

Evidence Slides PSQM

OLQOH CATHOLIC PRIMARY SCHOOL

We are a London fringe mixed school of 420 children from reception to year six. The current cohort have 54% EAL, with many different languages spoken in our community.

PSQM
Primary Science
Quality Mark

Powered by

University of
Hertfordshire **UH**



SLIDE 2: Vision and Principles



Vision for Science at OLQOH

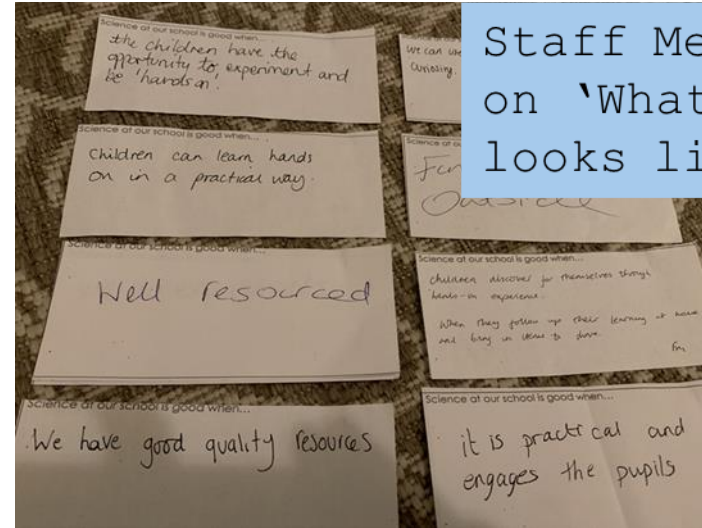
All at OLQOH work together to generate positive experiences of science, making teaching and learning positive, purposeful, engaging and progressive.

By establishing children's prior learning, we will be able to challenge them to reach their true potential and ignite a passion for this special subject.

Principles at OLQOH

All at OLQOH believe that Science should be;

- Purposeful and engaging
- Well planned and 'hands on'
- Language rich and discussion based
- Adapted to the needs and knowledge of all learners
- Progressive and challenging (lots of questions!)
- Linked to other subjects (cross curricular)
- For everybody (everybody to see themselves as scientists)



Staff Meeting based on 'What Good Science looks like.'



"The science staff meeting based on 'vision' made me think much deeper about my own experience of science and how 'science capital' is shaped." **Teacher view**

SLIDE 3 - CDA – The science curriculum engages, inspires and challenges all children by promoting inclusion and equity

Staff meeting-brainstorming ways in which we could engage and promote inclusiveness

"Widgit helps me make predictions and know what I am doing." **SEN pupil**

19 respondents (66%) answered experiments for this question.



Pupil Voice- What do you like about science?

6	anonymous	learning about the human body and doing experiments
7	anonymous	i like how you cannot predict what will happen in science
8	anonymous	Experiments
9	anonymous	i like how we learnt about planets and outer space because i love learning new things, i also love experimenting.

Science Word Aware strategy



(Word Aware)
Circularity-describes the process of circulation where something moves around.

SLIDE 4 - CDA – The science curriculum engages, inspires and challenges all children by promoting inclusion and equity

Going Well

Adapted tasks- use of widget

Practical enquiry opportunities

Some scribing for pupil responses

Even Better

Develop recording of pupil voice- linking to QR iPad recording

Could we build on the success of the Ten/Ten/ SJ journals and develop a Y1 **Science** Journal (to potentially replace individual **books**?)

Year 1 feedback-
October 24

Regular 'Book look' feedback highlighting inclusive, adaptive teaching

-Clear coverage of White Rose topics with accurate SC links and purposeful tasks

-Pupil voice recorded with fantastic links to enrichment sessions (STEM/Farming Live/ Zoo lab/ Primary Engineer/ Noah's ark)

-QR Codes linking to **science** learning with AfL very evident

Next Steps: Continue recording excellent pupil voice and add any Explorify resources that stimulate discussion

<https://www.stem.org.uk/explorify>

March 24

Staff View

4. How have you adapted science lessons to meet all learners needs?

10

Responses

Latest Responses

"Using a scribe, widget, images to support, verbal reasoning"

"Used widget, adapted resources and additional adults in lesson."

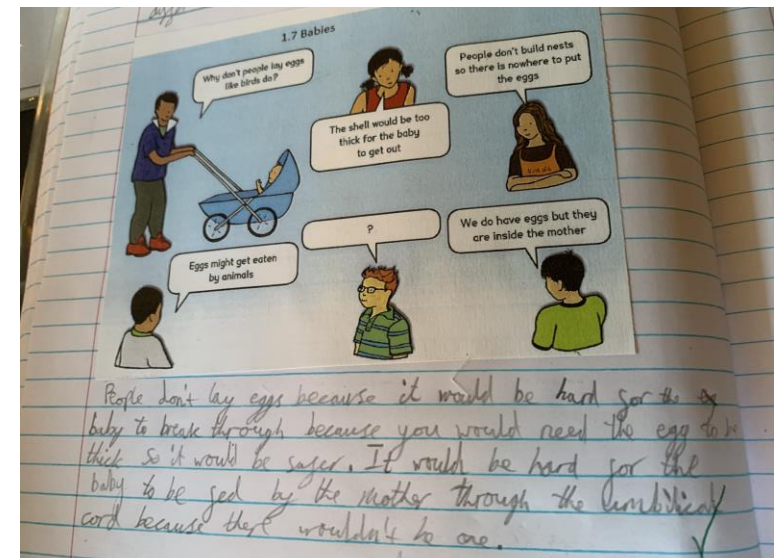
"We model examples of states of matter, adapt worksheets, with wordbanks, u..."

...

4 respondents (40%) answered work for this question.

adult support
QR codes
Use **work widget**
partner work
group work

Concept Cartoons



SLIDE 5 - CDB – The science curriculum engages, inspires and challenges all children through planned progression in content and procedural knowledge

Science – Space Year 5

Crucial Knowledge

The Solar System is made up of the Sun and everything that orbits around it. There are eight planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Earth orbits around the Sun and a year (365 days) is the length of time it takes for Earth to complete a full orbit.

The Moon orbits Earth, completing a full orbit every month (28 days). As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving.

The Sun, Earth, Moon and the planets in our solar system are roughly spherical. All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its centre, which compresses it into the most compact shape – a sphere.

Diagrams/Images

Key Vocabulary

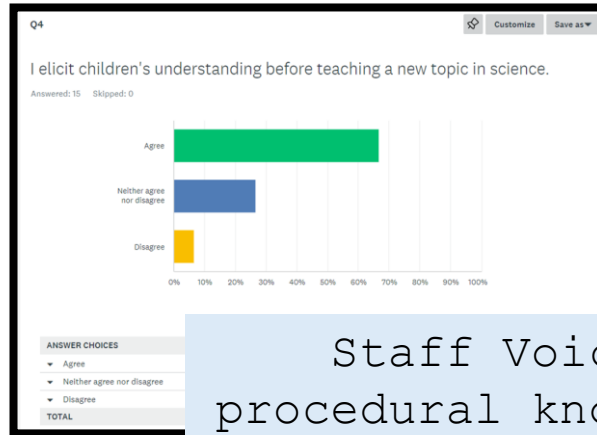
The Solar System

Key vocabulary

- Solar System** - the Sun and the other bodies that orbit it.
- planet** - a roughly spherical object which orbits a star.
- orbit** - the path an object takes around another object because of gravity.
- Sun** - the star at the centre of our solar system.

Important People

Our important scientist is Neil Armstrong. As the first person to walk on the Moon, he carried out many important discoveries.



Staff Voice-
procedural knowledge
happening?

“The new planning resource is so useful in guiding me through possible misconceptions for future lessons.”

Teacher View

- Things to look out for**
- As we see with our eyes, children may think that our eyes produce light, rather than light is reflected into our eyes allowing us to see.
 - Children may think that the Moon is a source of light as it can be seen in the night sky.

Knowledge Organisers
for each topic

Animals, including humans White Rose SCIENCE

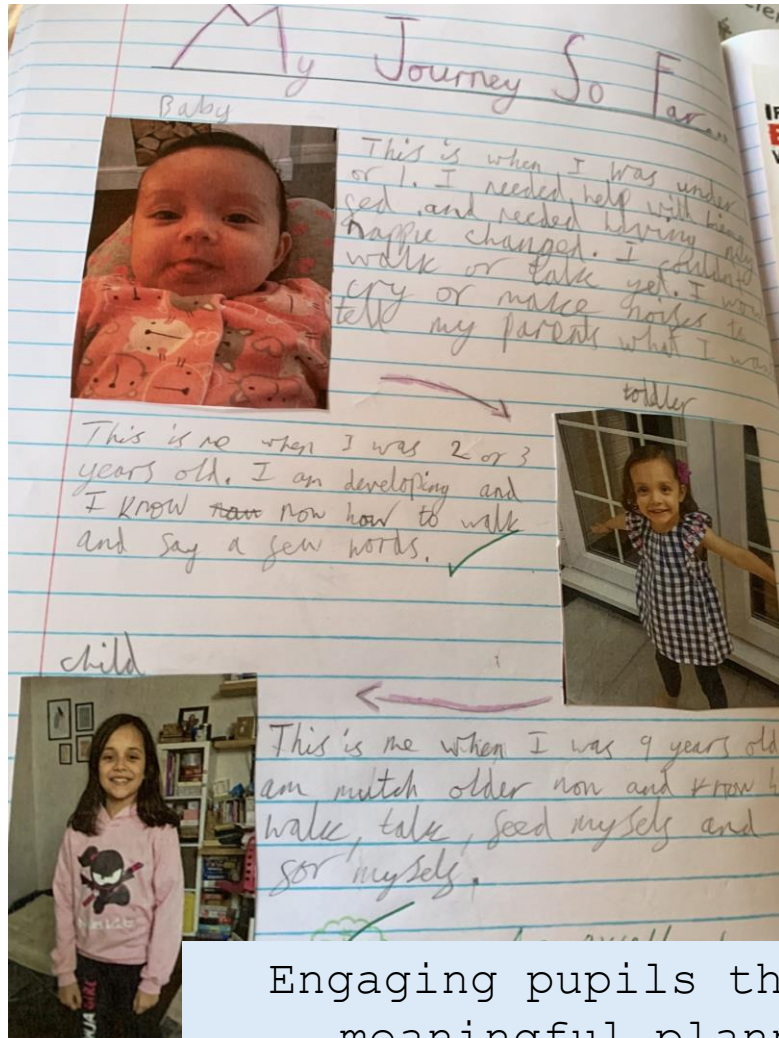
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) Identify, name, 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Describe the changes as humans develop to old age 	<ul style="list-style-type: none"> 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

Example of curriculum map-
Topics for White Rose embedded

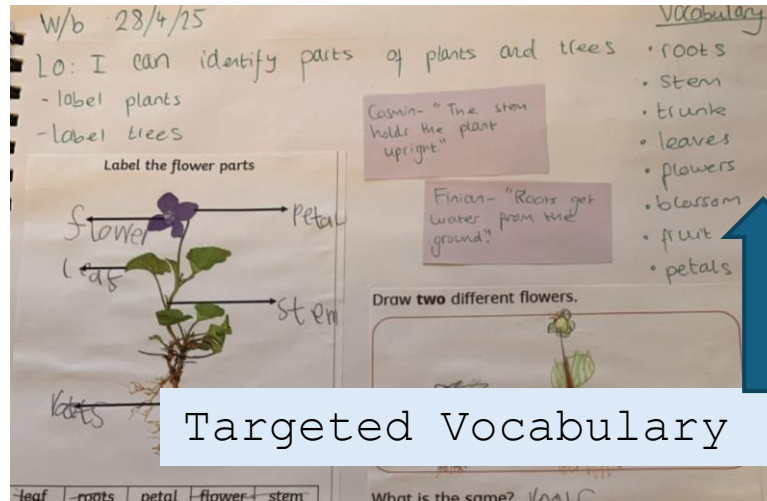
Working Scientifically-
Adapted planned progression

		Disciplinary knowledge (Working Scientifically)		
		Year 1 and 2	Year 3 and 4	Year 5 and 6
Asking Questions	Pupils should be taught to:	<ul style="list-style-type: none"> ask simple questions and recognise that they can be answered in different ways 	<ul style="list-style-type: none"> ask relevant questions and use different types of scientific enquiries to answer them set up simple practical enquiries, comparative and fair tests 	<ul style="list-style-type: none"> plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
Measuring and Recording	Pupils should be taught to:	<ul style="list-style-type: none"> observe closely, using simple equipment perform simple tests gather and record data to help in answering questions 	<ul style="list-style-type: none"> make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables gather, record, classify and present data in a variety of ways to help in answering questions 	<ul style="list-style-type: none"> take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
Concluding	Pupils should be taught to:	<ul style="list-style-type: none"> identify and classify use their observations and ideas to suggest answers to questions 	<ul style="list-style-type: none"> identify differences, similarities or changes related to simple scientific ideas and processes report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions use straightforward scientific evidence to answer questions or to support their findings 	<ul style="list-style-type: none"> identify scientific evidence that has been used to support or refute ideas or arguments report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
Evaluating	Pupils should be taught to:	<ul style="list-style-type: none"> use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	<ul style="list-style-type: none"> use test results to make predictions to set up further comparative and fair tests 	<ul style="list-style-type: none"> use test results to make predictions to set up further comparative and fair tests

SLIDE 6 - CDB – The science curriculum engages, inspires and challenges all children through planned progression in content and procedural knowledge

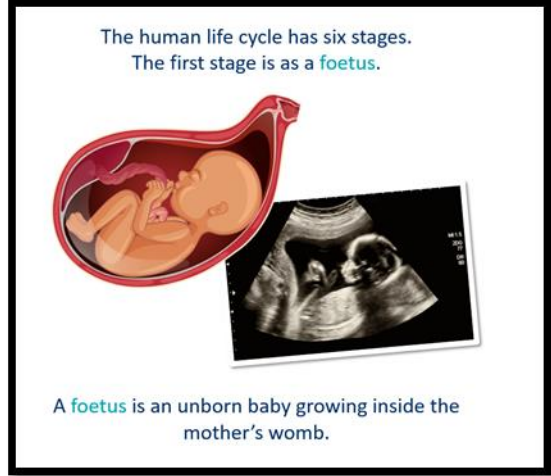


Engaging pupils through meaningful planned opportunities



Targeted Vocabulary

"The chick hatching process was an invaluable and immersive experience for the children, building their understanding of life cycles brilliantly."
Teacher View



Life Cycles- Chick hatching



SLIDE 7 - CDC - Teaching enables all children to learn science content and procedural knowledge by planning and sharing contexts and skills with other curriculum areas



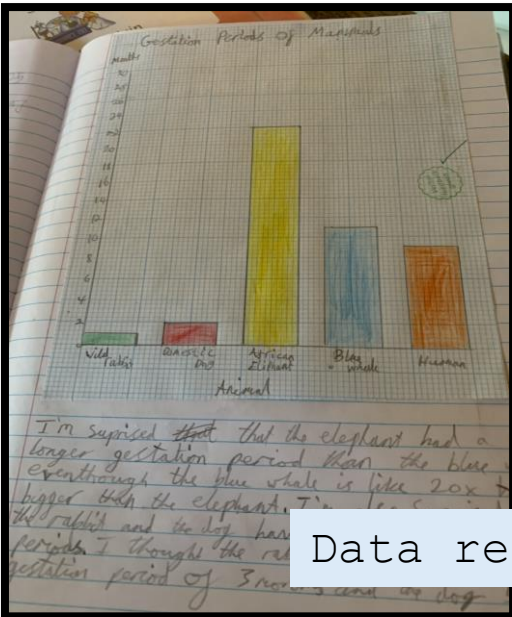
Maths, measuring
Links with space

18	anonymous	I like learning about insulators and conductors.
19	anonymous	The thing I like about science is the opportunity to do fun experiments
20	anonymous	i like that we get to work together as a team and learn to to make others feel included. i also like some of the experiment as they can be fun! i like that we lea about maths as well because when we record the data we learn maths as well as measuring. i like that we can measure things and recored them in our books as well!

Pupil Voice- Working
as a team/ links to
maths



Reception and Year 1
Zoo Lab Visit



Data recording

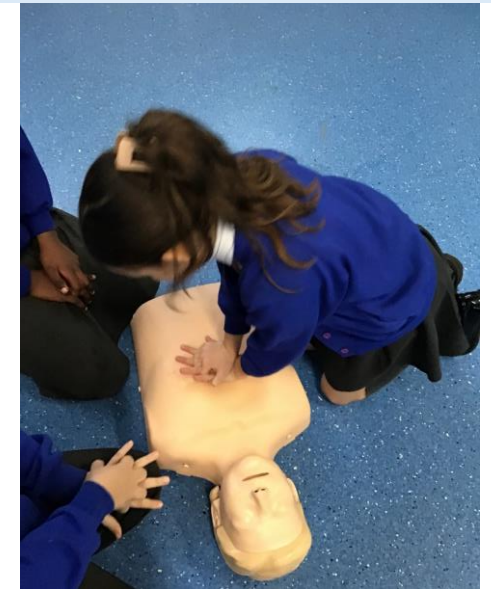


Royal Society Young
People's Book Prize

Additional Evidence- Royal Society Young People's Book Prize 2024



Science Leaders
review science based
texts



First Aid training-
Workshops

SLIDE 8 - CDC - Teaching enables all children to learn science content and procedural knowledge by planning and sharing contexts and skills with other curriculum areas

Whole School participation



2025 SCHOOL AWARD

School: Our Lady Queen of Heaven Primary

Dr Susan Scurlock MBE
Founder and Chief Executive
Primary Engineer*

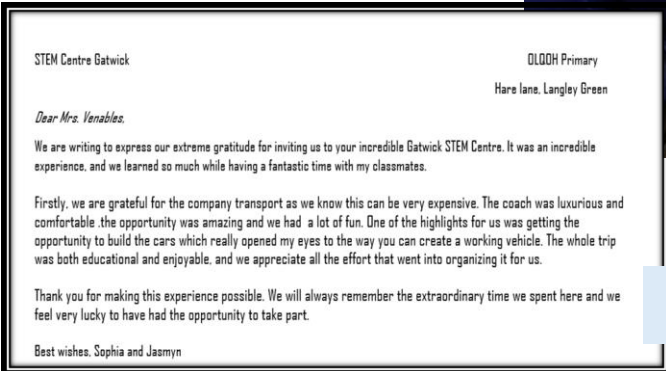


#EngineersInTheMaking
www.leadersaward.com



"The VR workshop was the best part of STEM week! So awesome! KS2 Pupil

STEM WEEK- a range of experiences with special visits



Y5 Gatwick STEM Centre Trip-

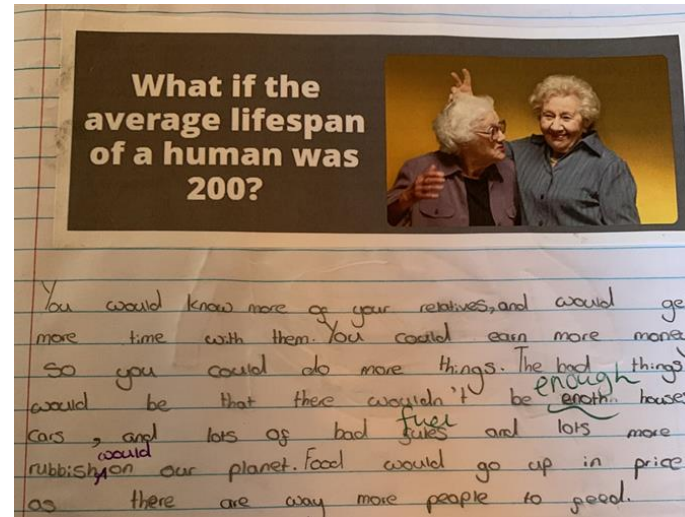
Pupil View



SLIDE 9: TLA - Teaching enables all children to learn science content and procedural knowledge by encouraging them to ask questions and express ideas

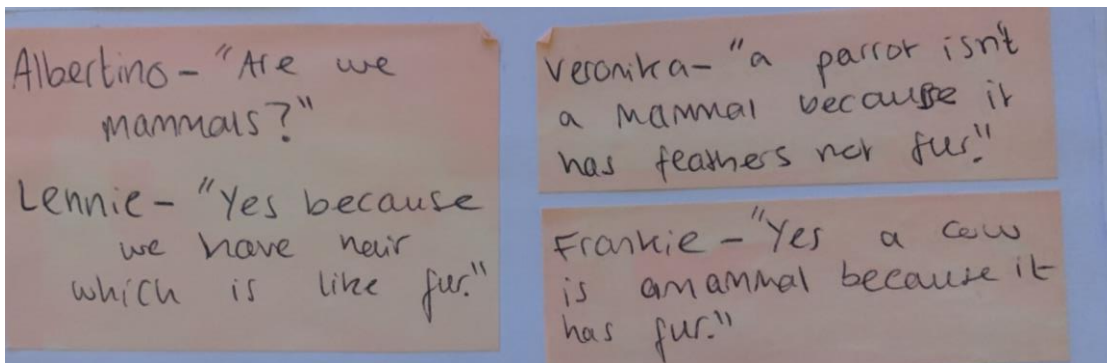
"I like being able to ask questions about science. I know that some of the best scientists didn't always get it right first time!"

Pupil View

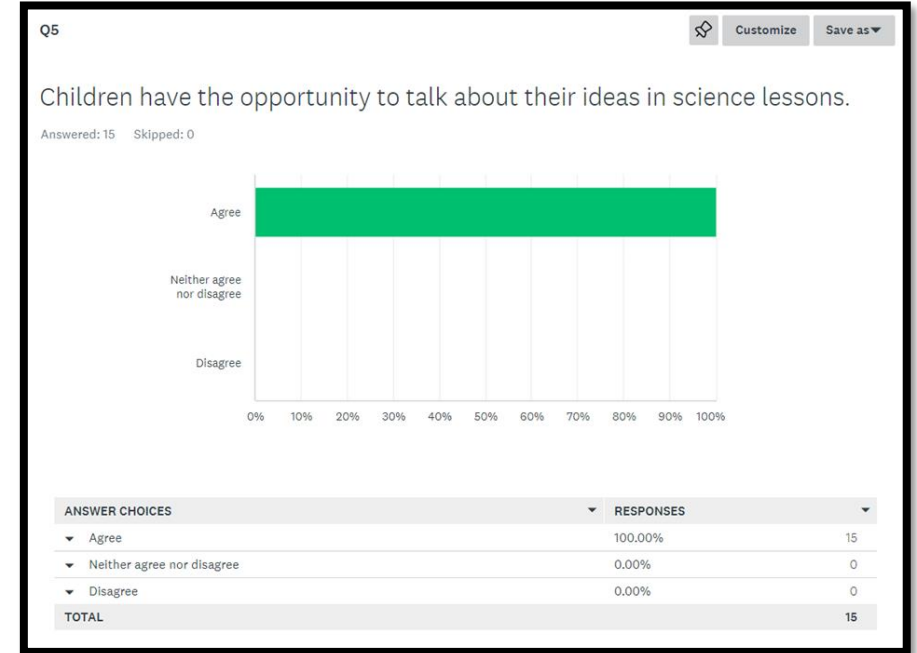


Explorify in action

Y1 Pupil Voice- Questions explored



Staff Voice- Summer 25



"Explorify has massively helped me engage science talk in my classroom, the pupils are now much more keener to share a question or take a risk!"

Class Teacher

SLIDE 10: TLA - Teaching enables all children to learn science content and procedural knowledge by encouraging them to ask questions and express ideas

Y5/ Y6

- Pleasing to see good coverage of the curriculum making use of White Rose and other resources such as Explorify
- Good opportunities for practical enquiry and pupil talk
- Well presented (personalised learning) with next step feedback provided

Next steps: Continue to use Explorify/ Concept Cartoons to engage learners and find ways to evidence in books (QR codes etc)

Thanks again for all the hard work you are doing in science,
Mr Michael Watson and Mrs Annabel Jannece
Science Leads

SLT Monitoring with
subject leader

"I like that we get to test our ideas and our knowledge. Anything is possible!"

Y6 Pupil View

"I like learning about fossils and rocks because it's so cool. I like asking questions because that's how I learn!" **Y3 Pupil View**



I loved the London science museum visit. We could ask so many questions! I wonder what the future might look like!

Y4 Pupil View

Y3

Going Well

- Adapted tasks- tailored to pupils' needs
- Links with school environment (rock hunt around the school grounds)
- Good coverage linking to topics with questioning opportunities

Even Better

- Use Explorify to extend learning further

SLT Monitoring with
subject leader

SLIDE 11 - TLB - Teaching enables all children to learn science content and procedural knowledge by using approaches and resources that enable lesson outcomes to be met

Wednesday 20th November 2024

I can identify and name the key features of the heart.

Success Criteria:

- name the main components
- understand the hearts function
- perform a scientific dissection.

Today we discussed the heart in detail. We learned that the heart is an organ made of muscle and is protected by the rib cage. It is a huge pump which pumps blood to the lungs where it collects oxygen which goes back to the heart and the rest of the body. The right side is smaller as it only pumps blood to the lungs. The left side is bigger it pumps blood to the whole body. When you breathe the heart carries carbon dioxide to the lungs and out of the body and oxygen to the rest of the body. Blood travels through the body through blood vessels (tunnels) known as veins and arteries (and capillaries).



What is the aorta?

Dissecting pigs hearts in Y6

ODD ONE OUT


Moving propellers



Explorify resource to learn science content and recap prior knowledge

I can identify the effects of air resistance and friction that act between moving surfaces.

How do racing cyclists reduce friction?



Olympic cyclists reduce friction by wearing lycra. Lycra is a type of special clothing that cyclists have to wear to reduce friction. They also have to wear a smooth helmet. They ride on a smooth wooden track to help them move along and not stop. They have to have smooth wheels to help with that.

"My favourite part of Explorify is the 'Odd One Out' challenge as it gets us talking! **Pupil View**

1) What does translucent mean?

allows some light to pass through it

Wbs recap

2) Which of these materials are magnetic?

wood

plastic

iron

3) True or false?

Earth is the only planet with a moon.

false



Pre-lesson quiz for each session-linking to White Rose Science

SLIDE 12 - TLB - Teaching enables all children to learn science content and procedural knowledge by using approaches and resources that enable lesson outcomes to be met

5. Is there any equipment that you have used recently in science lessons that was not complete or would need replacing?

Examples of staff voice linking to resources

CIRCUITS

no - our topic is animals so haven't used equipment recently

group of materials, flour, vinegar, bicarbonate soda, balloons, varied solids, liquids - maybe need align with white rose

Ask Bronwyn!

bought my own prisms, some torches missing

N/W



Before/ After
Labelled resources and image to support returning of resources



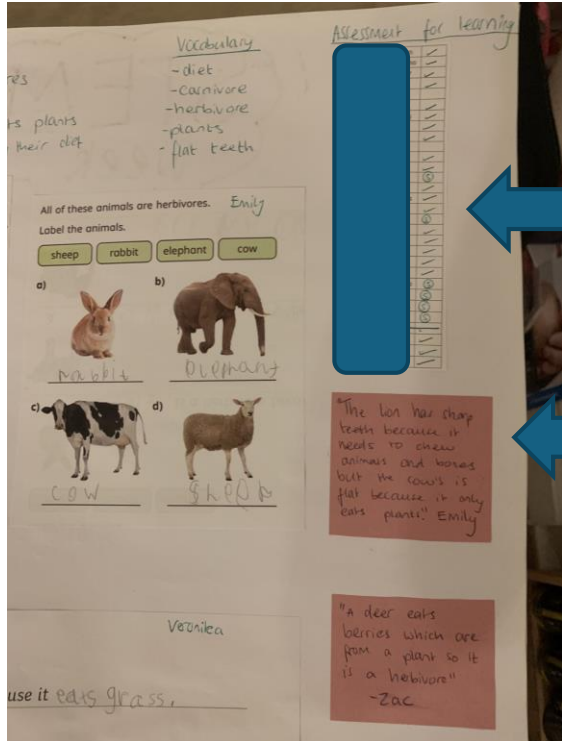
"Using Floor Books for Y1 has produced really positive outcomes for pupils, allowing them to be more 'hands on' and 'minds on'"

KS1 Teacher

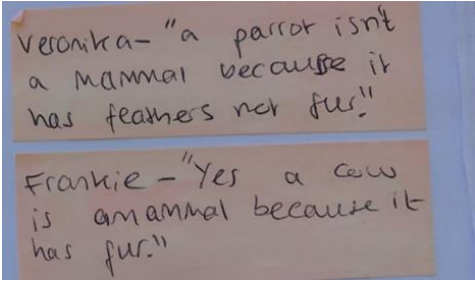
"Having resources available and newly clearly labelled has helped save my workload and be better prepared for science." **Current ECT**

SLIDE 13 - TLC - Teaching enables all children to learn science content and procedural knowledge informed by formative and summative assessment

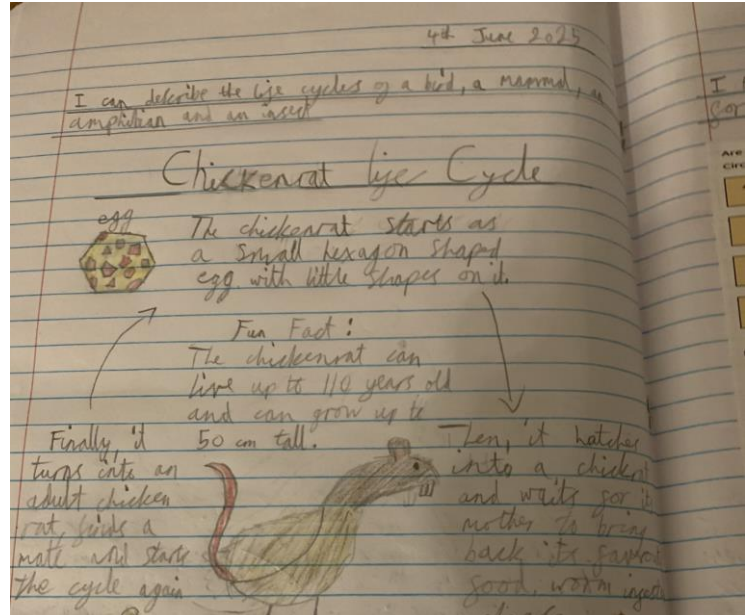
TAPS Assessment example-merging life cycles challenge



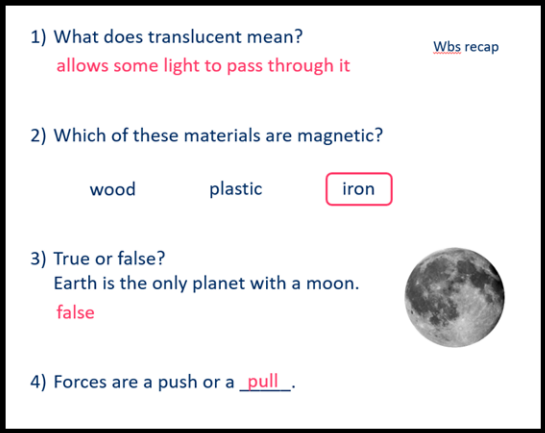
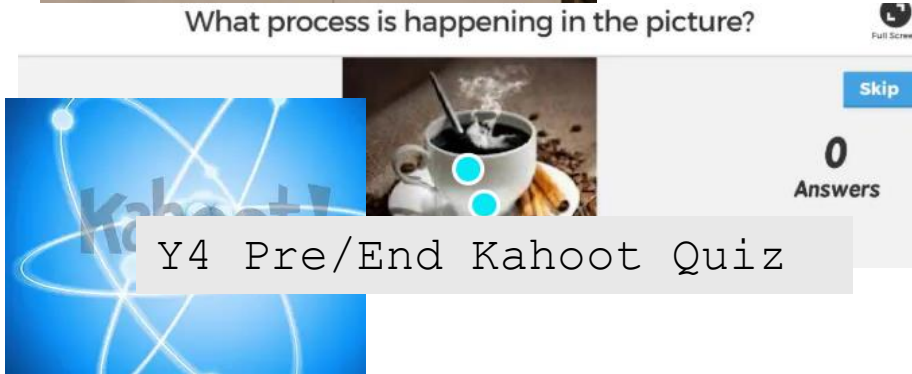
Formative ticking strategies and summative tracking in KS1



TA notes



Example of lesson based formative recap quiz



"TAPS is very useful for gaging what the children have learnt over the topic creatively and thus provides ideas for future planning."
Science Lead

SLIDE 14 - TLC - Teaching enables all children to learn science content and procedural knowledge informed by formative and summative assessment

PUPIL INFORMATION					SCIENCE
Gender	Pupil Premium	SEND	Attendance concern	EAL	Current assessment
M		Y			On track to meet curriculum-related expectations
F					On track to meet curriculum-related expectations
M	Y			Y	On track to meet curriculum-related expectations
F					On track to meet curriculum-related expectations
F				Y	On track to meet curriculum-related expectations
F					On track to meet curriculum-related expectations
M				Y	On track to meet curriculum-related expectations
F				Y	On track to meet curriculum-related expectations
M	Y				On track to meet curriculum-related expectations
M					On track to meet curriculum-related expectations
F				Y	On track to meet curriculum-related expectations
M				Y	On track to meet curriculum-related expectations
F				Y	Monitoring
M				Y	On track to meet curriculum-related expectations
M				Y	Monitoring
M		Y			Monitoring
M				Y	On track to meet curriculum-related expectations
M				Y	On track to meet curriculum-related expectations
F				Y	On track to meet curriculum-related expectations
F	Y	Y		Y	Monitoring
F	Y	Y		Y	Monitoring
M				Y	On track to meet curriculum-related expectations
F				Y	On track to meet curriculum-related expectations

Individual Class Summative Tracking

Whole School Headlines

WHOLE SCHOOL SUMMARY: SCIENCE								
Current assessment: Analysis summary		All pupils	Boys	Girls	Pupil Premium	SEND	Attendance concern	EAL
Monitoring	Tally	91	57	47	26	33	4	64
	Percentage	25%	27%	29%	44%	54%	21%	30%
On track (inc. Aiming high)	Tally	268	153	115	33	28	15	149
	Percentage	75%	73%	71%	56%	46%	79%	70%

Boys and Girls are broadly in line.
Target groups- PP and SEND

Autumn 24

Data analysed example- showing pupil premium outcome improvements- Autumn to Spring

WHOLE SCHOOL SUMMARY: SCIENCE								
Current assessment: Analysis summary		All pupils	Boys	Girls	Pupil Premium	SEND	Attendance concern	EAL
Monitoring	Tally	78	48	43	17	34	4	56
	Percentage	22%	23%	27%	33%	56%	24%	26%
On track (inc. Aiming high)	Tally	279	163	116	35	27	13	156
	Percentage	78%	77%	73%	67%	44%	76%	74%

- Slight improvement overall (+3% on track)
- Boys slightly outperforming girls
- PP outcomes improvement (+11%) (Targeted on plan)
- SEN outcomes slight drop (44% (-2%))

Pupil Premium Outcomes

"It has been really useful to see a new summative assessment tool in action and reflect on data trends across year groups and the whole school."

Link Governor View

"It was very helpful to be able to observe good science teaching in action. This has helped my own practise as an ECT."

Teacher View

PSQM slides:

- Use your existing *Evidence Store* to select from when creating these slides. Add any further evidence from across the school that may not be in your evidence store yet and can also be included to support the statements made in the Science Development Planner (SciDP): Review.
- These slides will form your **Evidence Slides** – a final submission document.
- Required content 14 slides only
 - **Slide 1: school name and brief background**
 - **Slide 2: Vision and Principles**
 - **Slides 3&4 CDA, Slides 5&6 CDB, Slides 7&8 CDC, Slides 9&10 TLA, Slides 11&12 TLB and Slides 13&14 TLC include evidence of impact on children's learning to support SciDP: Review**

