Bilton C of E Junior School

PSQM 2021/22

Key:

PSQM criteria	Before PSQM	Comments & captions	Progress of criteria	Impact

SL A - the creation and implementation of a clear vision for science

No vision or principles in place at the start of PSQM (September 2021)

9	Accurate scientific vocabulary is used	
11	It is practical and hands on	
4		
5		
3		
11	Concepts are learned through experiments and investigations	
7	Key subject knowledge is gained	
1		
16	Children are engaged, enthused and motivated	
8	Lessons are fully planned and teachers are confident in their subject knowledge.	
12	Children can connect their existing knowledge to the new learning and real world contexts.	
4		
2		

Staff voted (online) alongside children (post-it notes) for their principles. Showing all stakeholders were involved in the process.

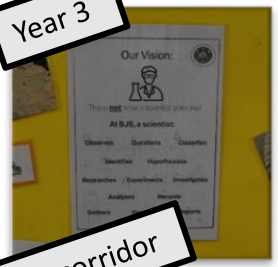
Children during a science assembly drew what they thought a scientist looked like. This informed the science vision. Not being about appearance but a development of scientific skills.

Impact: Vision and principles on display across all classroom's Science displays, in our main corridor and linked onto the school website.

Year 4

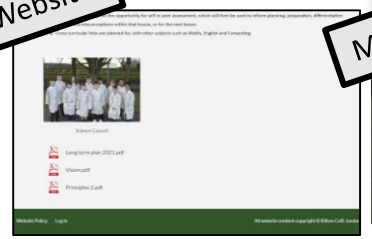
Year 6

Year 3

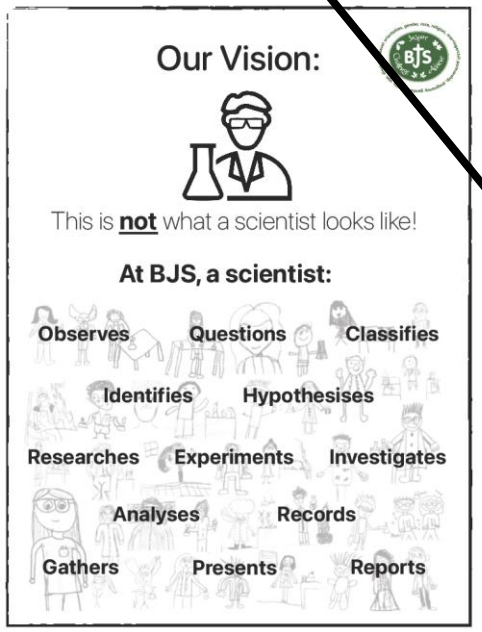


Year 5

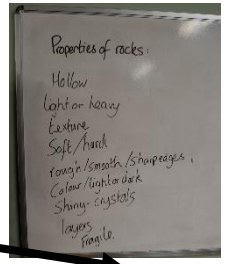
Website



Main corridor



Principles in action:

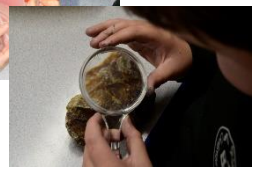


Scientific vocabulary

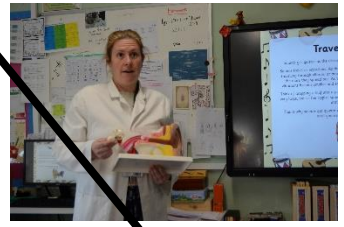
Curious – Year 5

Practical – Year 4

Connects knowledge – Year 3



Independent and group tasks – Year 3



Exciting lessons – Year 4

Engaged and Enthused in a real lab at a secondary school – Year 6

T C - regular and safe use of up-to-date quality resources

Working safely:

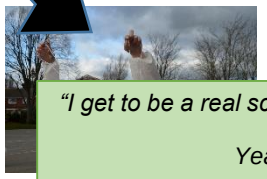
"Much easier to use as a digital PDF"

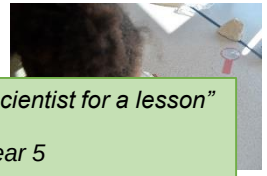
Year 4

Examples above of existing safety displays.

Impact: Children often wear lab coats and googles for practical investigations by habit to show safety principles.

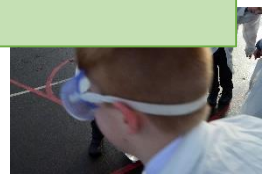
E-mail shared with all staff. This is a task to still be completed with the Science Council. We discussed this in a meeting (see SDL) and poster competition for Summer 2 term was discussed. Be Safe book was purchased as a PDF so it could be shared with staff digitally by e-mail in our school shared folder for reference.

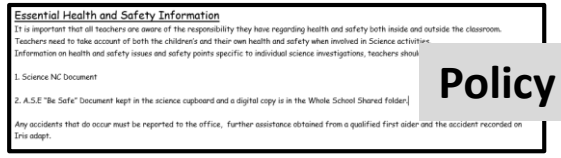




"I get to be a real scientist for a lesson"

Year 5




Essential Health and Safety Information

It is important that all teachers are aware of the responsibility they have regarding health and safety both inside and outside the classroom.

Teachers need to take account of both the children's and their own health and safety when involved in Science activities.

Information on health and safety issues and safety points specific to individual science investigations, teachers should

1. Science NC Document

2. A.S.E "Be Safe" Document kept in the science cupboard and a digital copy is in the Whole School Shared folder.

Any accidents that do occur must be reported to the office, further assistance obtained from a qualified first aider and the accident recorded on Iris adept.

Policy update:

Need to work with Science council to decide how best to display working safely principles – one suggestion was using safety rangers. This is crucial going forward so that children and staff know the legal requirements.

Experience Science outdoors:

Pupil voice – May 2021 (slide 4 – monitoring)

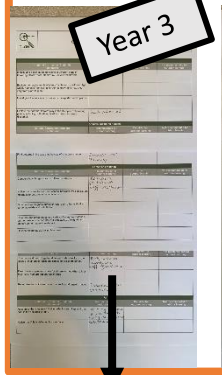
- They all wanted to go outside more for lessons and gave examples of when they thought they could have gone outside.
- Ideally they wanted me to build a laboratory! So wind would not be a factor in experiments.

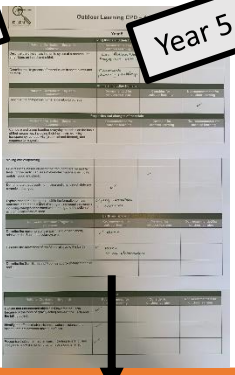
Based on this pupil voice feedback, as staff meeting on taking learning outside was given. All year teams were given time to plan outdoor & child-led activities.

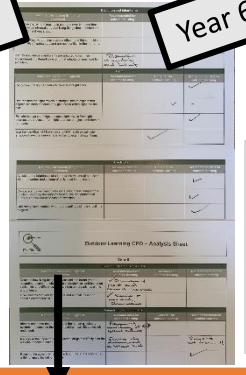
Sep 2021

Tasks:

- Complete teacher survey (link on e-mail).
- Fill in class assessment document for recent topics.
- Watch videos on Focused Assessment: https://pstt.org.uk/resources/curriculum-materials/assessment
- Meet in year teams to discuss a practical investigation for each topic using the focused assessment plans.
- Come up with a suggestion for taking science outside the classroom for each topic/ email me.





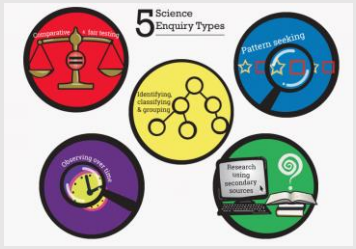


Planned outdoor activities from each year group. Template from PLAN – outdoor learning CPD

Impact: Lots of opportunities have been presented to all children in all year groups to carry out Scientific work outside. Children are engaged and enthused and through pupil voice it is clear they love it!

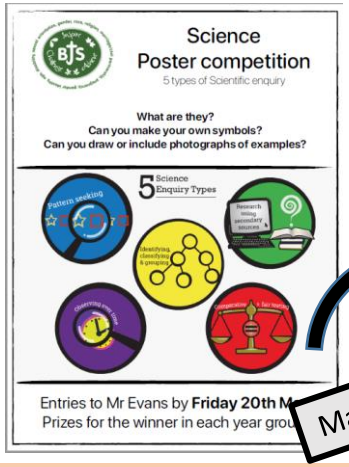
"We get to go outside! I wish we could do it in other subjects" - Year 5

L A - the purposes and process of science enquiry

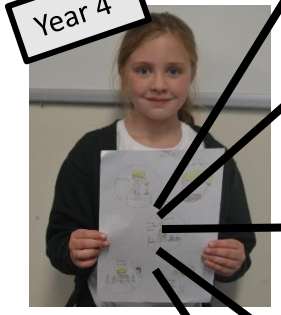


https://seerih-innovations.org/enquiringscience4all/

Through an informal staff survey, teachers did not know the enquiry types. Between the SL and Science council it was decided that this would become a main focus for Science week to help raise their profile.



May 2022



"My parents are going to be so proud when they find out I won!"

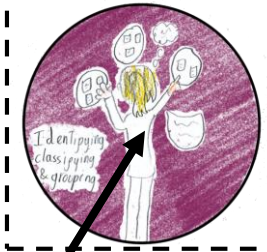
Isla, Year 4

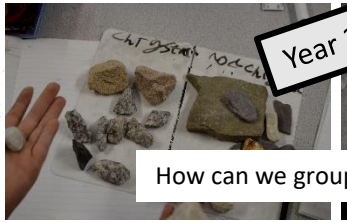
Poster competition: Through Science week (May 2022- SDL log) enquiry types became a focus with prizes for winning entries

Assembly: Delivery of a whole school assembly on Science enquiry.

New symbols on display

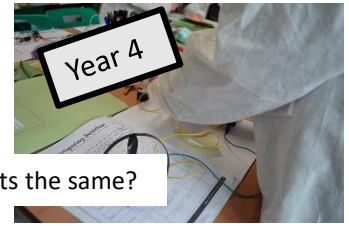
Impact: Child-led enquiry recorded in the back of Science book. Mapped out in long-term planning and enquiry questions are recorded down. This approach also formed part of my NPQML project (see slides 5 & 6).



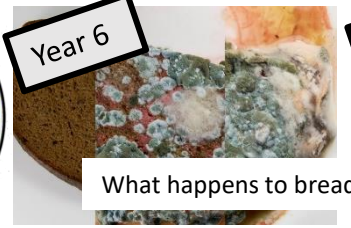


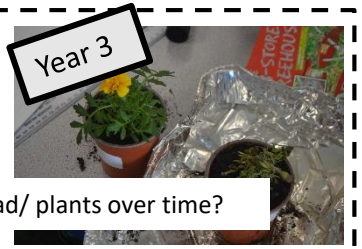
How can we group different rocks?

What will make the best volcano?

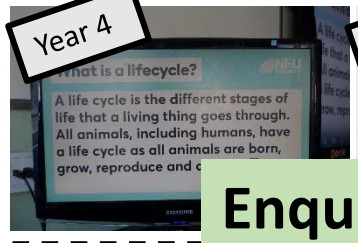


Are all sweets the same?



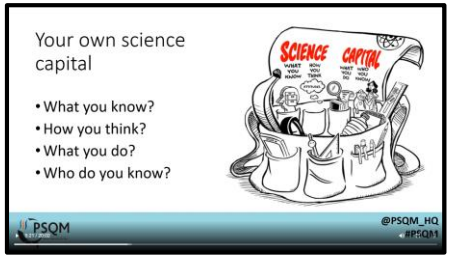


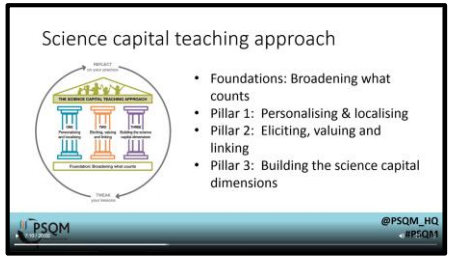
What happens to bread/ plants over time?



Enquiry in action:

L C - the importance of, and strategies for, developing all children's science capital





PSQM – 'Introducing Science Capital' Spotlight: This provided me with a starting point to provide the evidence that we as school were developing children's capital.

Pillar 1: Personalising & Localising:

Local walk, ageing of rock

Around school

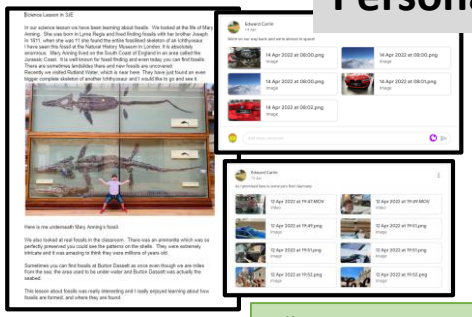
Allotment

Forest School

Impact: Science linked to allotment and Forest school has been really successful, looking at growth and forces. Fizz pop has provided an after school club (Slide 14) but I wish I had created a bespoke club myself.

Pillar 2: Eliciting, valuing & linking:

Personal experiences



"My Dad works with cars and he has told be all about drag and aerodynamics" - Edward, Year 3

Capital has increased but I wish I had arranged for a STEM visitor to attend our Science week and more through the school year.

Science week

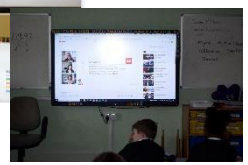
"I need to do well in Science because I want to be a surgeon like my parents" - Year 4

Pillar 3: Building the Science capital dimensions:

Family experience

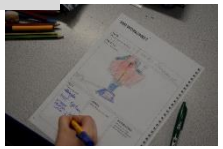
"My sister is a Scientist, can we interview her?" - Xavier, Year 6

STEM author



Impact: Due to COVID, it has been difficult to arrange STEM activities but we have had a virtual author and used the Dyson project box around the school to link to real life STEM.

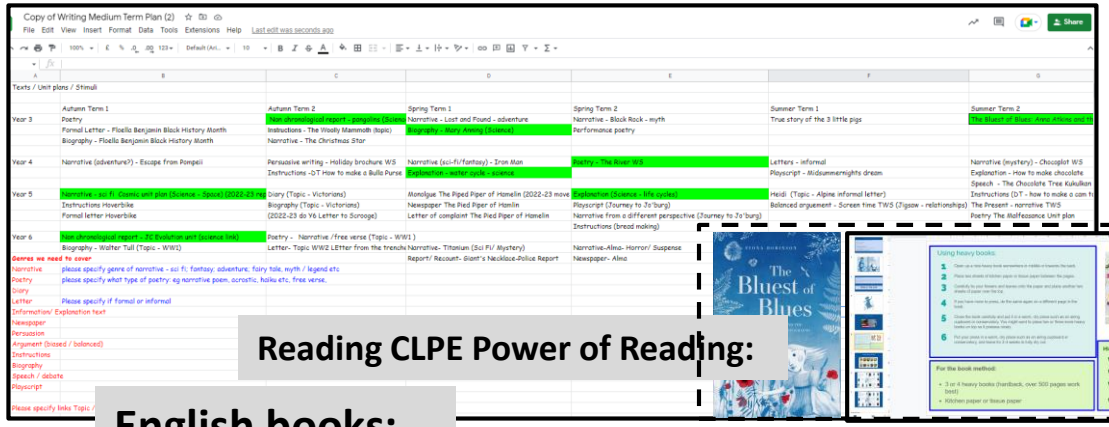
Dyson: STEM project

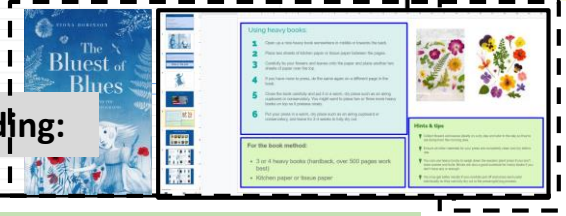


WO A - cross-curricular planning that links science to other areas of learning

Links to English:

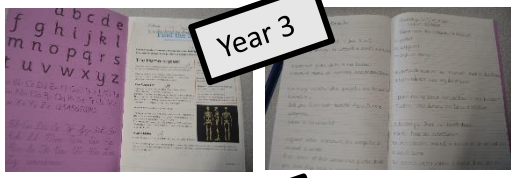
Both medium and long term writing planning take into account Science and topic links. Science in green.

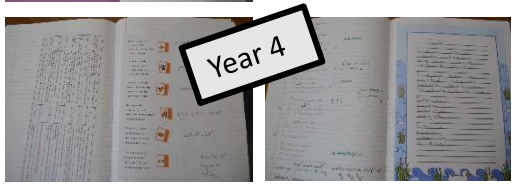


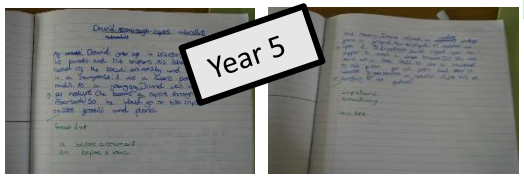


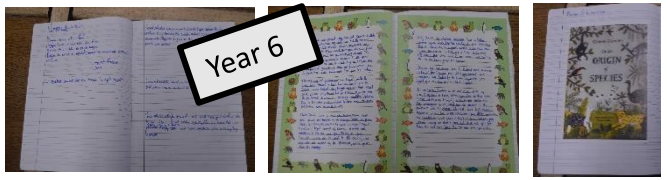
Reading CLPE Power of Reading:

English books:





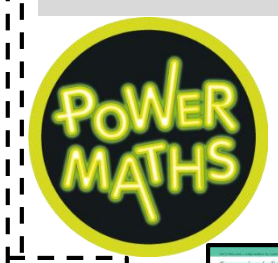




Impact: Science has been specifically linked to our writing curriculum. Every year group has completed a writing unit linked to Science or Scientist. Year 3 – The skeleton, pangolins and Mary Anning. Year 4 – rivers and the water cycle. Year 5 – Space and David Attenborough. Year 6 Charles Darwin and origin of the species.

"Are we doing Science in English?" - Year 5

Links to Maths:

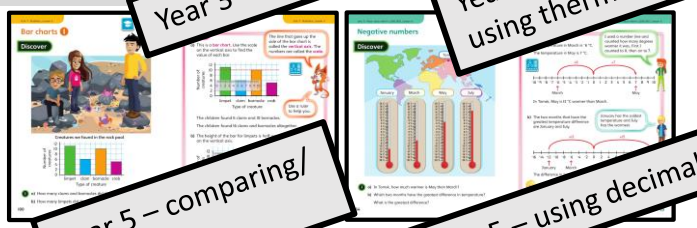


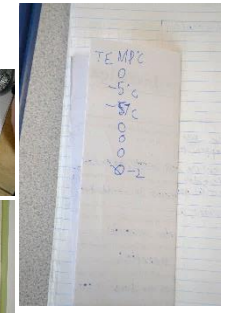
Year 3 – bar graphs

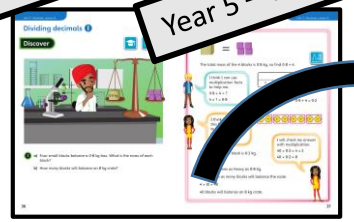
Year 4 – negative numbers/ using thermometers.

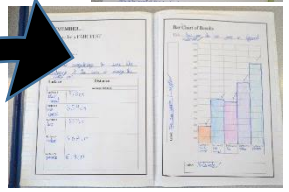
Year 5 – comparing/ rounding

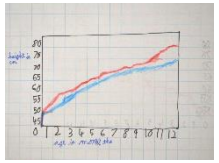
Year 5 – using decimals









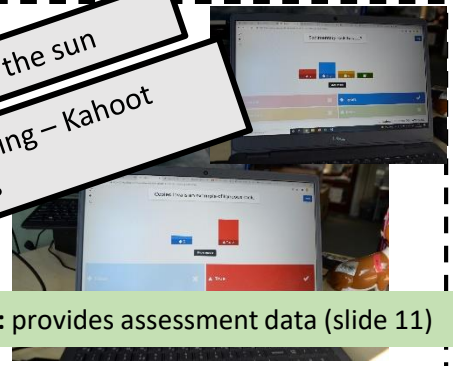


Skills contextualised in other subjects:

Art and Design – fossils, links to stone age topic

Topic – Egyptians – ancient beliefs of the sun

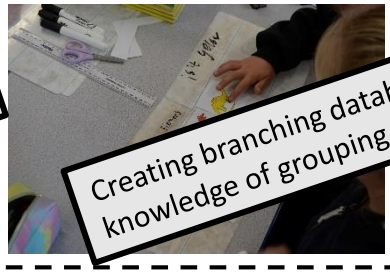
Computing – Kahoot quizzes



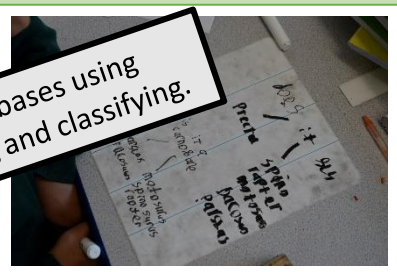
Impact: provides assessment data (slide 11)

Jubilee artwork stamps – created by light and shadow

"Can we do another Kahoot?" - Year 3



Creating branching databases using knowledge of grouping and classifying.

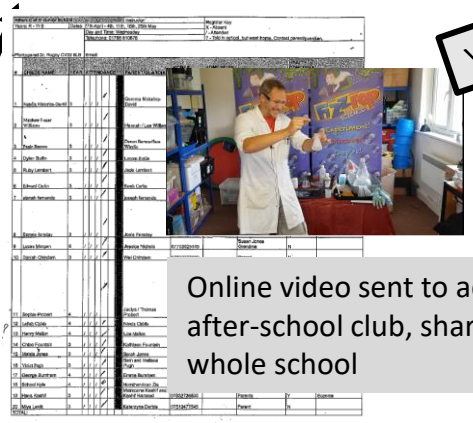


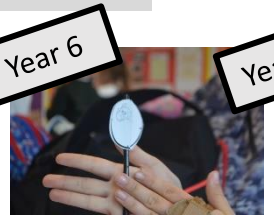
WO B - further links for visits and competitions with other organisations and education sites to enhance enrichment.

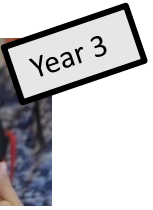
Fizz pop after school Science club:

No science club run in school since 2019

5 week afterschool club run from 27th April by Fizz Pop Science







Online video sent to advertise the after-school club, shared with the whole school

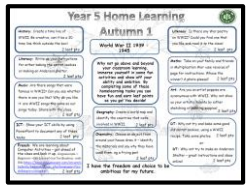
100% attendance at the science club. Mostly in Year 3 / 4 and with one Year 6 child. Lunchtime SEND group run (see slide 6).

"I love going to Fizz Pop, it's been great to do an afterschool club about Science!"

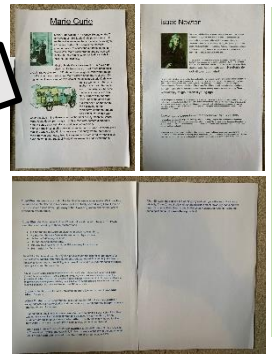
Ruby, Year 3

Parental involvement through homework:

Parents not allowed in school until Easter 2022 due to COVID restrictions.



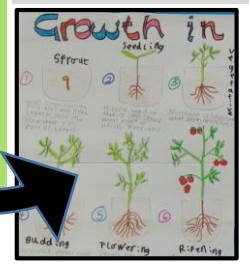
Home learning sheets sent home. Other Science work set on Google Classroom. Examples of completed homework.



Research of scientists and an amazing box of science created at home.

Competitions (see next slide also):

Science week poster competition - Growth



Red Nose Day: Habitats

"I loved using Lego for a school competition." - Theo, Year 4

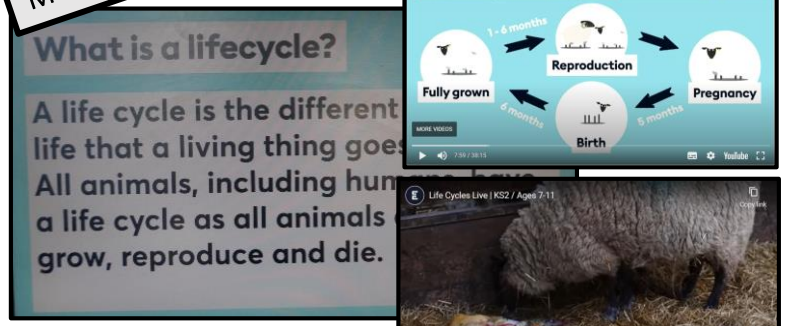
Enquiry types poster (see slide 9)

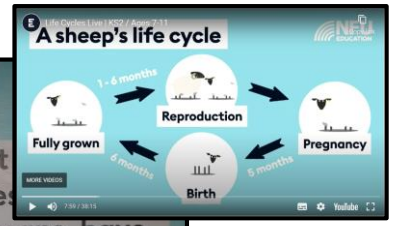
WO B - further links for visits and competitions with other organisations and education sites to enhance enrichment.

Enrichment in Science:

NFU Mutual

March 2022





WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

Year 4

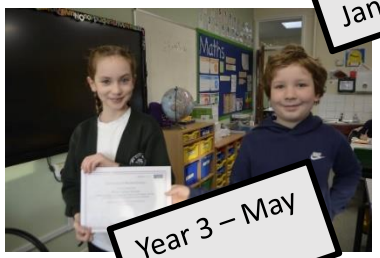
April 2022

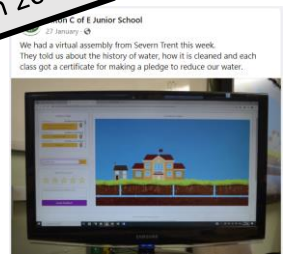
FIZZ POP SCIENCE

Year 3 - 6 – May 2022

SEVERN TRENT

Year 3 – Jan 2022





Year 3 – May 2022

"Great song, can they come again?" - Year 3

Leicester Museums & Galleries

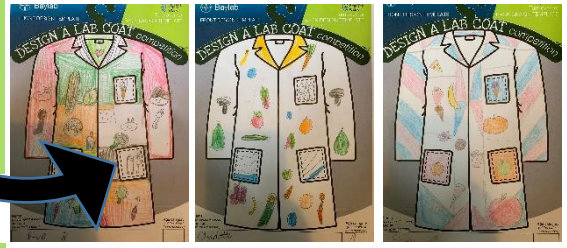
Year 3 – June 2022

Everyone back in the hall!

Impact: Despite the recent challenges, children have been involved with organisations either online or latterly in-person. These now need to be built on going forward.

Current issues - enrichment:

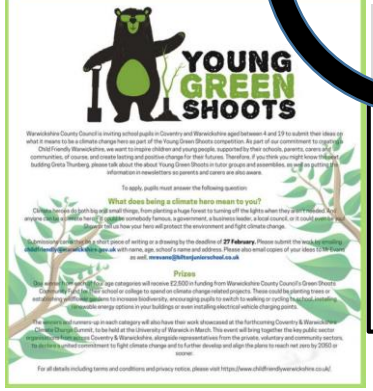
Food, food waste & sustainability:

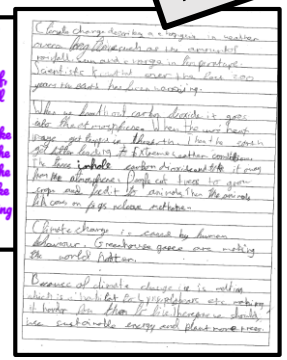


YOUNG GREEN SHOOTS

Being a climate hero:

Year 6



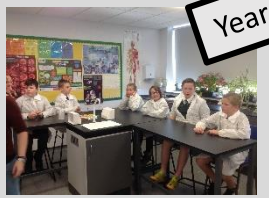


Year 5 - Art – Quote work – Greta Thunberg

"Humanity is now standing at a crossroads"

Links to support transition:

Year 5



Previous links to our local secondary school (Rugby High School) have gone due to COVID. Going forward these should be re-established to show Science at secondary level.