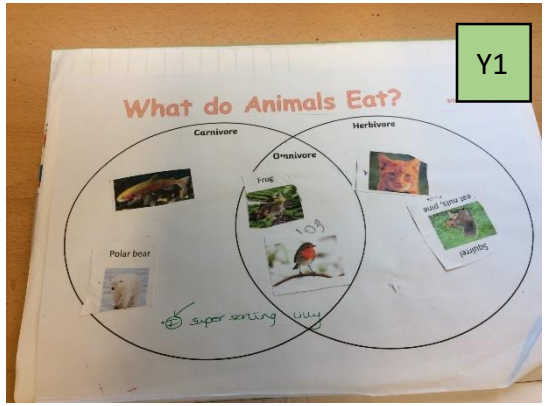
Year Group - 2	Term - Autumn 1	Topic - Material Properties - Uses of materials
Knowledge and Conceptual understanding		**Science Principles**
• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, rock, paper and cardboard for particular uses • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (applying a force) • Some materials can be found naturally; others have to be made		Our Science Principles • Open ended activities and investigations • Fun and excitement (Engagement) • Asking and answering scientific questions • Real life practical contexts • Working together to find things out

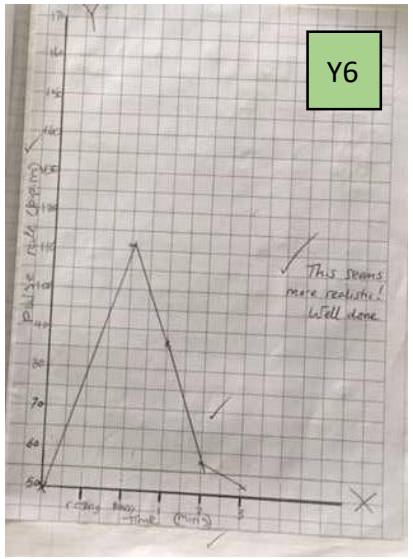
Session	Learning Intention	Main Learning	Independent learning	Plenary	Resources / key

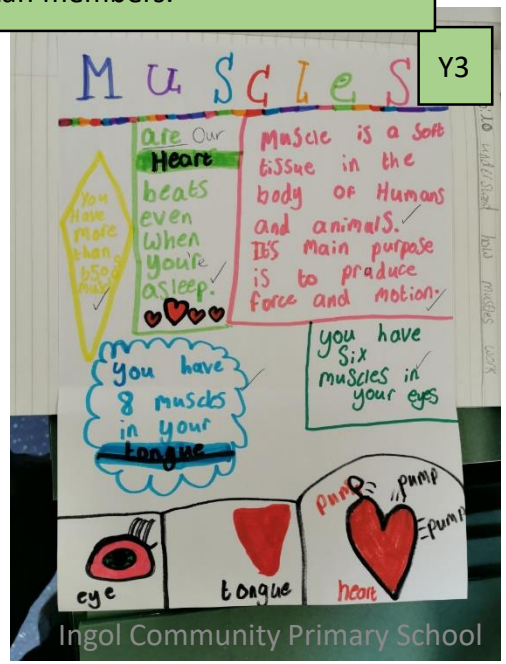
Before PSQM not all enquiry types were evident during book looks or lesson drop ins.

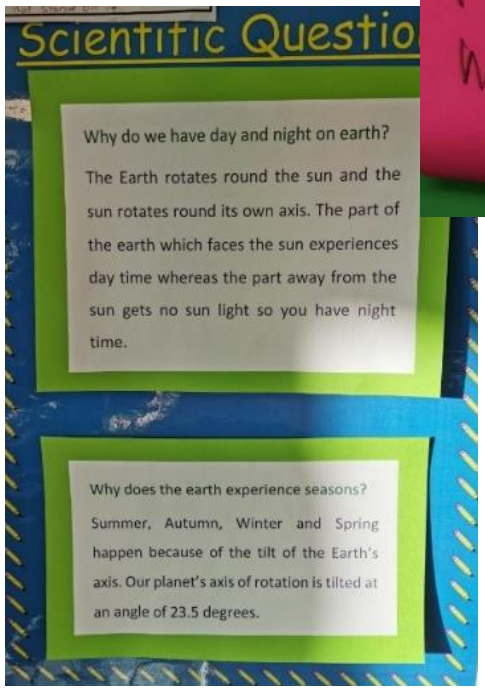
Now, post PSQM, whilst looking through books and teachers sending over evidence, you can see that we are beginning to teach different types of enquiry. Some ideas have come from the Reach Out CPD given to staff members.

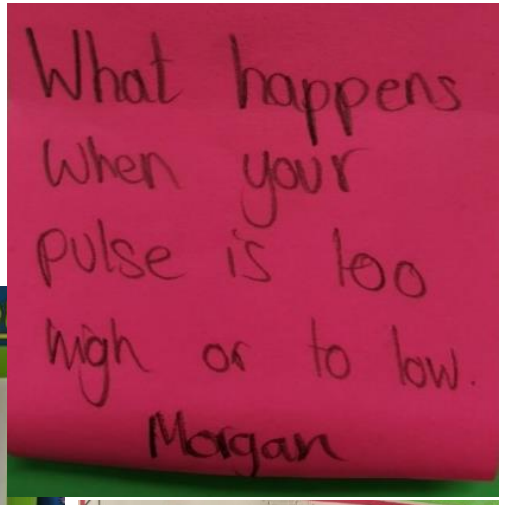
All classes now have areas on display which scientific questions can be recorded. At the end of each topic if they have not yet been able to answer the questions, the children are given some free time to use different skills to find out the answers.

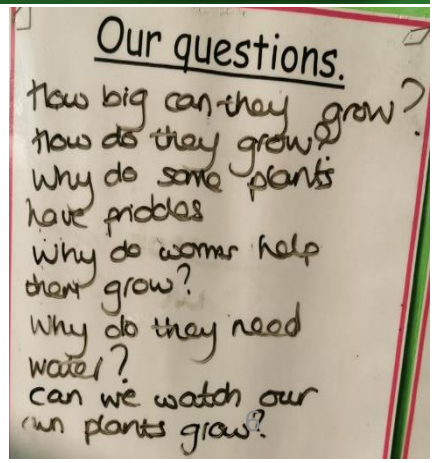












L2 There is a shared understanding of the purposes of science assessment and current best practice.

- **Teachers use a range of strategies and processes for formative, summative and statutory assessment, which reflect the school understanding of the purposes of assessment in science and current best practice.**
- **The subject leader develops assessment practice in science.**

Pre PSQM – evidence showed that the curriculum was not progressive therefore the monitoring of pupil progress would be difficult.

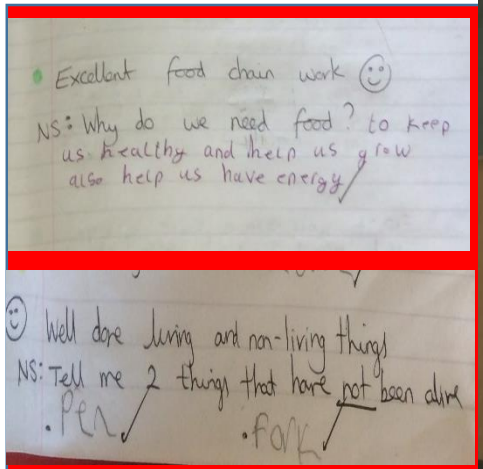
Areas to develop

- Need to build more evidence of working scientifically skills – e.g. testing, observing etc.
- Classifying lesson taught – not part of year 2. Please look at year coverage for the topics.

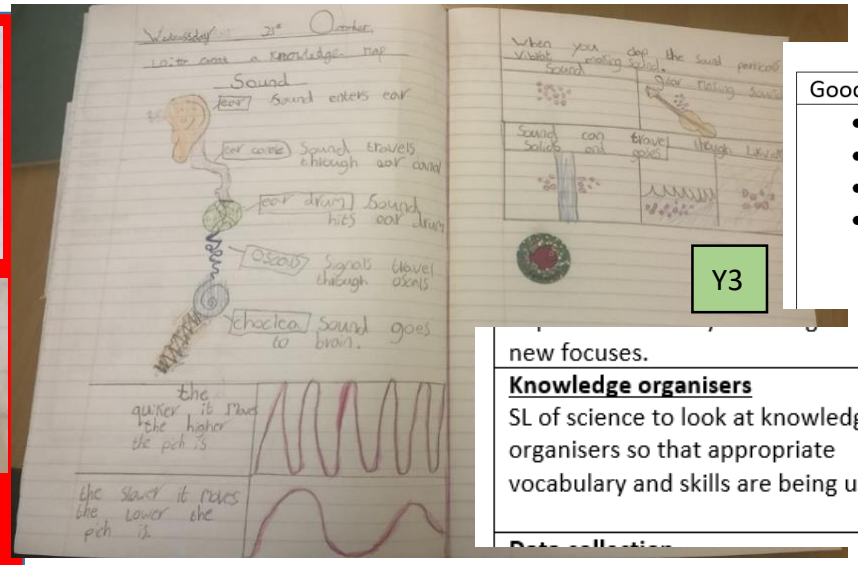
From a recent book look, it showed that the progression document created by the subject leader had supported this teacher. From plan scrutinises and evidence in books, the Year 2 curriculum showed progression.

Good practise

- Materials topic linked well to real life situations
- Writing links with English in books
- Children recorded work well
- Plans show progressive coverage of curriculum and practical lessons

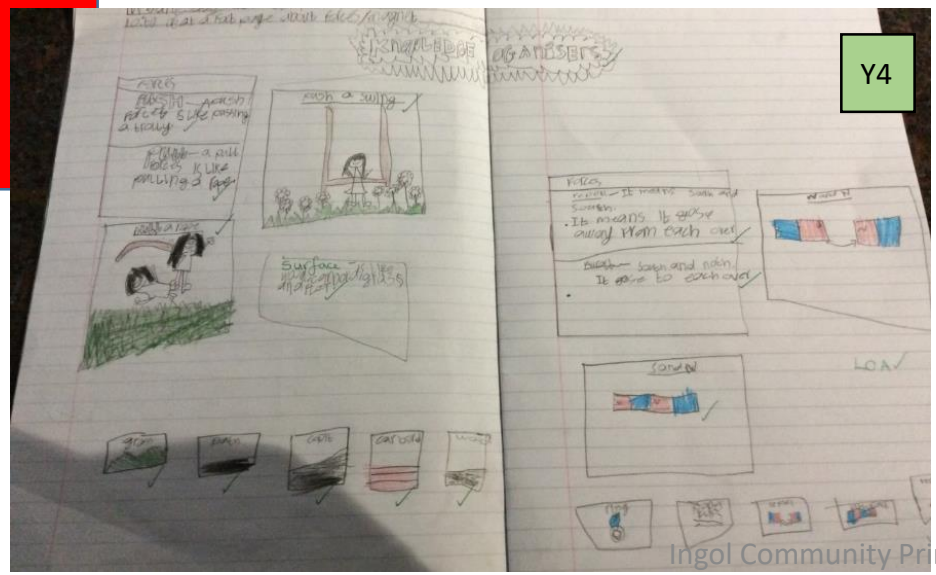


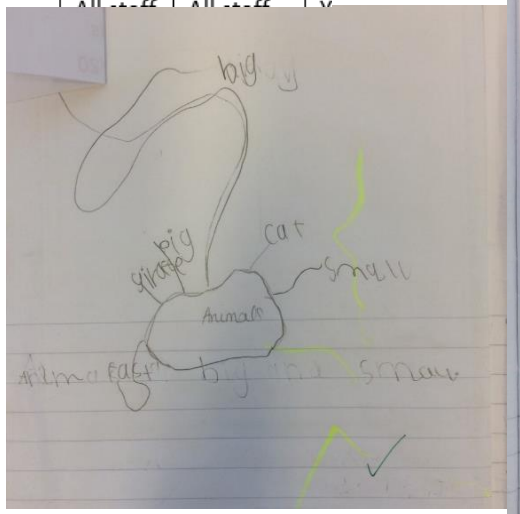
Pre PSQM – only evidence of assessment in books was next step marking.

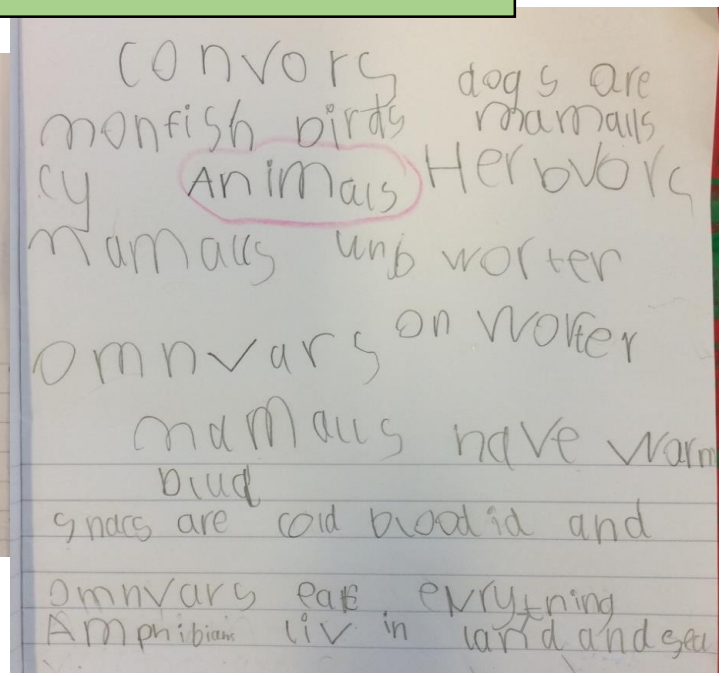


new focuses.			
Knowledge organisers SL of science to look at knowledge organisers so that appropriate vocabulary and skills are being used.	SB	Curr lead to support	C

Year 1 used a knowledge organiser before the topic and at the end of the topic to support formative assessment.





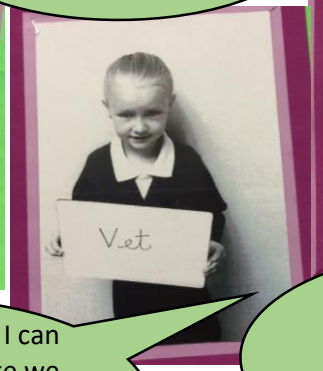


Post PSQM – Knowledge organisers were seen in all year groups, along with next step marking.

L3 There is a commitment to developing all children's science capital

- **The subject leader promotes initiatives that encourage all children to think that science is relevant and important to their lives, now and in the future.**

I want to be an engineer like we did in the UCLAN day!
Year 3



I want to be a vet so I can look after animals like we look after the rabbit in school.
Year 1

Hairdressers need to know science to mix the hair colours!
Year 6

I want to be a scientist when I grow up because I can experiment and find things out about the world!
Year 2

We put up an aspirations board at the reception area of school. After promoting science capital around school, children were telling others that they wanted to have jobs which related to science.

Y3/4

Y5/6

EYFS

Science Experiment

On Monday, we will investigate melting, by conducting an experiment with chocolate. Please ask your child your child to predict what will happen if they hold a piece of chocolate in their hand whilst we sing some nursery rhymes.

Rachel Mcdaid 1d
Parent of Lucas
Lucas thinks it will stay the same

Lynsey Murray 1d
Parent of Alexander
Alex thinks it will 'get squashed'

Mrs. Sarah Smalley 1d
These are great predictions 👍
Thank you Alex and Lucas 😊.

Sarah Taylor 1d
Parent of Kaii
Kaii said it will melt x

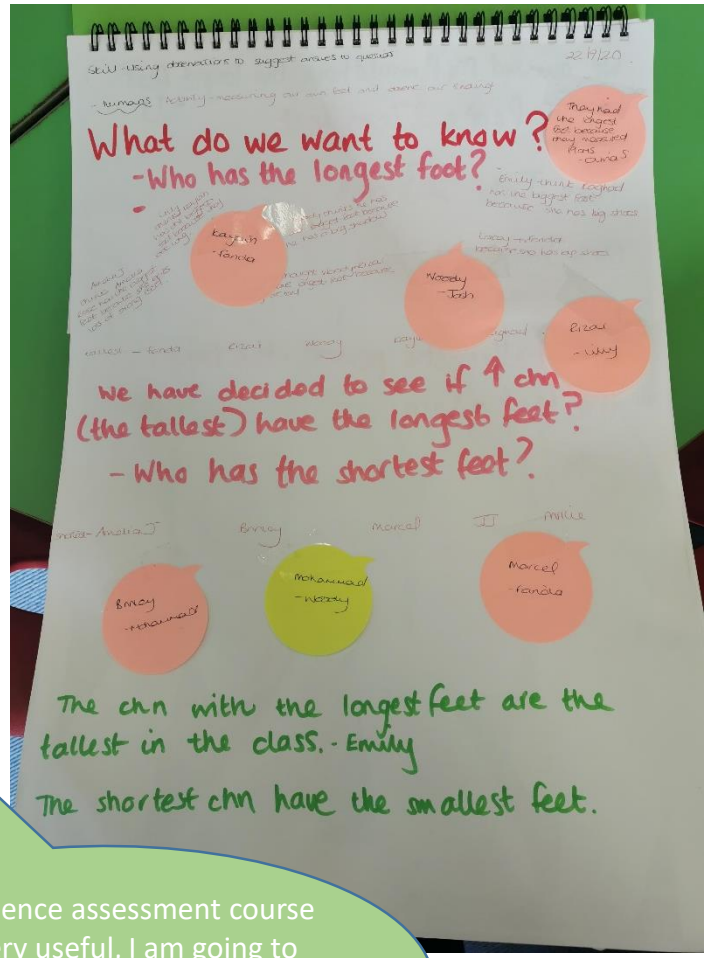
Mrs. Sarah Smalley 1d
Super prediction Kaii 👍

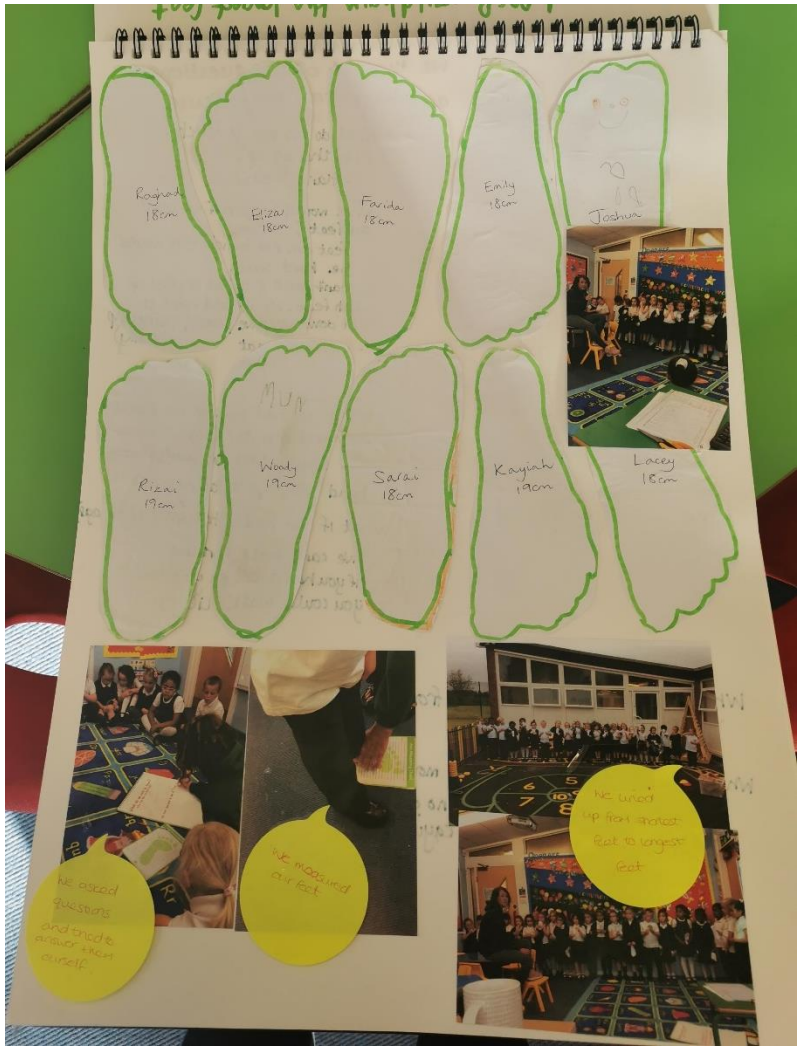
Fun science activities were sent home during remote learning allowing parents and carers to take part in experiments with their children.

T1 There is engagement with professional development to improve science teaching and learning.

- **Staff engage with relevant internal or external professional development.**
- **The subject leader provides professional support for colleagues in response to development needs.**

Team planning was conducted with some members of staff. The subject leader supported the Year 1 teacher with some new strategies in the topic Animals including humans. You can see below the impact of this new activity as children were beginning to engage and ask inquisitive questions. After finding out the tallest children, children began to ask questions such as "does the tallest have the biggest feet?".





Teachers took part in the Reach Out CPD training. Teachers became more confident in trying new strategies and from learning walks it was clear new skills were being taught in lessons.

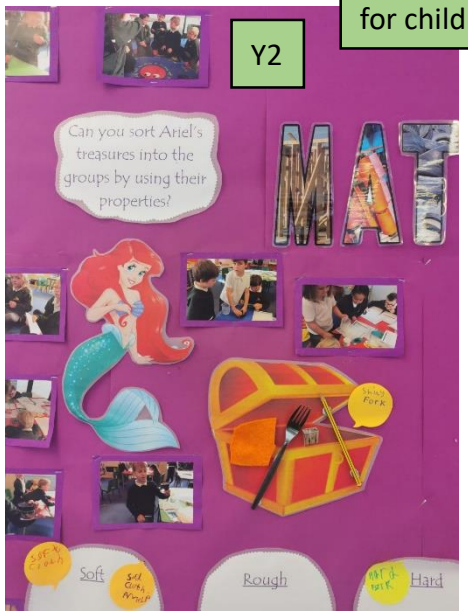
"The science assessment course was very useful, I am going to try a new assessment technique with the children this term" A Dalton (Year 3)

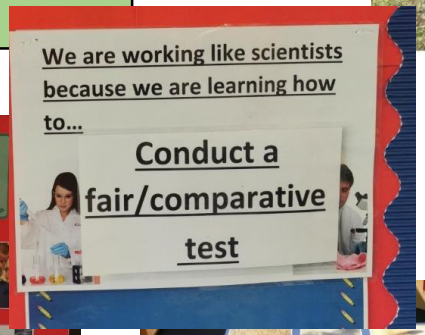
T2 There is a range of effective strategies for teaching and learning science which challenge and support the learning needs of all children.

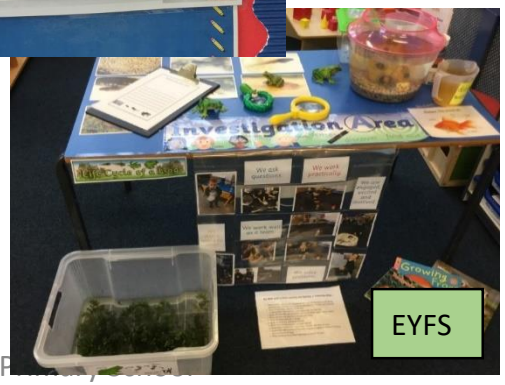
- **Teachers use a range of effective strategies for teaching science, which challenge and support the learning needs of all children.**
- **The subject leader introduces new strategies for teaching science in response to development needs.**

Before PSQM science displays were used to display work from children relating to science. They were not used effectively to support the learning of children. EYFS did not have any provision to support science learning in their classroom.

During PSQM, you could begin to see the difference in our science displays. They were becoming more interactive and supportive and continuous provision in EYFS allowed areas for children to explore science knowledge and skills.







Ingol CP School
1 Jul 2020 •

Big thanks to Mrs Brown who has worked miracles with our planters this week. It looks absolutely amazing 👏👏👏👏👏

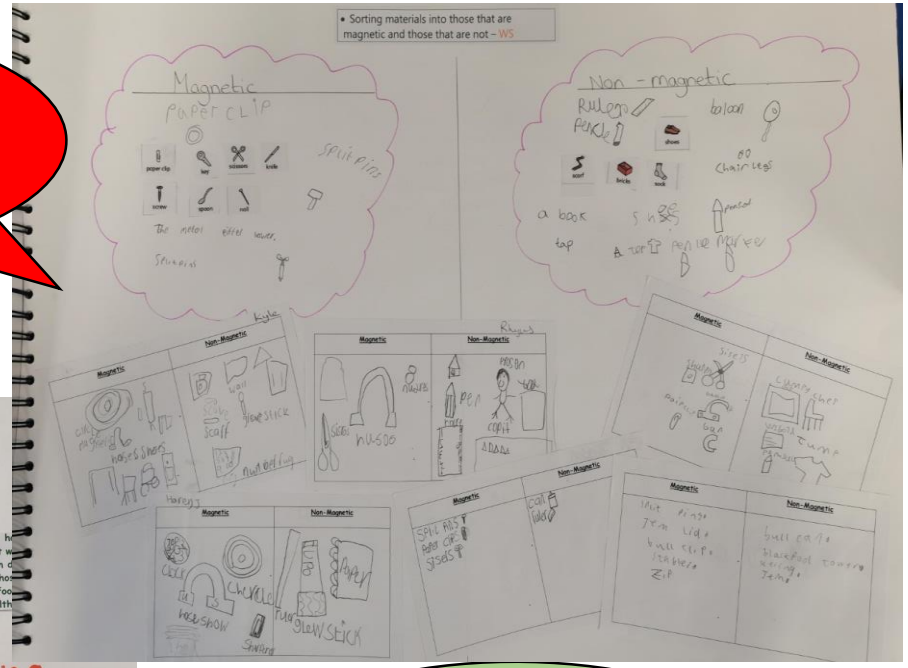
Ingol CP School
25 Jun 2020 •

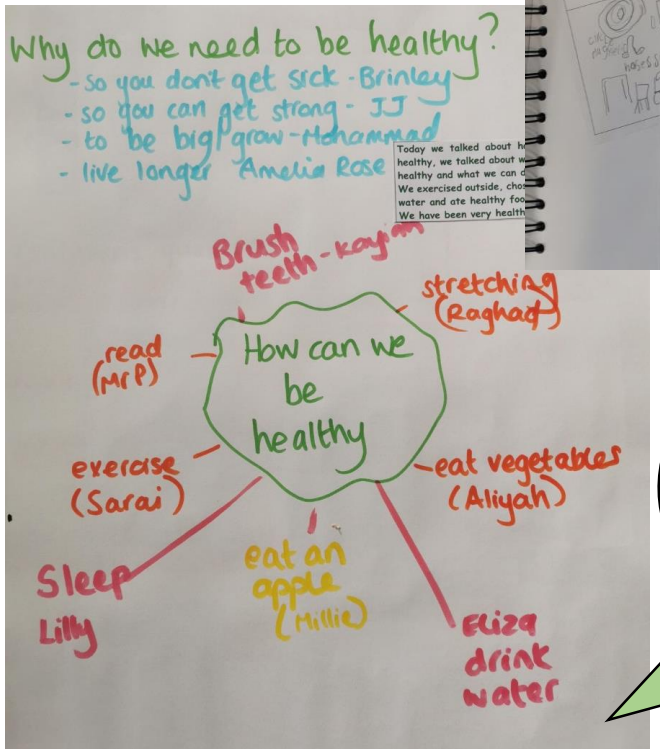
The little bubble have had fun watering our courgette, tomato and stawberry plants. They made lavender, mint and wildflower perfume. It's fabulous to see the product of the efforts made by staff and children with growing their own fruit and vegetables.

T3 There is range of up-to-date, quality resources for teaching and learning science which are used regularly and safely

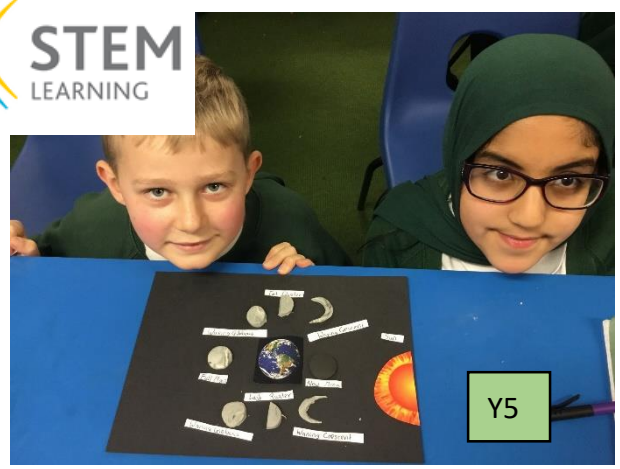
- **Children regularly and safely use appropriate practical and digital resources, information texts and the outdoor environment.**
- **Resources are audited annually, well-organised and accessible.**

Pre PSQM:
"I don't like it in science when we have to do lots of writing when we have had fun"





Post PSQM:
"We don't always write in our books now. We have big books which we stick things and write things in. I like doing it and showing the rest of the class what I have found out. Sometimes children will look back through it in the book corner so we can remember what we did".



Ingol CP School
10 Dec 2020 •

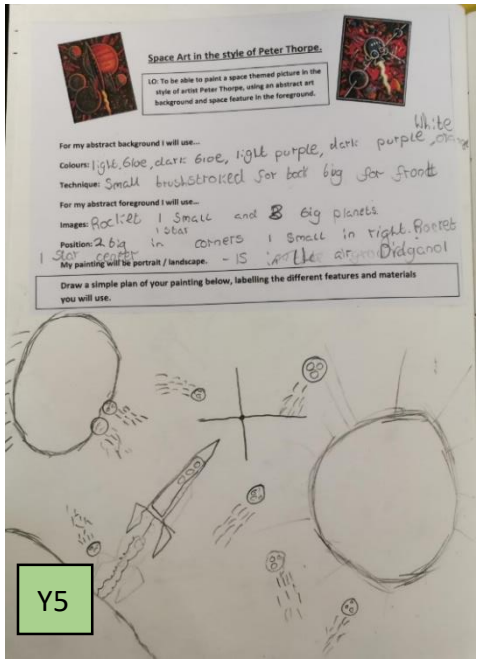
Year 6 Science: Bird beak activity. The pupils really enjoyed imitating the feeding habits of birds with varying size and beak type. We looked at surv... See more

New activities are being taught using website provided by the subject leader such as STEM and RSPB.

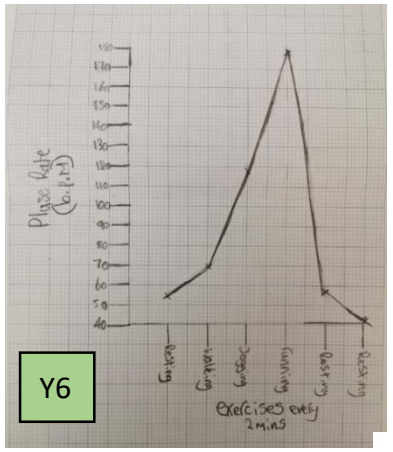
WO1 There are appropriate links between science and other learning.

- **Curriculum planning links science to other areas of learning.**

Cross curricular links through out the curriculum different year groups.



Y5

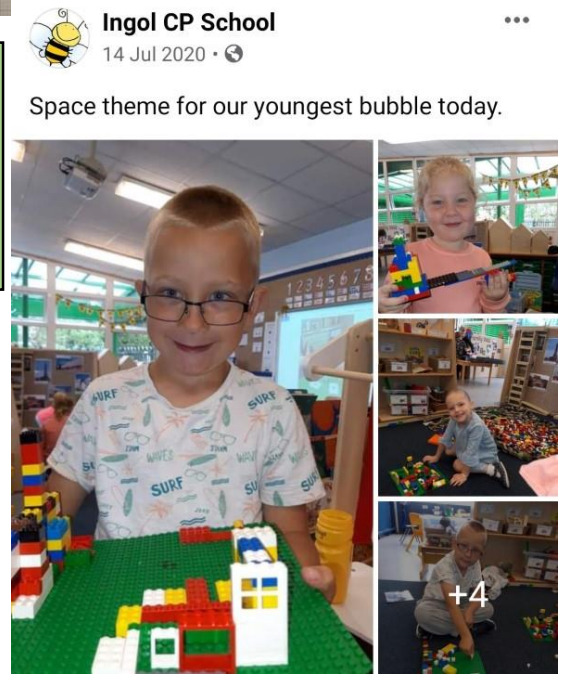


Y6

Y2

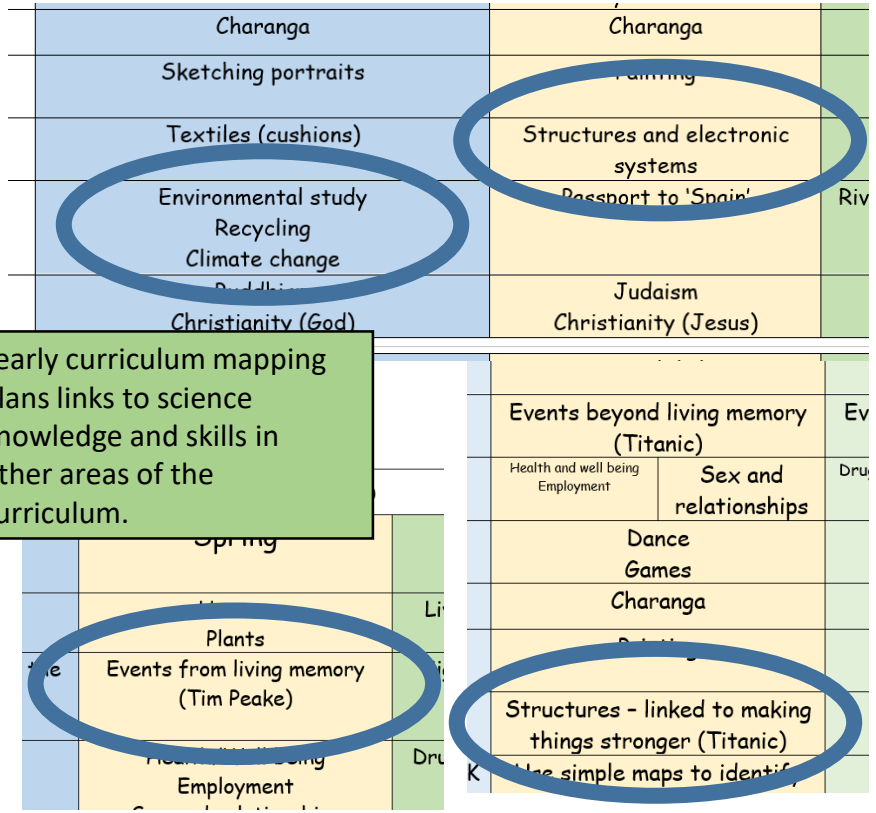
Cross Curricular links were made during school closure, having science "themed" activities in the different bubbles.

Y5



Ingol Community Primary School

Yearly curriculum mapping plans links to science knowledge and skills in other areas of the curriculum.



Primary Science Knowledge Progression document created by the subject leader, highlighted where links would be made in other areas of the curriculum and year groups.

YEAR 4

Pupils should be taught to:

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds travel through a medium to the ear
- find patterns between the pitch of a sound and features of the object that produced it
- find patterns between the volume of a sound and the strength of the vibrations that produced it
- Recognise that sounds get fainter as the distance from the sound source increases.

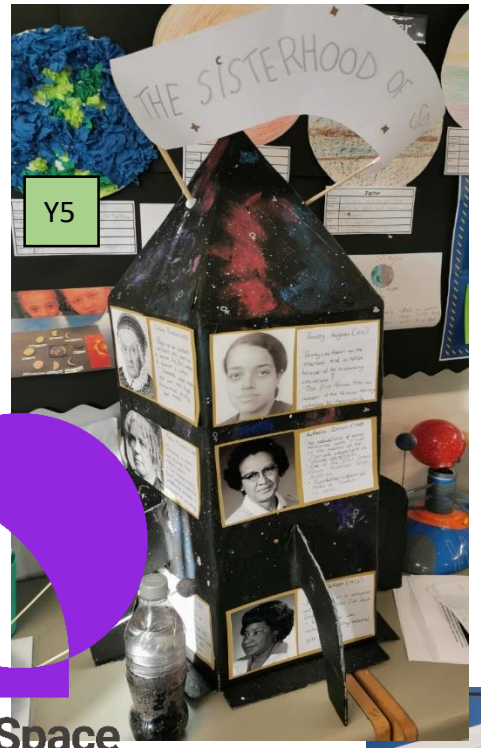
This is a stand-alone unit of Science with no previous science teaching in school however children will have had the following progression in KS1 in their music lessons.

KEY STAGE 1	KEY STAGE 2
• Play tuned and untuned instruments musically • Experiment with, create, select and combine sounds using the inter-related dimensions of music.	• Improvise and compose music for a range of purposes using the inter-related dimensions of music

WO2: There are appropriate links with families, other schools, communities and outside organisations to enrich science learning.

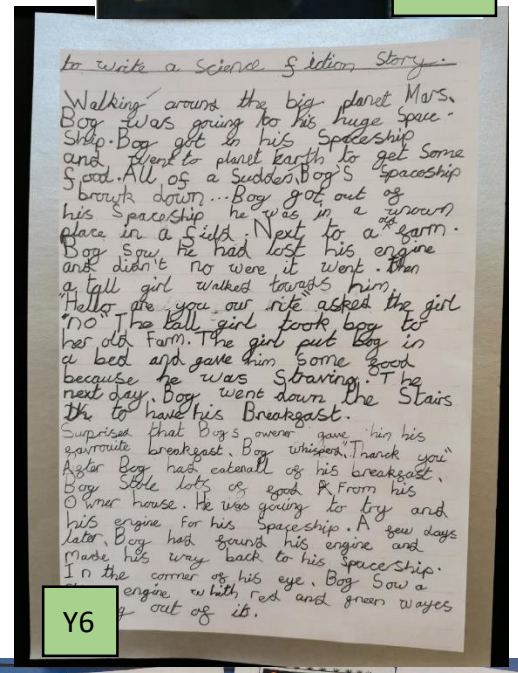
- Children take part in some initiatives supported by other organisations to enrich science learning.
- Children's science learning includes topical science events.
- Children carry out science activities with their families.

Y3



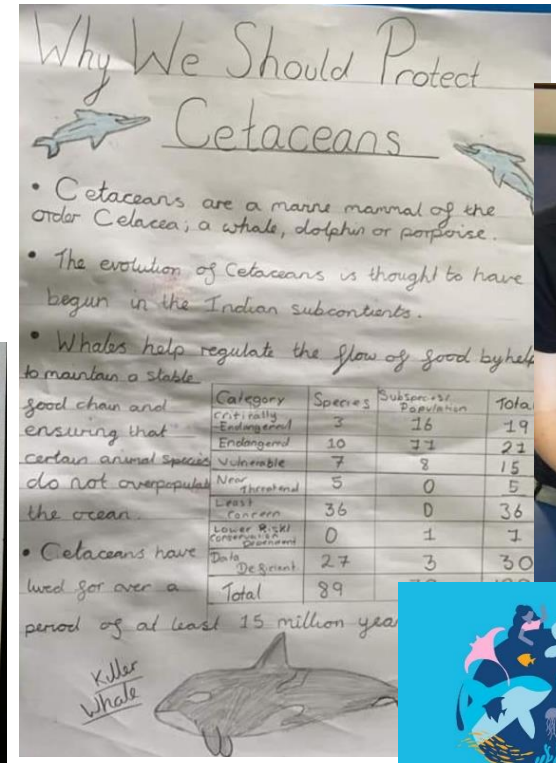
Y5


EYFS

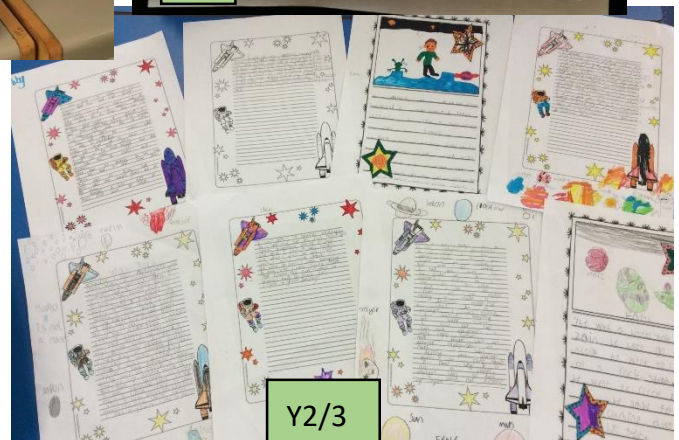

to write a Science Fiction Story.

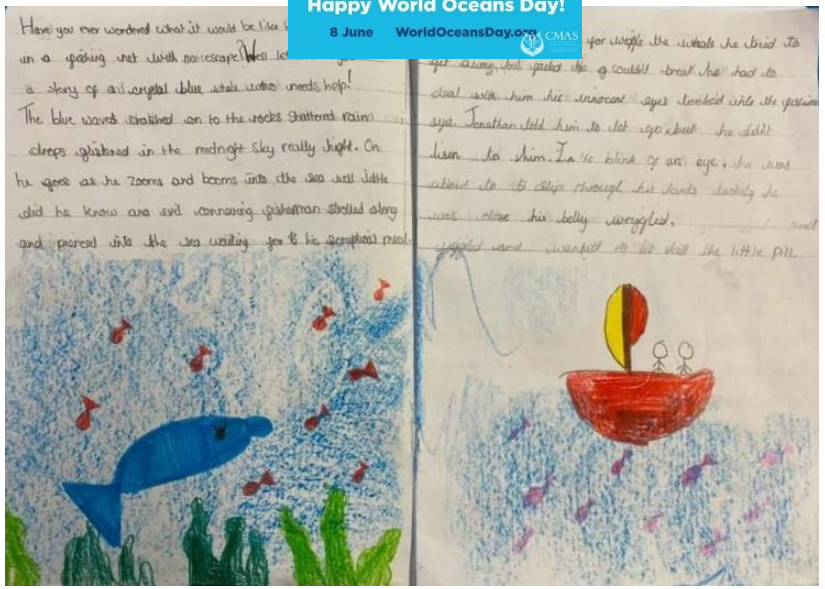
Walking around the big planet Mars, Bog was going to his huge Space Ship. Bog got to his Spaceship and went to planet Earth to get some Food. All of a Sudden Bog's Spaceship broke down... Bog got out of his spaceship he was in a unknown place in a field. Next to a farm. Bog saw he had lost his engine and didn't no were it went. Then a tall girl walked towards him. "Hello there you, our site asked the girl "no" The tall girl took bog to her old Farm. The girl put Bog in a bed and gave him some food because he was starving. The next day Bog went down the Stairs to have his Breakfast. Surprised that Bogs owner gave him his favourite breakfast. Bog whisper "Thank you" After Bog had eaten all of his breakfast, Bog stole lots of food from his Owner house. He was going to try and his engine for his Spaceship. A few days later, Bog had found his engine and made his way back to his Spaceship. In the corner of his eye, Bog saw a engine with red and green wayes out of it.

Y6



Y3


Y2/3

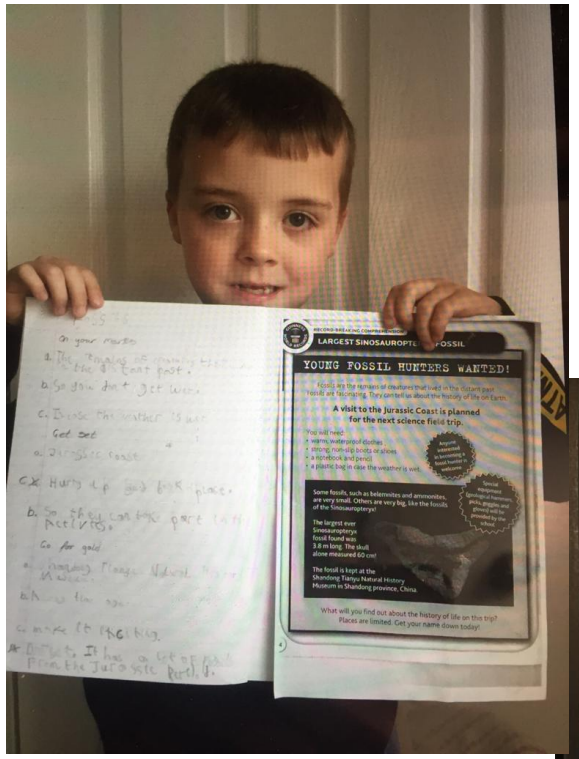


World Space Week OCTOBER 4-10

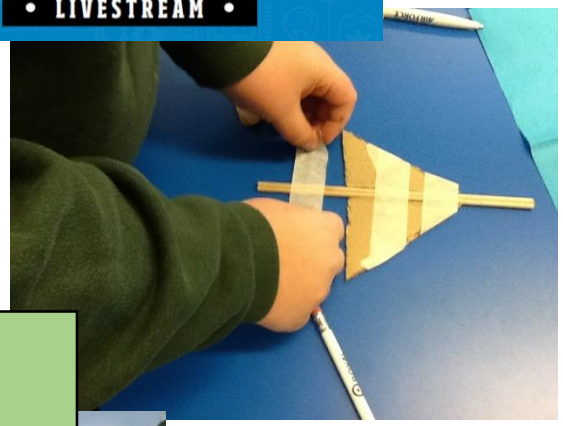
The whole school took part in celebrating space week which produced some cross curricular links and children taking part in child led homework!

WO2: There are appropriate links with families, other schools, communities and outside organisations to enrich science learning.

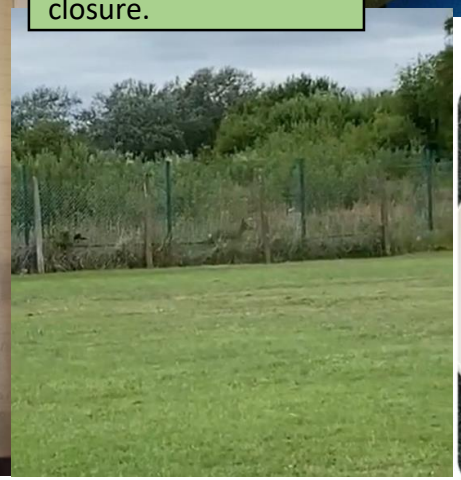
- **Children take part in some initiatives supported by other organisations to enrich science learning.**
- **Children's science learning includes topical science events.**
- **Children carry out science activities with their families.**

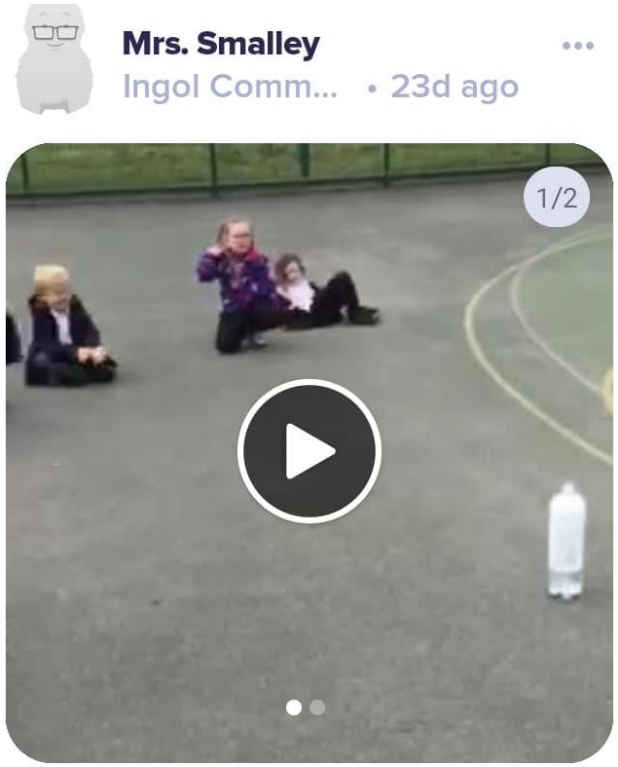


"Being able to watch the children engage in the RAF challenge showed me which skills we needed to further develop in science." Year 5 Teacher

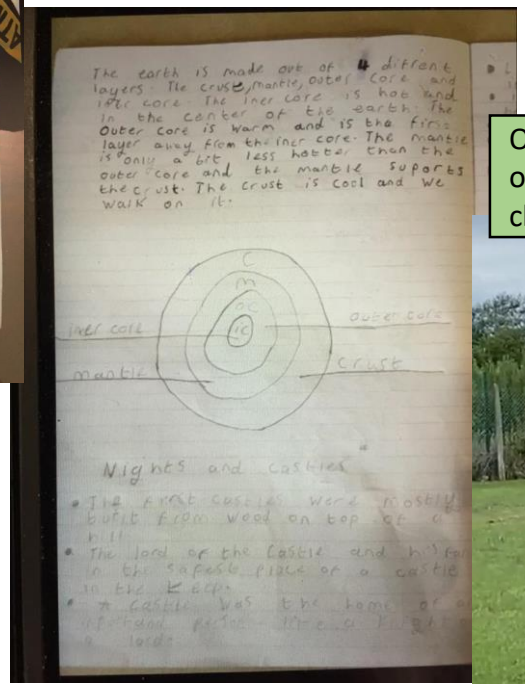


Our resident Deer over the school closure.





Thank you so much to Kaii's mum for bringing in the pepsi and mentos, the children loved watching the experiments.



Children have been engaging in their science home learning, due to us raising the profile of science, and creating positive attitudes towards science.

From participating in whole school events and topical science, we have seen more parental engagement and children participating in science at home. Parents have brought equipment in for the children to participate in activities in school. They have also sent in pictures of activities they have done at home during school closure.

WO2: There are appropriate links with families, other schools, communities and outside organisations to enrich science learning.

- **Children take part in some initiatives supported by other organisations to enrich science learning.**
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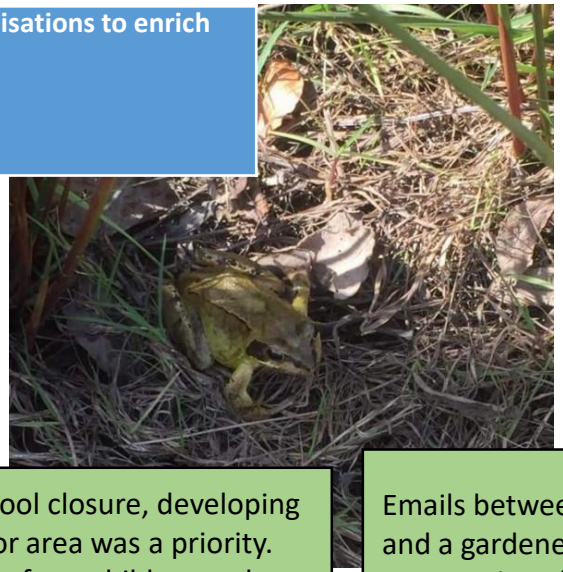
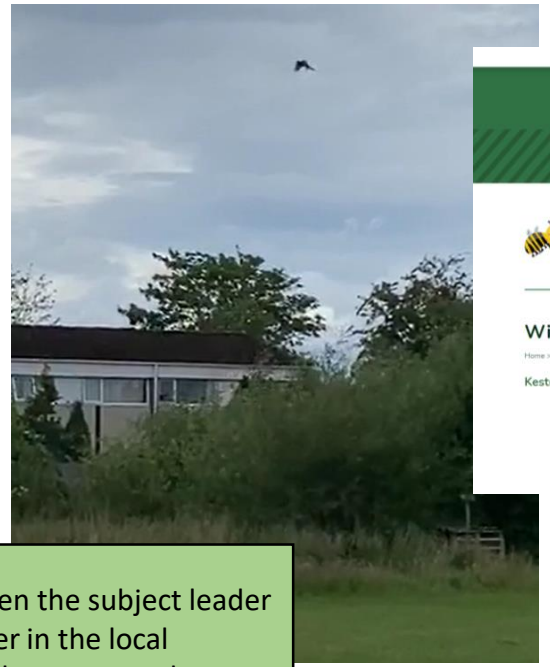
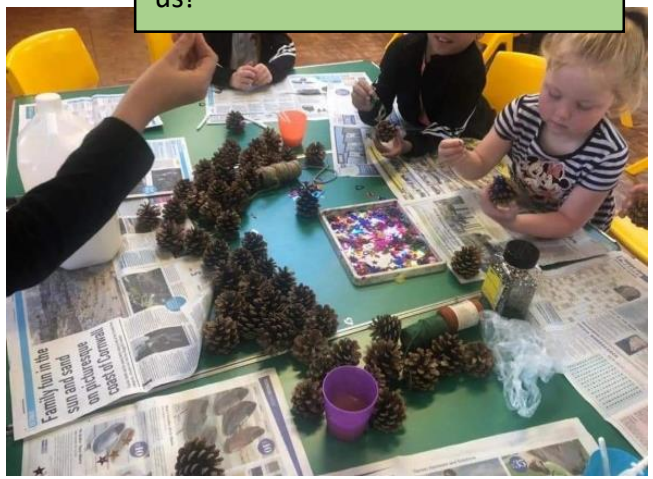




During school closure, developing the outdoor area was a priority. We support from children and staff, we have created an environment for many different animals. We have started to see the impact as we are seeing different species of animals visit us!

Emails between the subject leader and a gardener in the local community who supported us to develop our outdoor area, offering flowers and seeds.

Our Wild Garden even features on our school website now.



SB Shanae Baron rosemaryandtime01@gmail.c... 04/05/2020

Good morning,

You mentioned on Facebook about plants and seeds for our school and asked me to email you.

We are looking for all types of plants and seeds. We have a large wildflower garden and a lot of planters to decorate other areas of school. We also have growing beds where the children are wanting to grow their own fruit and veg.

Many thanks

RA Rosemary and Time 04/05/2020
Shanae Baron

No problem. We are a small social enterprise who predominantly support older people living with dementia. We grow plants as part of our work but of course are unable to attend markets, events etc. this summer to sell them, so are left with a surplus that we are keen to donate to local projects.

If I put a range of perennials (all suitable for bees, butterflies etc) on my front drive (we can arrange time/day) are you happy to collect them? I live in Longridge.

I also have plenty of wild flower seeds, a few veg and LOTS of cress.

Finally - sorry hadn't planned to write an essay - how many children are you supporting? I