

Staff Meeting Minutes

Date: 26/01/16



Staff Meeting Minutes

Date: 02/12/15

- MH shared diary dates for the term.
- SQ gave feedback from conference she attended for science.
- Staff were shown new resources on the server for science by SQ.
- Staff given time to access the resources folder on the server and ask any questions they have.

- MH shared notices and some housekeeping issues - access to the portal and documents needed.
- MG reminded subject leaders to hand in release time reports.
- SS showed staff how to log on to the portal to access documents.
- SQ gave packs containing key skills and knowledge documents to each year group - staff highlighted areas taught. This is to be used as a working document and will be collected at the end of the academic year.
- SQ explained how to use the key skills documents in relation to planning - non-negotiables were mentioned (learning intention linked to science knowledge, working scientifically link and science principle).

I have conducted a number of staff meetings this year to share good practice, advise staff of curriculum changes and support the teaching and learning of science.

Pupil interviews conducted on 24/01/17 showed that children were much more aware of the science happening in school. This showed progress from the interviews carried out in March 2016.

Science is when we do experiments. We learn about mixing things and what happens when we put things together.

Year 4 pupil, March 2016



Science is when we investigate things that happen in the world. We look at how things work and why things happen the way they do.

Year 6 pupil, January 2017

A1 - There is an effective subject leader for science.



Our science principles support everything that we do.

We know that good science occurs in our school when...

Children initiate their learning through asking scientific questions.

Children are able to use a range of good quality resources.

Learning is fun and children and staff are enthusiastic and excited about science.

Scientific vocabulary is used with confidence, in the right context.

Learning is practical and children are actively involved.

Science is given a 'real' purpose and links to real life and current events.

Science is important in real life. We use it everyday, even when we make a cup of tea!
Year 5 pupil

What do I want to know?

What happens to your bones when your adult?
What is good about bones?
What do you do with muscles?
What is a good hormone?
What is a body?
What is good about skin

Monday 22nd February 2016

Can I explain that forces make objects speed/slow down change direction or stop?

In advance: You need to have two pieces of A4 paper (large) and two identical file folders, one of which is flat and one for something else to use it more easily.

With pupils (part 1): Show them the two pieces of paper and explain that you are going to drop them both from the same height at the same time. Get the pupils to vote for the piece of paper they think will hit the floor first (one will be 'right' 2 will be 'wrong' the floor together). Just before you drop the paper, screw up one of the pieces into a ball. Announce the answer and then explain the science behind it through discussion with the pupils.

Questions to stimulate pupils' thinking

- Some of you seem to be unhappy with the outcome of my experiment - was that a fair test?
- Why was it unfair?
- Why did the screw up paper hit the ground first?
- Why did changing the shape of the paper make a difference?
- Can anyone think of a situation where you would want to increase the air resistance?
- Can anyone think of a situation where you would want to decrease the air resistance?

With pupils (part 2): Show them the two file folders, including what's inside (one is empty and one is filled and explain that you are also going to drop them both from the same height at the same time. Again, get the pupils to vote for their predictions - which folder do they think will hit the floor first (one will be 'right' 2 will be 'wrong' the floor together). Announce the result - that both file folders hit the floor at the same time and then explain the science behind it through discussion with the pupils.

Questions to stimulate pupils' thinking

- Why did pupils make the predictions that they did?
- In both the cases experience the same amount of air resistance? Why?
- Why did both the folders hit the ground together, even though one was heavier?

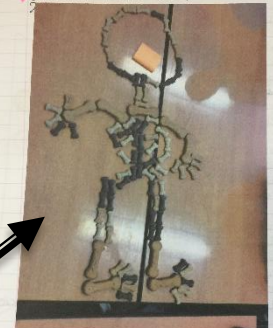
A persistent was less than the force of gravity. paper A was more small than the paper B so paper B took time

Making predictions

Solid	Prediction (yes/no)	What happened?	Why?	Mixture/solution
Sand	NO	It didn't dissolve	The particles didn't mix together	Mixture
Detergent	YES	It didn't dissolve	Because they had different sizes	Mixture
Sugar	YES	It dissolved	It's left mixing slowly	Solution
Coffee	YES	It dissolved	Because it's left mixing slowly	Solution
Salt	YES	It dissolved	Because it's left mixing slowly	Solution
Candle wax	NO	The candle wax just melted and didn't mix	Because the heat melted it	Mixture

Thursday 14th May 2016

Do I know that the skeleton supports the body?



How many bones are in our jaw = 2
How many bones make up our skull = 31
How long is our spine = 31

What jobs does our skeleton do? A spine holds you up

A2 – There is a clear vision for the teaching and learning of science.



Can I explore the requirements of plants for life and growth?

Working scientifically - making decisions about and setting up practical enquiries

Science principle - Children initiate their learning through asking scientific questions.

Bright Ideas Time

Big Question - Is a tree alive?

It is harder for children to understand a plant is alive, as it does not obviously move and certainly does not talk!

Main teaching

Pose the question: Why are plants important? Children complete the Diamond 9 ranking activity to decide which is the most important and least important (see resource). Children to note any questions arising from discussion with peers. Discuss the choices and questions from the session.

What is a plant? Use plant resources on the Arkive website. - Introducing parts of a plant powerpoint

Provide children with primroses that have been kept in the dark with no water for 1 week. Explain to children that they have to nurse these plants back to health. What will they do? Keep a record.



Planning is consistent throughout the school. Links are made to the principles to ensure that we are working towards the vision of good science for our school.

Can I identify mixtures and solutions?

Working scientifically - to predict, observe and explain

Science principles - to investigate.

Discuss states of matter. Demonstrate using ping pong balls and sheet. 4 children hold each corner of the sheet. Adding heat causes increase in energy, particles separate therefore changing state. Show reversal. What are the processes called?
Solid to liquid - melting or dissolving
Liquid to gas - evaporation
Gas to liquid - condensation
Liquid to solid - freezing

Demonstration of dissolving - salt water. Discuss the science behind it. The particles in the salt separate to join the particles in the water. Therefore, creating a solution. Substances which can dissolve are called soluble.

Demonstration of mixing - butter in water. Discuss the science behind it. the particles are separating but are not joining the water particles. The butter and water are separate. This is a mixture. The butter is insoluble.

In mixed ability groups

Provide children with a selection of solids (sand, powdered food colouring, pepper, soil, lead, coffee, vitamin c tablets) and water. Children to investigate mixing and dissolving.

Fill in the table to show predictions and explanations.

As a class discuss what we have found out today. (True or false ppt. move the statements to the correct side)
Do you think it is possible to get the solids back?
How can we use this to inform our next science lesson? What can we investigate next?

Our science principles encourage learning to be as exciting and practical as possible. To do this, our school grounds are used extensively by all year groups.

A2 - There is a clear vision for the teaching and learning of science.

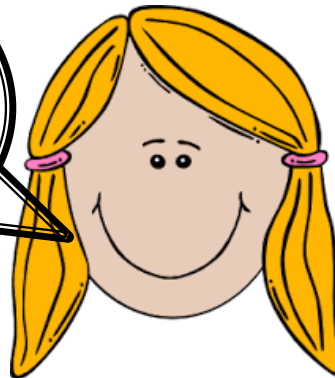


Pupil interviews were vital in showing what children's perception of science is in our school and what they think good science looks like.

I like interesting lessons where I can be involved in what I learn.
Year 6 pupil, Oct 2016



I learn the most when science is fun.
Year 3 pupil,
Oct 2016



Circle the number to show if you agree or disagree with the statement.

Strongly Disagree 1 2 3 4 5 Strongly Agree

It is important to know how to improve my work. 1 2 3 4 5

It is useful to talk about science. 1 2 3 4 5

I need to work in silence. 1 2 3 4 5

I learn from demonstrations. 1 2 3 4 5

I learn from my friends. 1 2 3 4 5

It is important to get written comments. 1 2 3 4 5

Science is an important subject. 1 2 3 4 5

Science is an interesting subject. 1 2 3 4 5

I learn from working as a group. 1 2 3 4 5

It is important to know why I am learning topics. 1 2 3 4 5

Science is difficult. 1 2 3 4 5

I want to do well in Science. 1 2 3 4 5

THANK YOU

Questionnaires show that children consider science to be an important and interesting subject. Pupils want to do well in science and have the right attitude to succeed.

A2 – There is a clear vision for the teaching and learning of science.



Tasks	Who?	When?	Check Has it been done?
1. Subject leader development	Subject leader	Ongoing	
2. Subject leader to monitor books and planning, support planning/delivery where appropriate. Ensure links to maths and English.	Subject leader	Spring term /ongoing	
3. Subject leader to lead an inset on new assessment format – teachers to hand in data after each theme that contained science	Subject leader and class teachers	Spring term /ongoing	
4. A wider range of science resources to be made available to KS1 and KS2	Subject leader	Ongoing	
5. Complete whole school visitors/visits calendar	Subject leader and class teachers	Ongoing	
6. Organise termly science focus for assembly and science certificates/stickers – children's work and photographs to be displayed on whole school board.	Subject leader and class teachers	Ongoing	

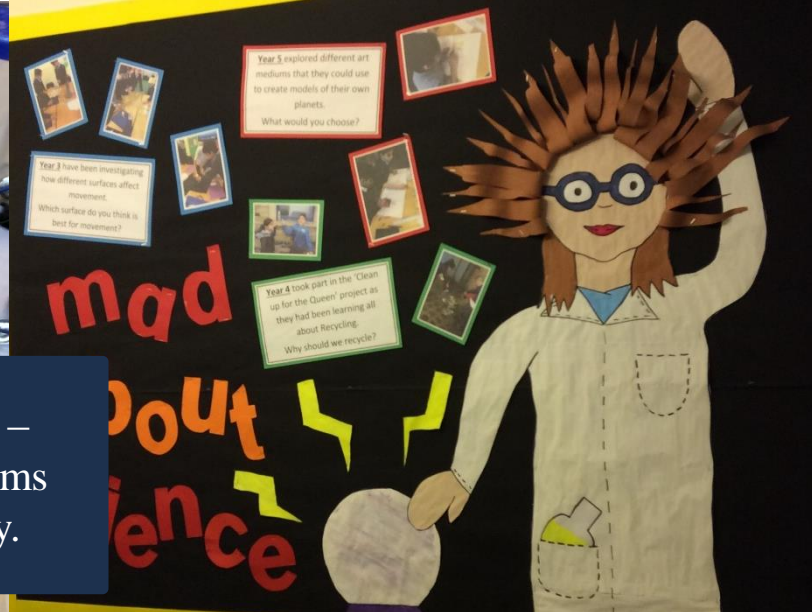
The Science Action Plan is produced in consultation between the subject leader and head teacher.

Focused priority	Title	Raising the profile of Science through the implementation of the new national
What will be different for <u>children</u> (emphasis learning and achievement)	<p>Implementation of the new science curriculum, through the LPDS National Curriculum, support materials - Scientific knowledge focused around the children's theme, creating relevance and increased motivation to the learning taking place.</p> <p>All children should be made aware of appropriate scientific language and terminology. Most children should be able to use these terms correctly in written and oral work. Theme specific vocabulary should be displayed during the duration of the unit, additional science vocabulary to be displayed throughout the year.</p> <p>KS2 children should be able to demonstrate that they can apply concepts and knowledge taught to wider world applications.</p> <p>Enquiry skills will make explicit links to</p> <ul style="list-style-type: none"> Maths – data handling and interrogation, scale reading, etc. English – non-chronological reporting, grammar level work on connectives for arguments, biographical work on prominent scientists, etc. where appropriate. <p>Science to be taught in a hands on/practical way. Ensuring a range of resources are used, visitors are invited into school, school trips, local area study, etc.</p> <p>Celebration of scientific achievement to happen on a regular basis – through 'Scientist of the Term' display and assembly.</p>	
Targets		Success Criteria (use for evaluation)
<ul style="list-style-type: none"> To develop the role of the new subject leader Embed the new curriculum across KS1 and 2 Develop science assessment across KS1 and 2 To enhance the range of resources To <u>develop the</u> amount of practical science and real life experiences To enhance the links with English and maths To develop the use of science displays throughout school To celebrate scientific achievement 		<ul style="list-style-type: none"> Relevant CPD undertaken by subject leader. Subject leader to support the planning of new curriculum, using LPDS support materials – focus on practical science and core subject links. Each science topic to be assessed using LPDS materials A wider range of resources available and being used by both KS1 and KS2 All classrooms throughout the year to have a variety of science displays. Scientific achievement to be celebrated through displays and assemblies.
Key People including leader.		Funding and resources.
<ul style="list-style-type: none"> Science subject leader SLT Literacy Leader Numeracy Leader 		<ul style="list-style-type: none"> TBA

Objectives are designed to provide the maximum benefit to the children and the quality of teaching and learning within the school.

A3 - The current school development plan has appropriate and active targets for science.





as well as whole school science display

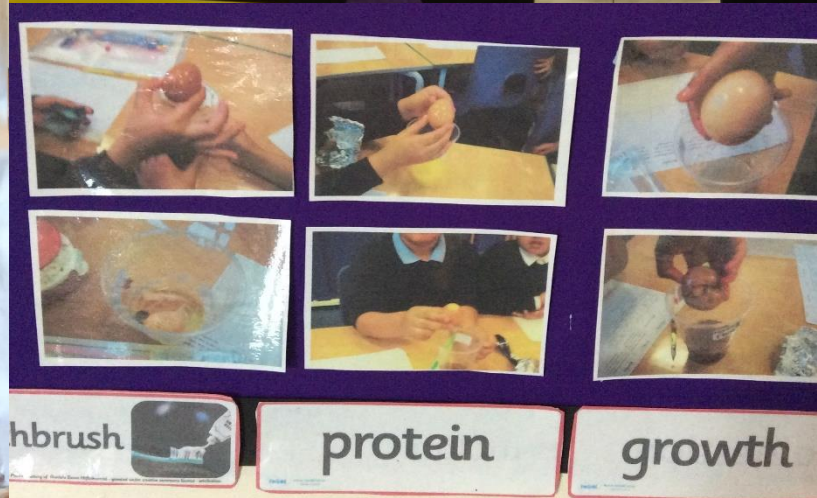
Year 5 have been learning all about The Sun, Moon and Earth.

Year 5 have written space themed limericks.

We have experimented with different dry media to create our own planet's surface.

The children have designed and created their own planets.

We have been learning about how the earth orbits the sun.



Unit Objectives-		ICT Progression	
<ul style="list-style-type: none"> Can I use a data logger? Can I use a data logger to record the temperature of different objects? Can I use a data logger to monitor light levels? Can I use the data logger to monitor the sound levels around school? Can I investigate the length of time it takes a cup of hot water to cool down? 		<ul style="list-style-type: none"> Use data loggers to capture measurements (Sound, Temperature and Light) continuously over time. Use a data logger to "snap shot" a series of related but separate readings in the course of an appropriate investigation. Investigate changes in the environment using a data – logging device. Use data loggers both connected to the computer (live) and remotely, capturing data to the software at a later stage. 	

Working scientifically skills such as prediction and explanation are prominent within the English and maths curriculum too. This provides more time for the skills to be developed in other subjects too.

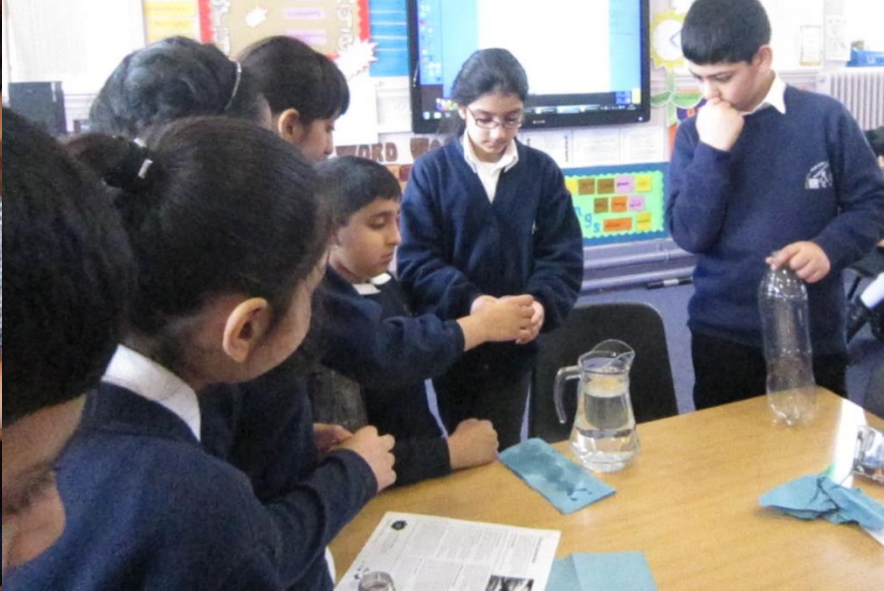
Week	Objective	Success Criteria	Mental/Oral Starter	Direct Teaching input	Pupil Activities (10/15 minutes each)
1	Can I use a data logger?	I know what a data logger is and does.	(5 Mins) 1) Show chn the data loggers and explain that a data logger collects and stores information about the environment. 2) Explain that it uses special sensors to measure the information it is collecting. 3) Explain that the data logger can collect information on light, sound and temperature. 4) Explain that this data can be passed from the data logger to a computer to view in graphs etc.	(10 – 15 Mins) Split the chn into groups of 4-6 depending on how many data loggers you have and many chn are in the class and give each group a data logger. Discuss the different features of the data logger: Temperature, Sound and Light. Demonstrate creating a log by pressing Menu – Start on the data logger and discuss with the chn that the data logger is now recording what the temperature, sound and light levels are and any changes they are to them. Cover the light sensor, increase the volume and change the temperature by using your hand on the sensor to show chn how this affects the logger. Stop logging; connect to a computer a transfer log on the computer by running the graphpad software.	Independent Activities (30 Mins) Chn to use the data loggers to log any changes to temperature, sound and light in the class room and transfer the log onto a computer using the graphpad software.

		+		Learning Intention	Main teaching	Independent activities	Plenary
				Can I identify how sounds are made?	Bright Ideas Time (5minutes) Concept Cartoons – Drums. Working scientifically – to classify/identify sounds Science principles – we use scientific vocabulary	Children need to classify sounds in a Carroll diagram with categories of low / high and natural / man-made. HA 4 interlinking circles – low/high/manmade/natural MA 3 interlinking circles – manmade/natural/high LA 2 interlinking circles – manmade/natural	Go through Carroll diagrams- what types of sounds did children include. What sounds do we find annoying? What do they have in common with each other?
					Ask children to explain how they think sound is created. Watch video at http://www.bbc.co.uk/education/clips/z9h6n39 which explains how vibrations produce sound Ask children to think, pair, share as many adjectives as they can for describing sounds, and take suggestions as a class. Explain that we will be classifying sounds based on whether they are low or high and natural or man-made. Watch video on low and high sounds at http://www.bbc.co.uk/education/clips/znjd7ty Revise what the words low, high, natural and man-made mean – write definitions on the board. Ask children to think, pair, share as many examples as they can for examples of low, high, natural and man-made sounds, and take suggestions as a class. Go through PowerPoint with images and sounds for the following: a lion roaring, an emergency siren, a mouse squeaking, a propeller plane, an alarm, thunder, birds singing and a jackhammer drilling.		

Planning shows maths, computing, English and science skills and knowledge applied in lessons.
Staff are always trying to make links between subjects.

A4 - There is a shared and demonstrated understanding of the importance and value of science to children’s learning.





SCIENCE WEEK – Feb 2016

Year 1 had a special visitor to start off their science week. They got to observe different insects and creatures.

Year 3 investigated light and shadows.

Year 4 experimented ways to clean a penny.

Year 6 investigated ways to generate clouds.

A4 - There is a shared and demonstrated understanding of the importance and value of science to children's learning.



Responses to science happening at our school



Create Report

Erupting Volcanoes!

 Bradley Primary School, Lancashire
Miss Sumaiyyah Quadri



Posted: 09/03/2017

Our talented science ambassadors worked with acids and alkalis to create a chemical reaction. We used vinegar, washing up liquid, water and baking soda to produce a gas. The gas takes up a lot of space and finally builds up enough pressure to push out of the opening.

2 3

 Ripley Junior School, Derbyshire
Miss Lucy Riley, 10/03/2017 1:27PM

We think this looks very creative and exciting!! We would like to try something similar! :-)

 Bradley Primary School, Lancashire
Miss Sumaiyyah Quadri, 16/03/2017 6:29PM

It was fantastic! The children really enjoyed it and wanted to investigate ways to make the eruption bigger!



 Bradley Primary School

Like This Page · February 22 ·

Popeye, Rio, Flint and, Nugget came to visit Year 2 this week from the Horus Birds of Prey Centre. The children loved learning all about the owls and asked lots of superb questions, but the best bit of all was that they all got to hold Flint!

Like Comment Share

2

Chronological

 Lottie Hoyle Damon told me all about these last night, and I was so jealous! I love Owls 😊

Like · Reply · February 22 at 4:18pm



BRADLEY PRIMARY SCHOOL

Learn to Succeed

Extra Curricular Activities

Bradley School Policies

Bradley School Council

Lancashire Curriculum Overview

Special Educational Needs


Pupil Premium

Funding

Computing

RE

Attainment




Trail : home / Curriculum / Science : Fairtrade Conference

Fairtrade Conference

Fairtrade conference

Our Science Ambassadors attended the Fairtrade Conference in Liverpool as an opportunity to develop questioning and collaboration skills. They had the opportunity to meet and speak to Samuel and Esther who were visiting from Ghana. Children were given lots of tasks to complete. Teamwork; forming opinions; making decisions; public speaking and reasoning were just some of the skills that were used throughout the day. The chocolate was a bonus!



A4 - There is a shared and demonstrated understanding of the importance and value of science to children’s learning.



Science is continually reviewed, evaluated and monitored in order to ensure high standards.

Book Scrutiny Form - Bradley Primary School

Date Nov 2017 Year Group 5

Key Questions	Evidence	Examples in book/actions needed to be taken
Is the presentation of a high standard?	Is DUMTUMS (Date, Underline, Miss a line, Start) evident? Is the Can I evident at the start of work?	Presentation is of a high standard in all books. DUMTUMS is clear in every piece of work with the Can I clearly shown at the top of the page.
Is the marking policy being followed?	Is all the work marked? Are comments for pink explaining what the children have done well, using correct language? Do the comments in green allow the children to reflect and develop their understanding further? Is there evidence of 'reflect and correct' being marked?	Most of the work is marked - there is less evidence of green marking in 5B books. The pink and green comments must be linked to the science learning. For example, <i>Can I describe the movement of the moon and the phases?</i> <i>Well done Ammon. You have used some scientific vocabulary to describe the movement of the Moon around the Earth.</i> <i>You have mentioned the eight phases of the moon. Can you give me more information about these?</i>
Are basic skills being addressed?	Are basic spelling and grammar errors identified through green marking? Is work presented clearly? Are capital letters and full stops mistakes being identified in green?	Spelling and punctuation mistakes are highlighted in green and then corrected. Work is presented clearly in all books.
Is work appropriate for the stages the children are at?	Is the work challenging enough? Is there evidence of support where necessary? Is there evidence of SEN provision where necessary? Is there evidence of practical experiences where appropriate?	There is no clear differentiation evident in books. If any support is given to the child, this must be made evident. There is some evidence of practical experiences and this has been evidenced by photographs - more in 5B
Is there a 'good' amount of work in the books?	Is there an adequate amount of work recorded in books? Is the work appropriate to the theme and year group?	There is a good amount of work evident in 5B books. However, there is less work in 5A books - work begins 03/12, whereas in 5B work begins 10/11. There are gaps in books too. 5B has more work for the Earthlings unit. The work is appropriate to Year 5.
Are children being given opportunities to apply skills?	Is there clear evidence of full skill coverage? Is there regular links to other subject areas? Is there evidence of children explaining their reasoning?	Some skill coverage - fair test, prediction More cross curricular links needed - with English and Maths
Is there clear evidence of 'Working Scientifically'?		There is some evidence of 'working scientifically' however more is needed.

Next steps: Use the science principles to support feedback and marking.
Children to self-assess their learning in Science.

A5 - The science coordinator knows about science teaching and learning across the school.




Pre learning tasks are completed in various formats to assess children's prior knowledge and identify misconceptions.

What do I know?	What do I want to know?
<ul style="list-style-type: none"> • Eat fruits and vegetables • Do exercise a lot • Eat less chocolate • Eat less fast food • Water and milk 	<p>What happens to your bones when your adult?</p> <p>What is good about bones?</p> <p>What do you do with muscles?</p> <p>What is...</p>

Teeth KWL Grid

Some super questions on your KWL grid
Plaque?

What I already Know	What I want to learn	What I have learnt
<p>You should brush your teeth twice a day ✓</p> <p>Your teeth helps you chew your food ✓</p> <p>Milk, and water helps your teeth grow strong ✓</p> <p>You should not eat too many sweets because they will fall onto your teeth ✓</p> <p>You should keep care of your teeth every day ✓</p>	<p>Plaque</p> <p>How does plaque get on your teeth? ✓</p> <p>How do your teeth grow? ✓</p> <p>What are your teeth made of? ✓</p> <p>What are fillings made of? ✓</p> <p>Why do we go to the dentist? ✓</p> 	<p>We have 20 baby teeth ✓</p> <p>Visit the dentist at a year ✓</p> <p>A sugar villain is for your teeth ✓</p> <p>It has dots of a your teeth fall you have so sweets of a</p>

strong

different sizes

colours

can throw them

can break them into smaller pieces

heavy

hard

can be found in different places

ROCKS

A5 - The science coordinator knows about science teaching and learning across the school.

Support and CPD is provided for staff to increase their skills and confidence when delivering science lessons.

Sumaiyyah has been a great subject leader for Science this year. She has supported staff with ^{any} concerns they have had delivering Science. My confidence has definitely grown with the subject.

S. Ahmed



HOME ABOUT COURSES MY PROFILE

Search science topics...



Living Things and Habitats

Course level: Lower Primary

This course looks at the wonderful variety of places where life can be found, from jungles and deserts to the bottom of the ocean. We meet Dr Karl Smith, whose Blue Green Dream involves transforming grey urban spaces to help offset climate change.

0 units completed
0 units to go

Units in this course



1. The Big Idea

Why teach children about living things and habitats?

My notes

Go to this unit



2. Core Learning

What you need to know about living things and habitats.

My notes

Go to this unit



3. Big Questions

Easy answers to the big questions.

My notes

Go to this unit



4. Practical Ideas

Practical ideas for teaching.

My notes

Go to this unit

Activity Details

Outline/Purpose of activity: Creative approaches to primary science (possibly add encouraging more 'Working Scientifically' practical science approaches - subj leader to confirm session details once date booked)

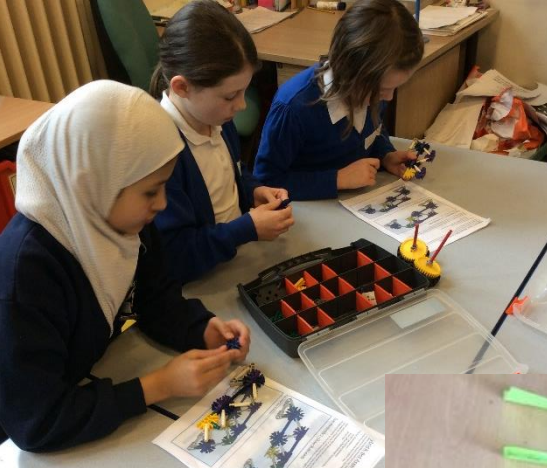
Date(s) 11/05/16

Time(s) 3:15-6:15p

Staff are given CPD opportunities through formal INSET training.

B1 – staff continue to have opportunities for CPD within science that increases their skills, knowledge and understanding.





Visiting pupils from other schools worked together with Bradley pupils to design, build and modify robots to compete in Robot Wars.



EYFS explored ways to talk on the telephone. They investigated how far sound travels.



Skeletons in Year 3



The Egg Experiment in Year 4

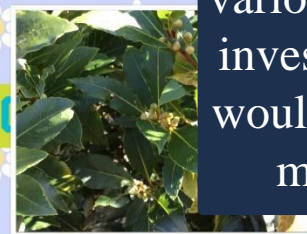
B2 – There is a range of teaching and learning approaches for science.

IN SPRING IT GETS WARMER
AND PLANTS GROW

Examples of
children's work
using the app pic
Collage

Year 1 used
various sponges to
investigate which
would soak up the
most water.

Year 5
investigated
melting and
dissolving.



PIC•COLLAGE



B3 – There is a range of up-to-date, quality resources specifically for teaching and learning science. ICT is used both as a tool and as a resource for teaching.

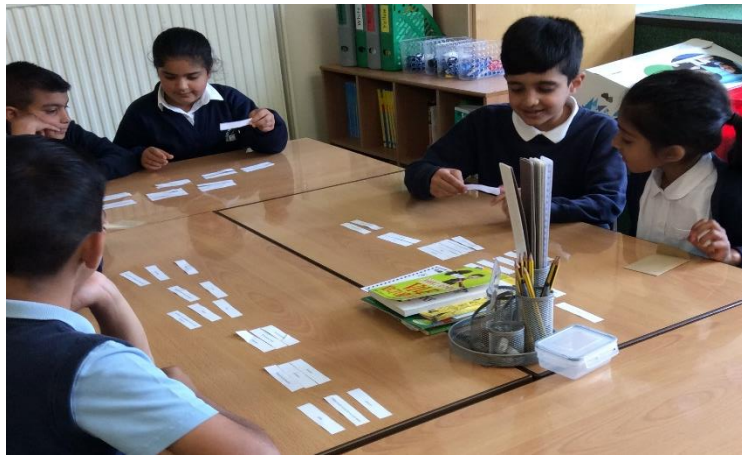
Tasks such as Odd One Out, PMI, Concept Cartoons and The Big Question are used in Bright Ideas Time

An umbrella made of glass

A house made of steel

Windows made of wood

KS1/2: Each of these scenarios link to the fitness of materials for purpose and will require the pupils to draw on their understanding of the properties of the materials in question.



Is a flame alive?

KS2: A flame appears to exhibit many of the life processes:

- Nutrition - it uses fuel
- Growth – fires become larger
- Movement – flames flicker
- Reproduction – flames can leap from one place to another
- It produces 'waste' – ash and smoke
- It needs oxygen

Of course, a flame is not living as it is not made up of cells and it is not growing, reproducing or producing waste in a biological sense. This can form the basis of a very interesting discussion.

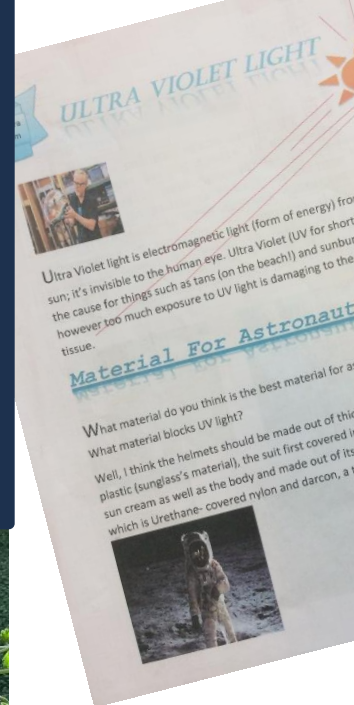
Fire, a tree and a dog

KS 2: a fire seems to exhibit many of the characteristics of living things, such as growth, movement but, of course, is not alive.

Children develop speaking and listening skills when discussing their opinions with their peers. They are able to justify their thoughts.

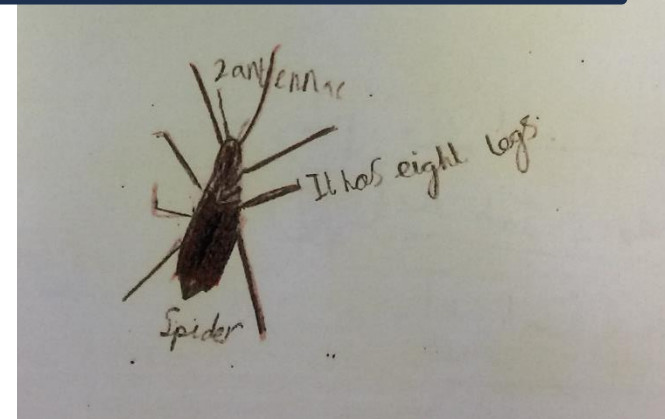
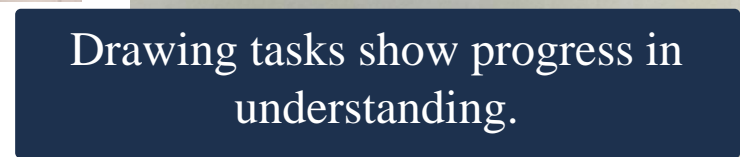
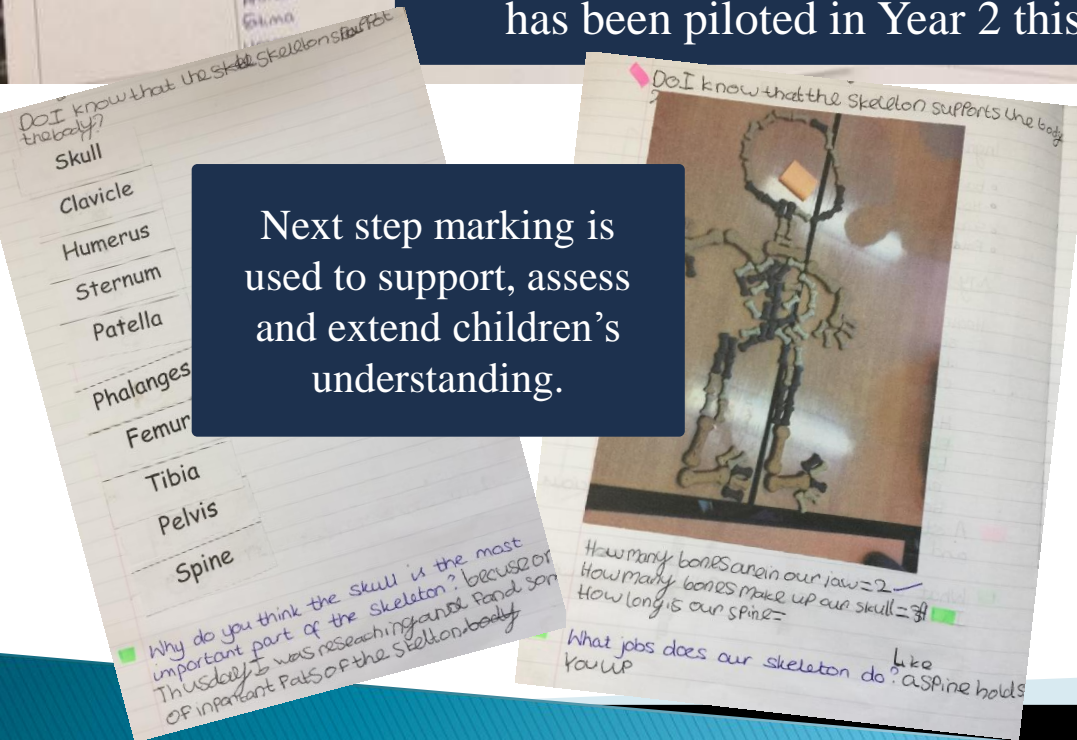
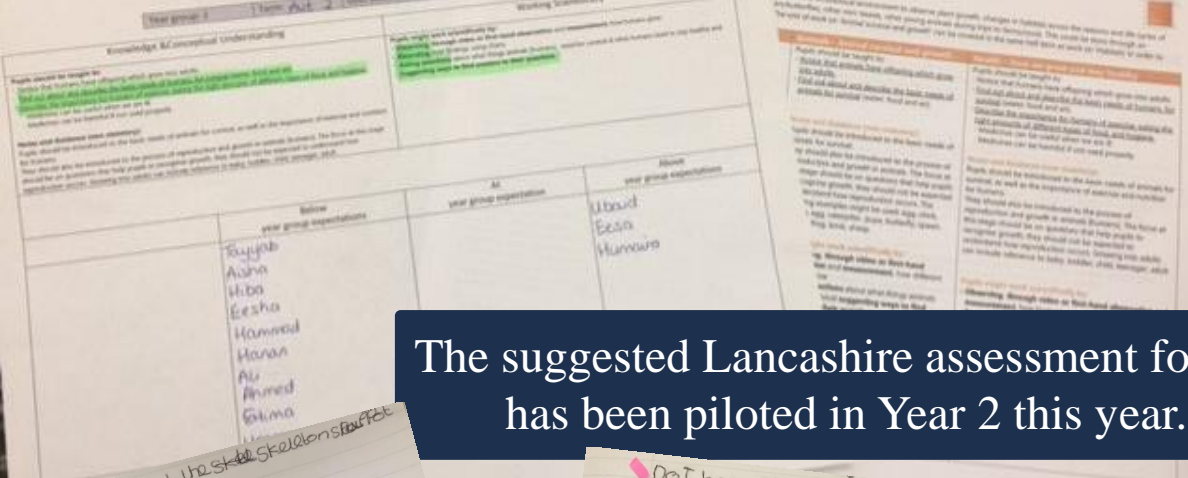
C1 – All pupils are actively engaged in science enquiry.

Children are exploring scientific concepts through 'hands on' learning. They are given a purpose for their learning.



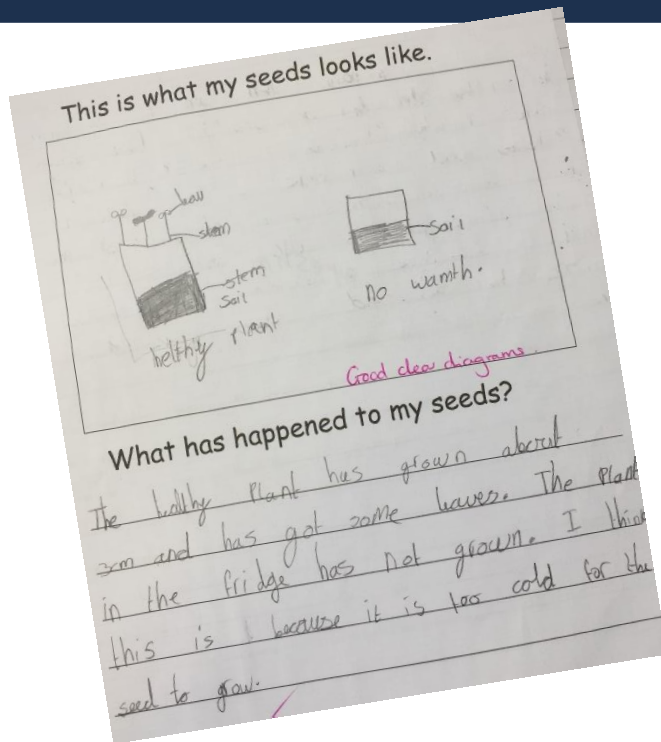
Whole school competitions are used to encourage pupils to engage in scientific enquiry.

C1 – All pupils are actively engaged in science enquiry.



C2 – The purpose of science assessment is well understood. Assessment approaches are designed to fit those purposes.

Focussed science tasks are carried out throughout the unit of work to inform teachers' overall assessment of their pupils.



Human skeleton

Scull
Furber
Pitella
nbs
Wina
Radius
Clavicle

Dog skeleton

Orbit
Lower
tursus
Sacrum
maxillary
metacarpus
scapula
metatarsus
radius

Compare

The Wina bone has the bone of a dog and a human. The dog bone is shorter and has a different shape. Some bones are different to the dog.

Target: To observe and compare rocks.

This is what our detective work found out

	Rock Sample	Describe the colours		Can you see Individual minerals/ crystals? (yes or no)	Is it shiny? Does it glisten? (yes or no)	Rough, smooth, hard or soft?
		One colour only (✓ or X)	More than one colour (✓ or X)			
1	Slate	X	✓	no	no	Soft, Smooth
2	Sandstone	X	✓	no	no	hard Rough
3	Pumice	✓	X	no	no	Rough hard
4	Quartzite	X	X	yes	yes	Soft Smooth
5	Marble	✓	X	yes	yes	Soft Smooth
6	Granite	✓	X	no	yes	Rough hard
7	Oxford Clay					
8	Chalk	✓	X	no	no	Smooth Soft
9	Andesite	X	✓	No	No	hard Rough

C2 – The purpose of science assessment is well understood. Assessment approaches are designed to fit those purposes.



Science is great because sometimes things don't happen the way you think they will.
Year 5 pupil

I like it when we get to use different things to help us learn.
Year 2 pupil

I love science! I've learned loads of things this year about electricity, the digestive system and the water cycle.
Year 4 pupil



C3 – Children enjoy their science experiences in school.

Mini-beast	Tally	Total
worm		3
beetle		0
bee		0
ladybird		28
woodlouse		0
caterpillar		7
ant		1
centipede		1
other slug		40

Neptune has a very active ~~clim~~ climate. Neptune has 14 moons. Only one spacecraft has flown by ~~Neptune~~ Neptune. Neptune has a very thin collection of rings.

The atmosphere of Neptune is made of hydrogen and helium, with some methane.

Neptune was not known to the ancients.

Neptune spins on its axis very rapidly.

Neptune is the smallest of the ice giants.

Neptune suffers the worst weather.

Uranus makes one trip around the sun every 84 Earth years. Uranus is often referred to as an "ice giant" planet.

Only one spacecraft has flown by Uranus. of very thin dark rings.

Uranus was officially discovered by Sir William Herschel in 1781. Uranus turns on its axis once every 17 hours, 14 minutes.

Uranus hits the coldest temperatures on any planet.

Uranus has two moons.

Links being made to English in Year 5 – a non chronological report about the Planets.

Cross curricular links made with maths in Year 2 – tally charts and bar graphs to show results of a minibeast hunt.

Mini Mercury

It takes just 88 Earth day for Mercury to complete its journey around the sun. So it has the shortest year in the solar system. It is also the fastest moving planet, with how it got its name. In Roman mythology, "Mercury" was the name of the swift footed messenger of the gods. Mercury doesn't have ~~neither~~ moons nor rings. One of it's craters (the Caloris Basin) is so large that the British Isles fit comfortably into it. Far smaller than Earth, Mercury is blistering hot days, but freezing nights. The nights get because Mercury has no atmosphere to trap the sun's warmer to provided close-ups of Mercury that showed a very scarred surface. Rather like our moon, this has been battered by comets and meteors.

D1 – Science supports and links with other curriculum areas and contributes to maximising whole school initiatives.



Children regularly have the opportunity to visit outside agencies to enrich science learning. Year 5 went to Ingleborough caves and our Science Ambassadors attended the Science Festival at Burnley UCLAN.



Demonstrations by the Mad Science company and Matt Prichard in Ks2 and Ks1.



D2 – There are clear links to other schools and outside agencies/organisations/communities to enrich science teaching and learning.

