SCIENCE PARENT FORUM

LONGITUDINAL STUDIES

TUESDAY 12TH MARCH 2019

Our Vision:

At the Oakridge Schools Federation we recognise **the vital role that science plays in our everyday lives and helping to develop the world in which we live**. We aim to teach science through the delivery of practical, engaging scientific investigations to inspire the children's natural curiosity and develop their love of enquiry. We will develop and foster their enthusiasm to question the **world in which we live** to enable them to purpose their own hypotheses and develop their own tests.

They will experience and investigate scientific phenomena, in a range of contexts, to ensure a continually evolving knowledge and understanding of the world around them. Our children will be encouraged to:

- **Ask questions**
- Take risks
- Make and learn from mistakes in a safe environment
- **Acquire and apply core skills which equip them for an ever-changing world**

LONGITUDINAL STUDY

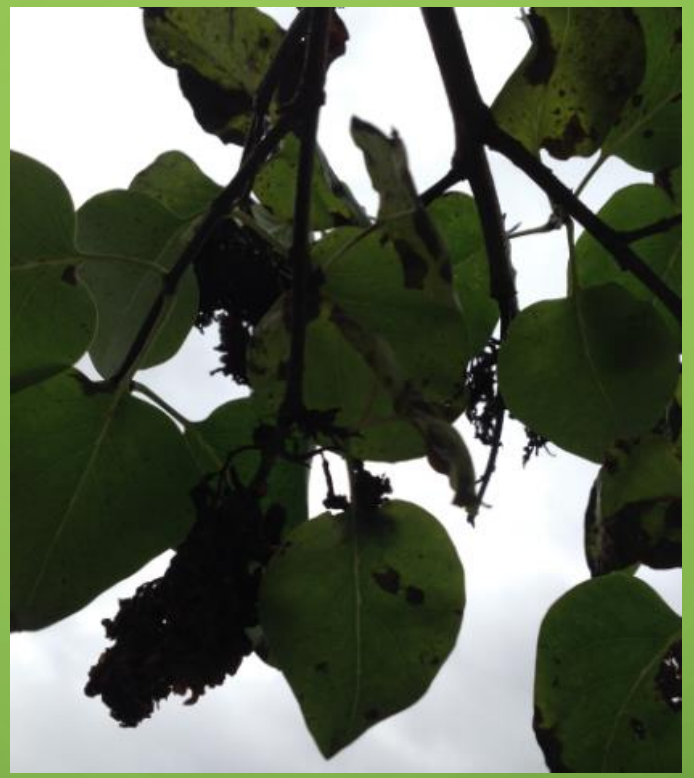
- This is a new approach to teaching science units of work.
- A study carried out over an extended period of time e.g. several months or the whole school year.
- As a school, this is the second year that we have taught some units in this way .
- Years 1 – 4 conduct longitudinal studies across the year focusing on topics they cover that year.

Science Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Seasonal Changes (10 hours)	Everyday materials – Describing materials Seasonal Changes (10 hours)		Everyday materials – Pushes and Pulls	Animals Including Humans (9 hours)	Plants – Growth (4 hours)
	Longitudinal Study – How does our environment change over the year (Wellie Walk) (linking to seasonal change unit)					
Year 2	Living things and their habitats (20 hours)		Use of everyday materials (10 hours)		Plants - Reproduction (5 hours)	Animals including humans - Growth (9 hours)
	Longitudinal Study – Where do we find the most animals allyear round					
Year 3	Animals including humans (8 hours)	Light (9hours)	Forces and Magnets (9 hours)		Plants (20 hours) How plants reproduce	How plants make their food
	Longitudinal Study – How can we make the woodland more colourful? (linking to plants unit)					
Year 4	States of Matter (21 hours) Solids, liquids and gases	Mixtures and separating them	Animals including humans (8 hours) Animals: Digestion	Electricity (11 hours) Electrical Circuits		Living things and their habitats (30 hours) Feeding relationships and the environment
	Longitudinal Study – Should we cut down the woodland? (linking to living things and their habitats unit)					
Year 5	Properties and changes of materials (18 hours) Making new substances	Earth and Space (11 hours) Space and gravity	Forces (15 hours) Forces that oppose motion		Animals including humans – Respiration (5 hours) Respiration in animals	Animals including humans - Growth (5 hours)
Year 6	Electricity (11 hours) Controlling electrical circuits	Light (12 hours) Light and how we see	Sound (8 hours) How sound is made, travels and can be changed	**Revision Unit**	Evolution and inheritance (16 hours) Evolution and natural selection	

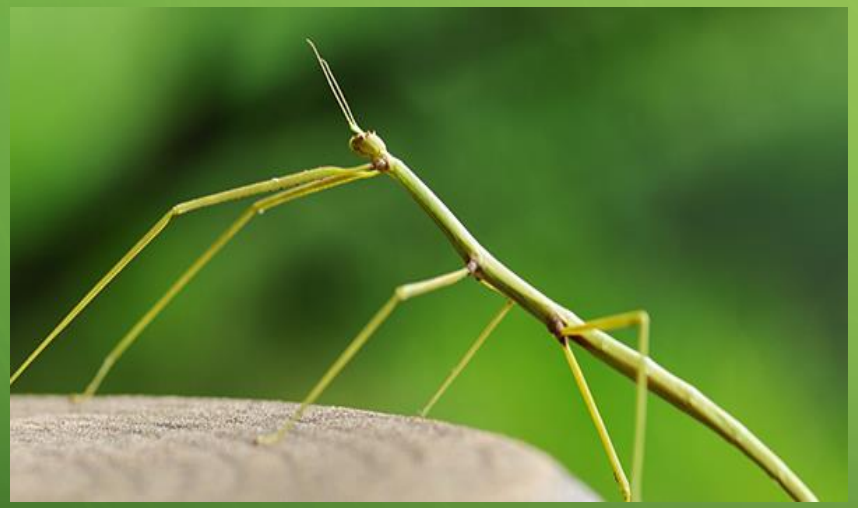
YEAR 1 – HOW DOES OUR ENVIRONMENT CHANGE OVER THE YEAR?

- Welly walk to explore the school grounds
- Discuss how the grounds have changed e.g. the leaves, weather, temperature
- Made conclusions about what has changed between the seasons e.g. autumn the leaves fall off trees but in spring flowers begin to grow.



Children will discuss what has changed on the welly walk both about the environment and how what they are wearing has changed.

YEAR 2 – WHERE DO WE FIND THE MOST ANIMALS ALL YEAR ROUND?



- Children explore the animals which live in the grounds to tell Stanley the Stick Insect
- Explore the animals in different parts of the school site e.g. trees, the field, the bushes
- Created graphs to show the different numbers of animals they find
- Identify creatures using basic identification charts
- Write conclusions about how the numbers of animals have changed and where the most animals are found by writing postcards back to Stanley

WALT explain how environmental change affect plants and animals

Today we went back to our class area to search for insects. We looked for slugs, snails, butterflies, flies, bees and wasps but we didn't find any. Back in the classroom, we used laptops to research why this was. We found that certain creatures hibernate during the winter months and slugs are only active over 5 degrees!

"There are no insects because it is winter and it is too cold."

"There would be nothing to eat if Stanley came here now!"

Dear Stanley

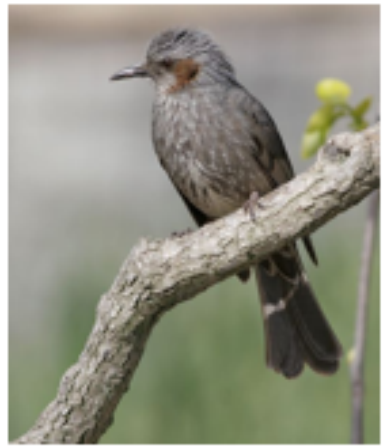
Please don't come here because all your best friends are hibernating because of the cold. It's been snowing very heavily and it's still very cold. The ground is soggy, wet and it's below 5 degrees. Which animals hibernate at >5°C? slugs.

PLACE STAMP HERE

WALT explain how changes in the seasons can affect food chains

Today we learnt about food chains and that if the chain is broken, it can have an effect on the other creatures in the food chain.

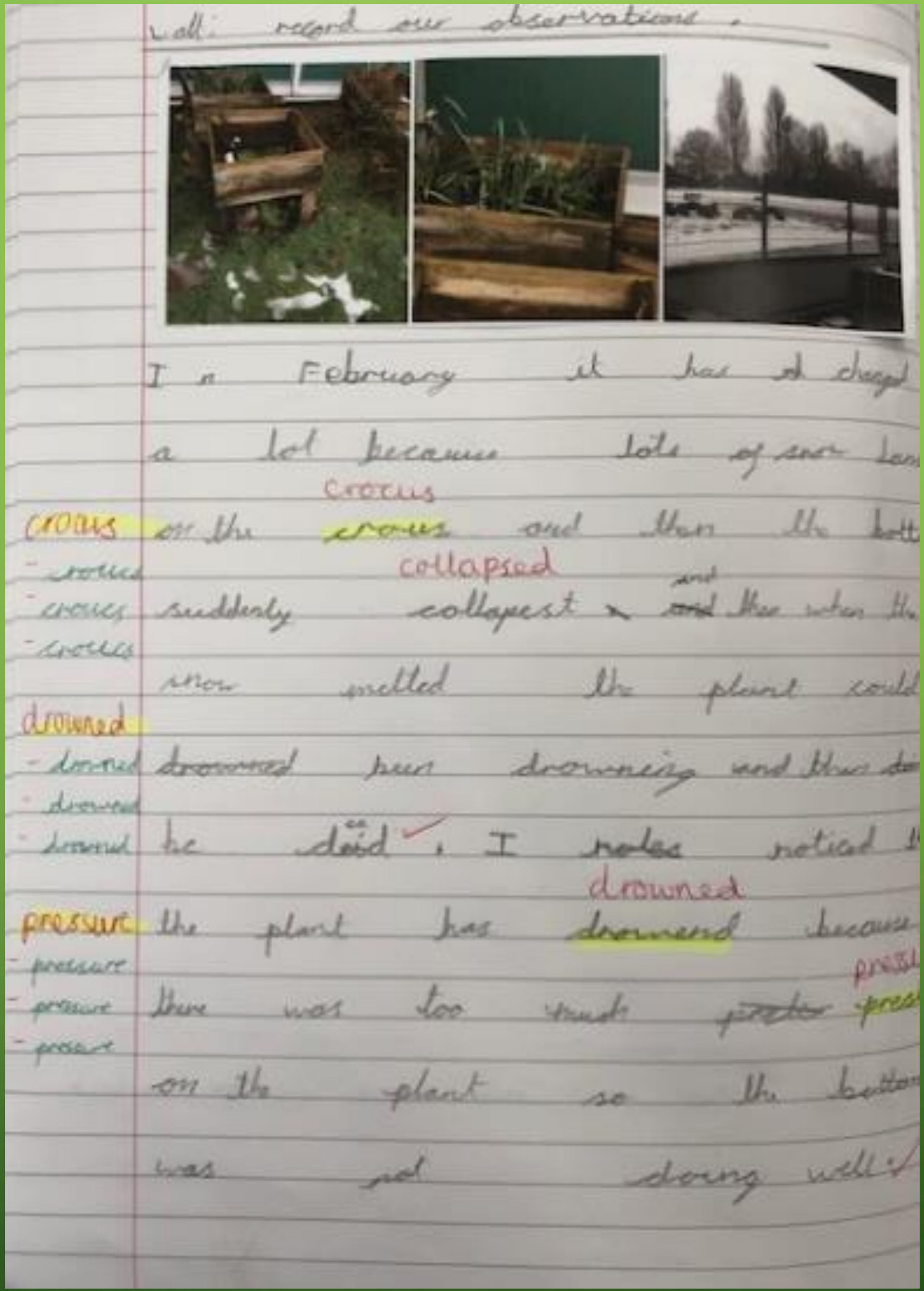
Below is the food chain for a stick insect.



_____ _____ _____

YEAR 3 – HOW CAN WE MAKE THE SCHOOL GROUNDS MORE COLOURFUL?

- Children have explored when a range of plants flower
- Planted a selection of bulbs to test their findings
- Begun to discuss why some of the bulbs have flowered early
- Use their understanding of what plants need to grow to apply this to their learning
- They will begin to link this into their learning about pollination
- Children will write to Miss Charman at the end of the year to explain what they have found



well. record our observations.

In February it has changed a lot because lots of snow lan[ded] on the crocus and then the bott[om] suddenly collapsed and then when the snow melted the plant could [have] been drowning and then died. I noticed the plant has drowned because there was too much pressure on the plant so the bottom was not doing well.

crocus
- crocus
- crocus
- crocus

drowned
- drowned
- drowned
- drowned

pressure
- pressure
- pressure
- pressure

YEAR 4 – SHOULD WE CUT DOWN THE WOODLAND?

- Links to and build on learning in Year 2
- Children explore animals in the school grounds identifying the seasons when some animals are not around
- Children construct food chains and food webs based on what they see
- Make predictions on other animals which might live around school based on what we have seen already
- Make predictions on what might happen if a species dies out in a particular habitat and what this might do to other species
- Children also discuss how animals are adapted their habitats.

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Jun	May	Jul
Squirrel		✓		✓						
Moth										
Bird		✓	✓	✓	✓					
Spider			✓	✓						
Slug			✓							
Beetle										
Woodlouse			✓	✓	✓					
Ladybird		✓								
Snail		✓								
Ant		✓		✓	✓					
hedgehog		✓	✗	✗						
fox		✓	✓		✓					
fly					✓					

Hedgehogs eat almost every insect including such as mice, snakes and snails insects, fruits and other types of vegetation.

Hedgehogs are preyed on by hawks and owls.

Ferrets, Weasles and also kill and feast on hedgehog.

sun → grass → snail → hedgehog → fox

energy producer primary consumer secondary consumer tertiary consumer

Monday & Tuesday 12th/13th November 2018

WALT: research and classify animals based on their features

After previously researching the animals we had seen at our research location, we used this information to help create a classification chart. We fed back the facts we found out when we researched in a whole class discussion.

We also looked at different types of classification charts and the fact that they used closed questions (yes/no) to classify the creatures.

YEAR 5 AND 6

- We do not currently run longitudinal studies in Year 5 and 6 however we are looking at developing this over the next few years.

SOME OF YOUR QUESTIONS…

- How often do you teach science?
  - KS1 is recommended to be taught approximately 1 hour and 20 minutes a week
  - KS2 is recommended to be taught between 1hour 40 minutes and 1 hour 50 minutes.
- How can we support our child/ren?
  - Discuss a range of ideas with them from what they see around them.
  - Ask them questions about why they think different things have happened
  - Investigate and research when you're not sure (not everyone can know everything)