

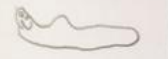
Biology

Animals including humans

Year 1

Science Monday 26th June

L.O - To identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.

	Name: <u>dog</u> Where: <u>home</u> Group: <u>mammal</u> ✓
	Name: <u>snake</u> Where: <u>jungle</u> Group: <u>reptile</u> ✓
	Name: <u>mouse</u> Where: <u>petshop</u> Group: <u>mammal</u> ✓
	Name: <u>flamingo</u> Where: <u>water</u> Group: <u>bird</u> ✓

Science Tuesday 27th June

L.O - To describe and compare the structure of a variety of common animals

Animal Group	Things That Are the Same	Things That Are Different
birds    	feathers beaks 2 legs	colour some can fly webbed feet
mammals    	Fur can walk or run	number of legs tails noses

Animal Group	Things That Are the Same	Things That Are Different
fish    	teeth fins	scales and not scales
reptiles    	scales skin live on land	shells no legs
amphibians    	They are all slimy	some can change color

- Identify and name a variety of common animals that are birds, fish, amphibians.
- Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).

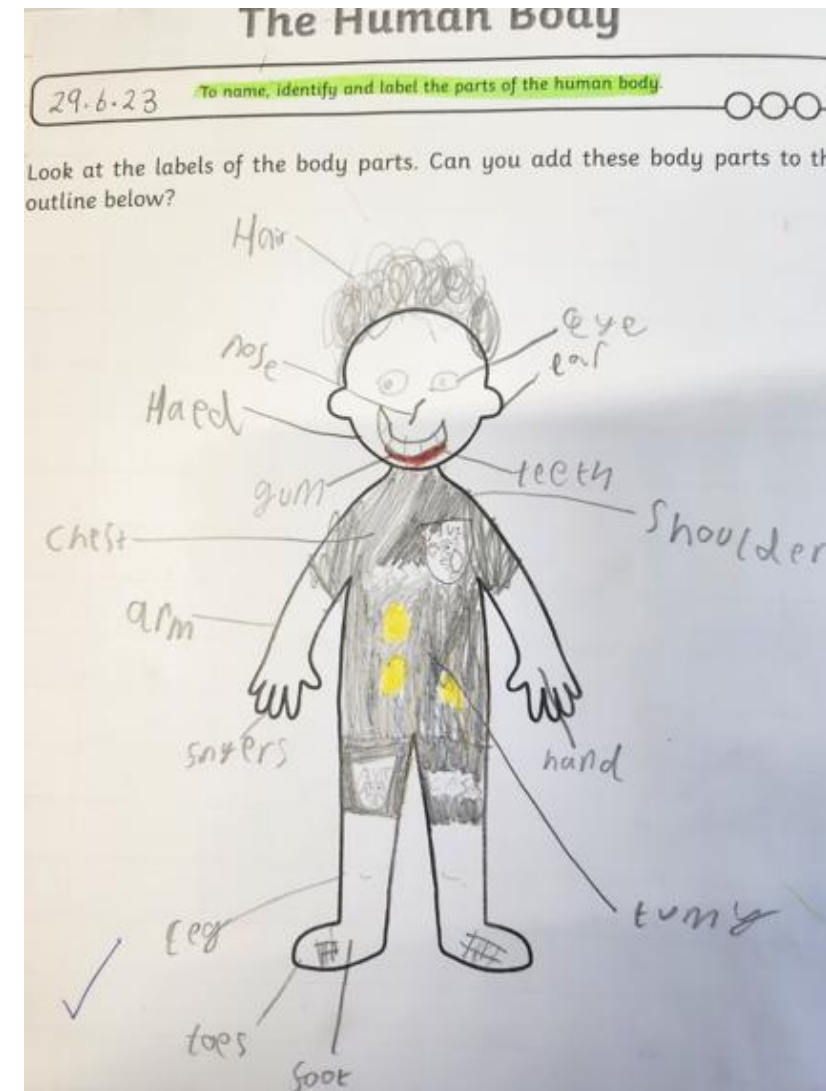
Year 1

To identify, name and sort animals that are herbivores, carnivores and omnivores.

Use the **Animal Fact Cards** to find out what each animal eats.

Carnivores	Herbivores	Omnivores
frog	horse	house sparrow
newt	blue tang	koi
crocodile	tortoise	swan
snake	giraffe	bearded dragon
cat		chimpanzee
		ostrich
		human

horse	frog	newt	house sparrow
koi	crocodile	snake	chimpanzee
swan	cat	blue tang	human
bearded dragon	barn owl	ostrich	giraffe
brown bear	tortoise		



- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Year 2



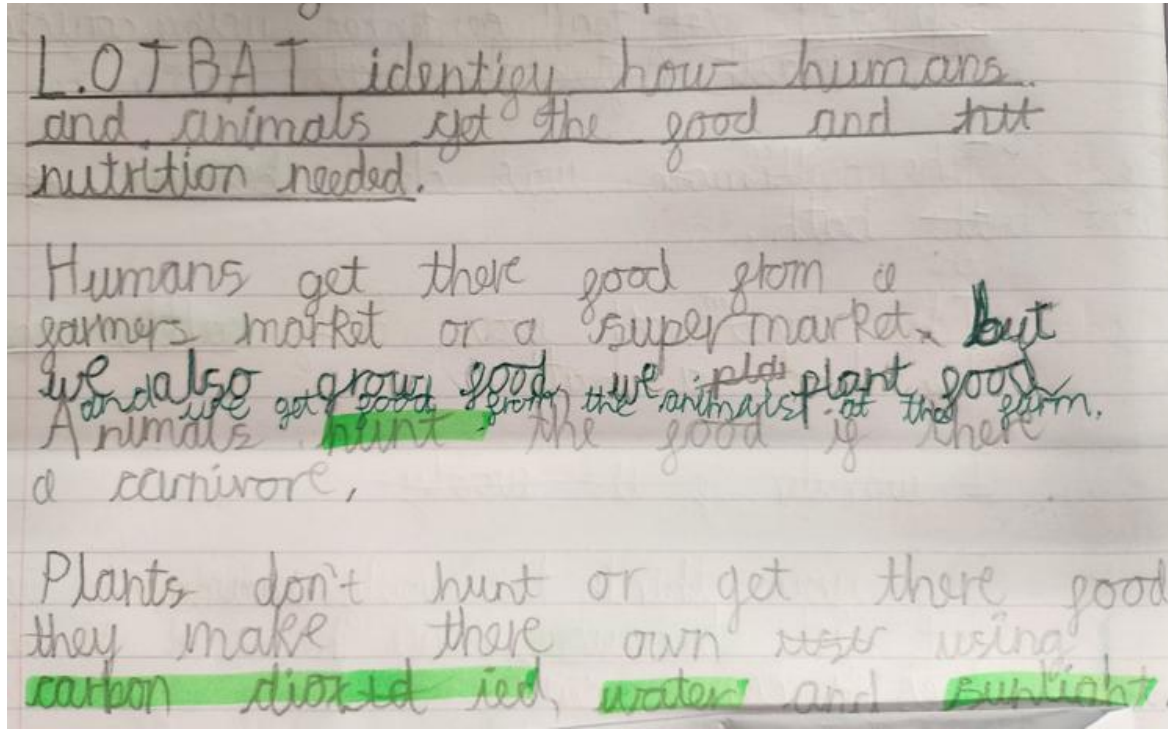
Monday 5th October 2022

L.O: I can perform simple tests. I can describe the importance of exercise. (I)

Name of exercise	What do you do?	How many times can you do it in a minute?	What happens to your body?
hopping on the spot	she goes high the other.	89	My heart is faster.
hopping	Jump on the foot.	77	My heart is stronger.
star jumps	jump like a star.	79	I am tired.
stand up and sit down	go up and down.	33	I am tired on the
arm circle	more a circle.	34	I need a break. ✓

- Notice that animals, including humans, have offspring which grow into adults.
- Investigate 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

Year 3



- Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.
- Identify that humans and some animals have skeletons and muscles for support, protection and movement.

Year 3

LO: TBAT identify that humans and some animals have skeletons for support, protection and movement.

There are three functions of the skeleton.

Protection

Can you give an example of an organ that needs protecting?

Your skeleton keeps your body up.

Wednesday 18th October

LO: TBAT identify how muscles work

When the arm moves up, the biceps contracts.

This means that the biceps gets shorter.

At the same time that the biceps contracts the triceps relaxes.

When the arm goes back down the biceps relaxes.

At the same time that the biceps relaxes the triceps contracts.

Super!

Thursday 5th October

LO: TBAT identify that humans and some animals have skeletons for support, protection and movement.

Name	Femur length	Order for length of femur	Distance jumped	Order for distance jumped
Mrs Gibson	48cm	1st		
Ariabella	40cm	2nd	1 metre and 14cm	4th
George	34cm	4th	1 metre and 48cm	1st
Archies-B	39cm	3rd	1 metre and 28cm	2nd
Scarlet	30cm	5th	1 metre and 15cm	3rd
Thomas	43cm	1st	1 metre and 9cm	5th

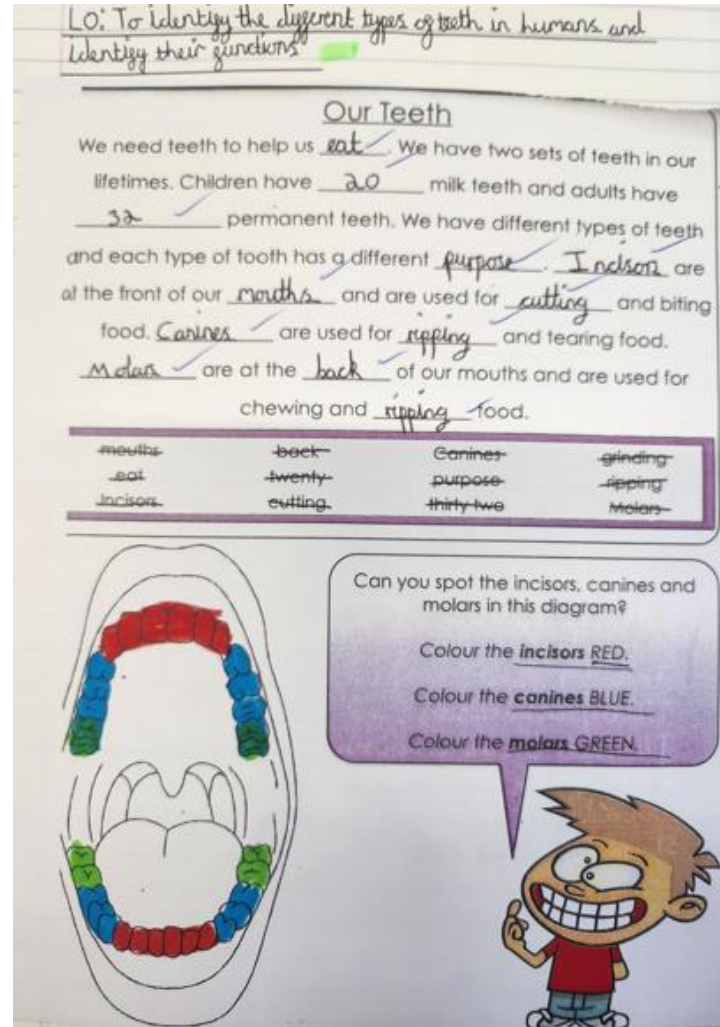
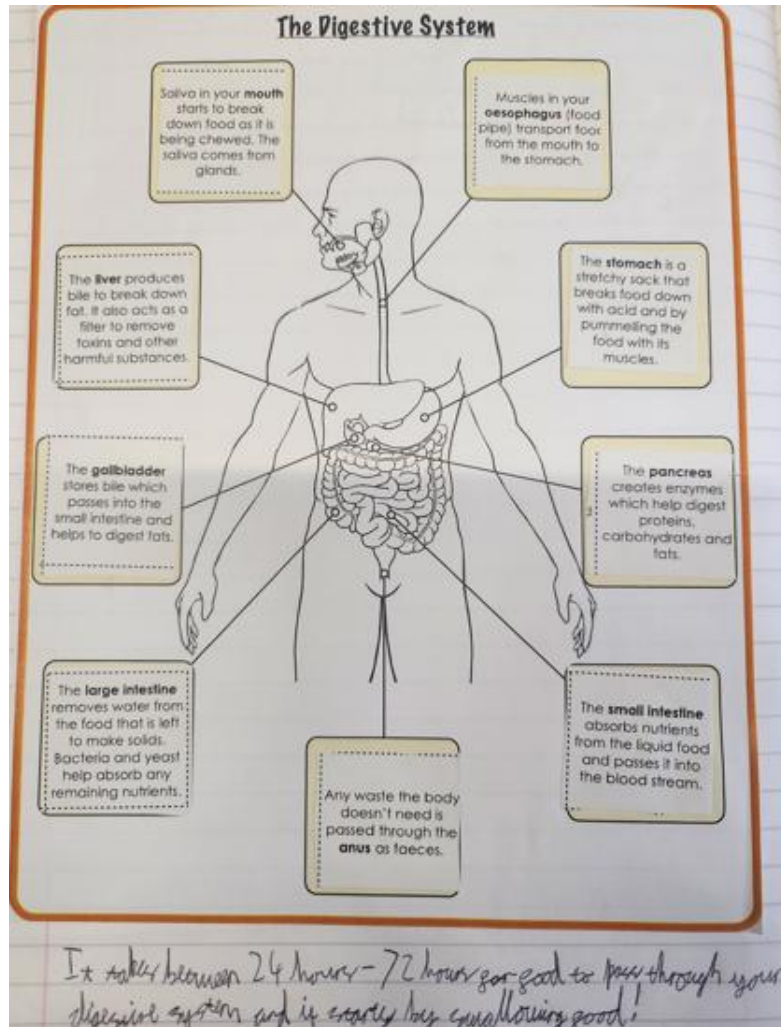
Example

Results

A person with a longer femur can not jump further. This tells us that the bigger you are you will have a bigger femur so it still can't make you jump longer, further.

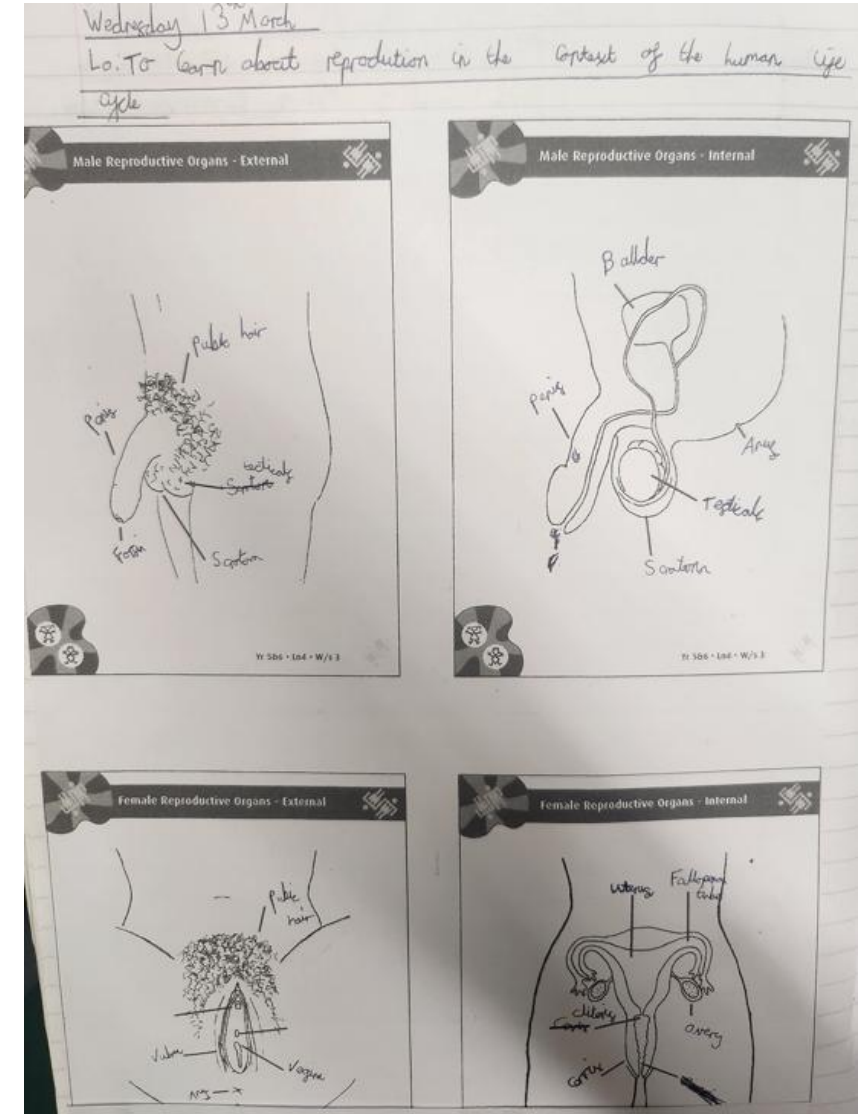
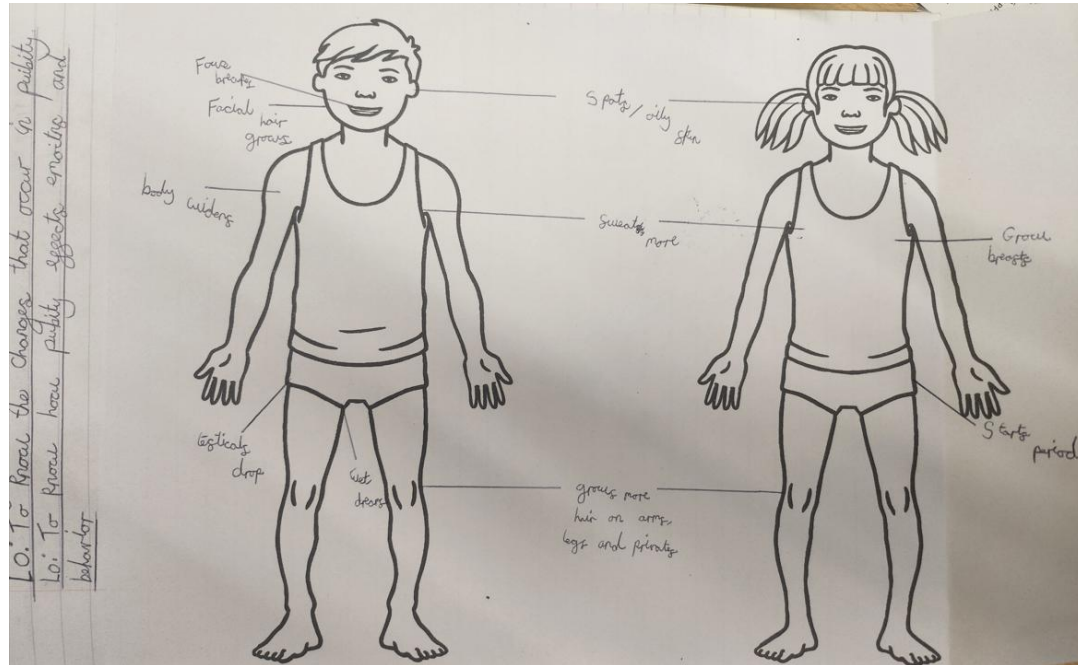
- Identify that humans and some animals have skeletons and muscles for support, protection and movement.

Year 4



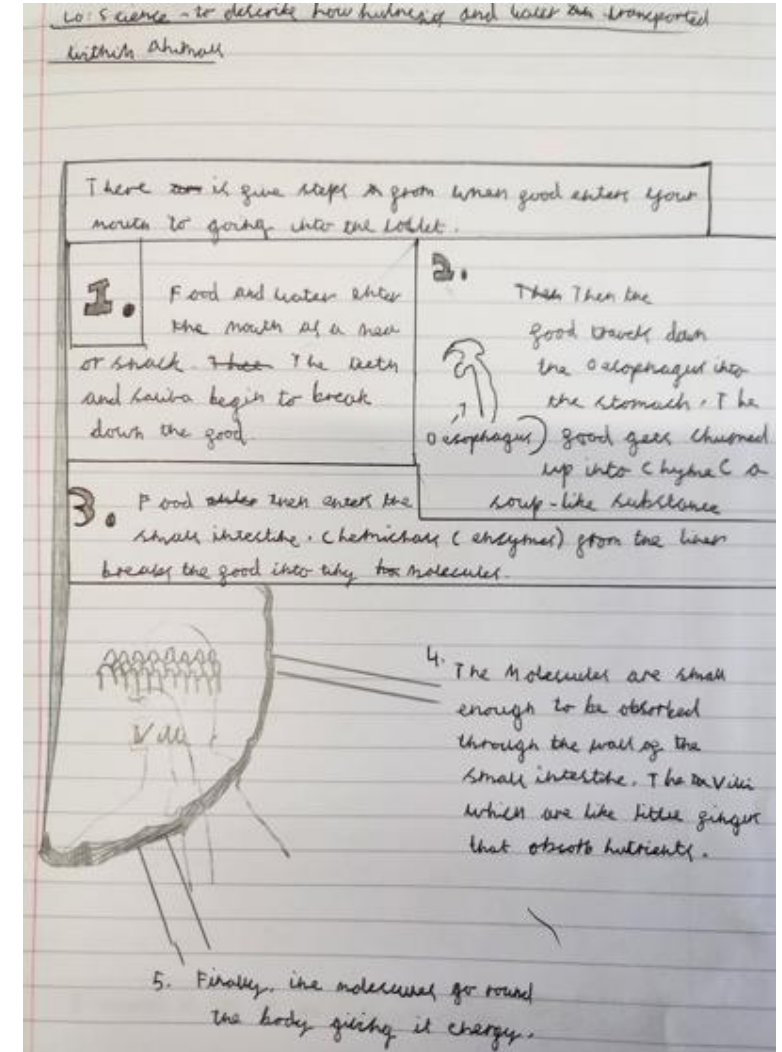
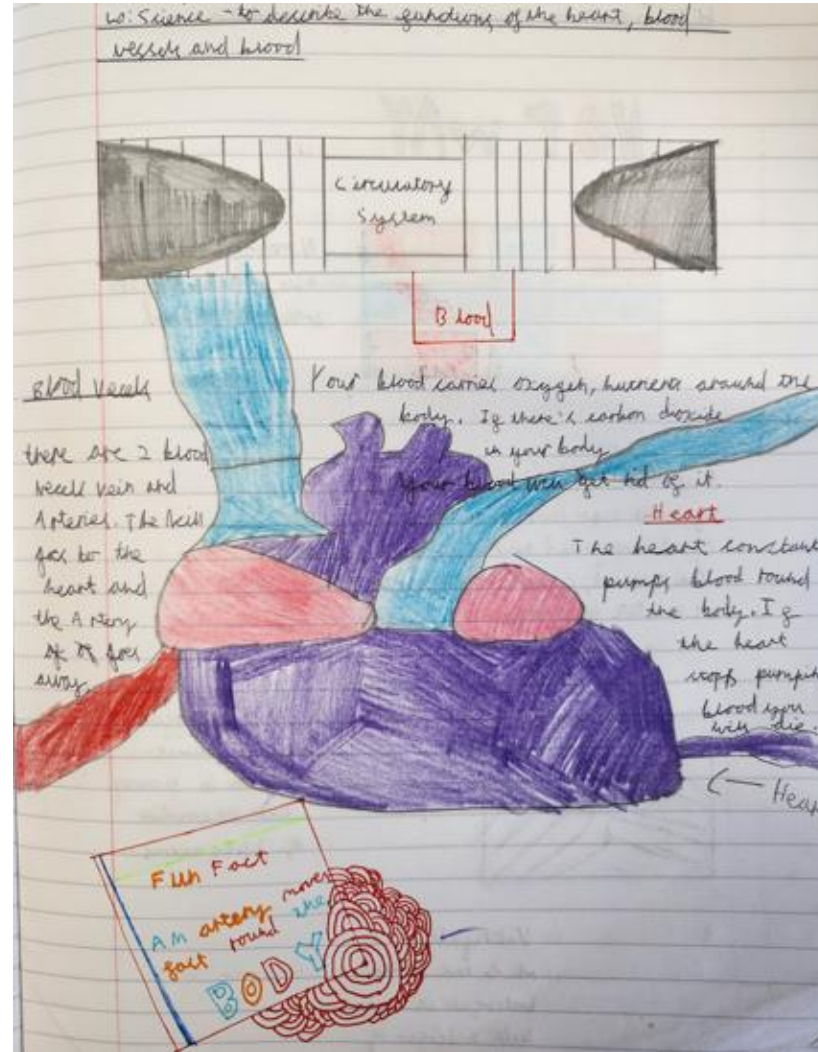
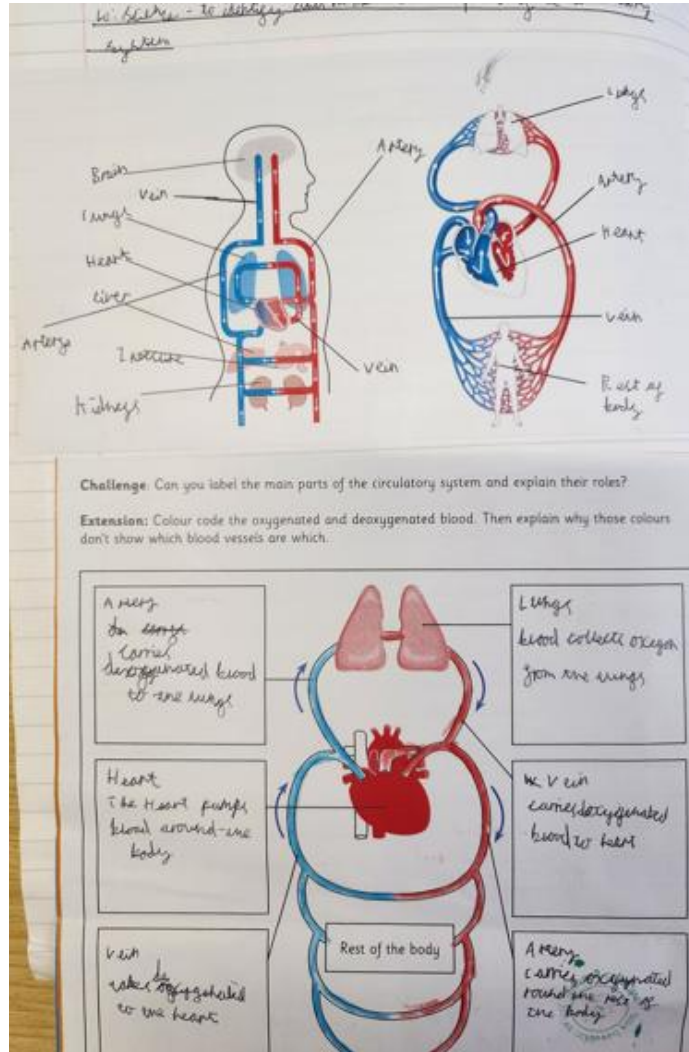
- Describe the simple functions of the basic parts of the digestive system in humans.
- Identify the different types of teeth in humans and their simple functions
- Construct and interpret a variety of food chains, identifying producers, predators and prey.

Year 5



- Describe the changes as humans develop to old age

Year 6



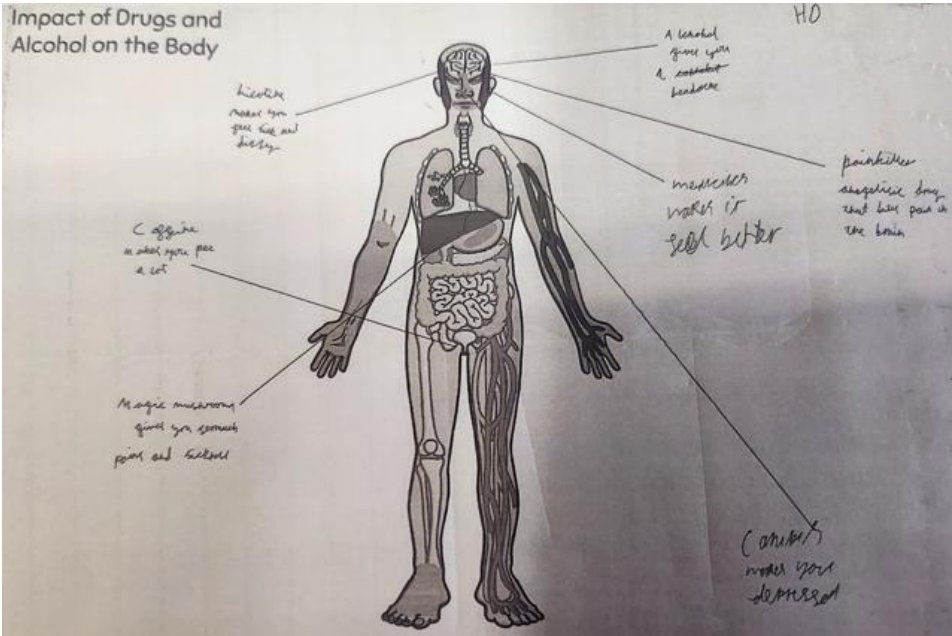
- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- Describe the ways in which nutrients and water are transported within animals, including humans.

Year 6

10: science - to recognise the impact of exercise on the body

minutes	pulse rate (BPM)
0	56
1	124
2	104

After doing exercise for 1 minute my heart rate kept up by 68. This proves the exercise ~~can~~ make your BPM (beats per minute) faster. The reason my BPM went up because when I am moving my heart has to pump blood round my body faster.



11: science - to recognise the impact of diet and lifestyle on the body

THE STEPS TO

a healthy life style

Diet:

Being active: do as a minimum 30 minutes per day. It's about an hour and for adults it thirty minutes.

To have a healthy diet you need to eat a mix of foods. Some of them are: Protein, carbohydrates, sugar and fat.

Water:

get have many of drinks a day.

Healthy:

Healthy yourself includes:

- 2 mins of brushing teeth
- Daily shower, wash your hair properly, wash your body and brush your hair.

Sleeping:

it's good to have a good routine at night and getting the right amount of sleep.

Healthy:

When you get poorly you can rely on modern day medicines like colpos and painkillers. You can also see a doctor online or in real life.

- Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.

Biology

Plants

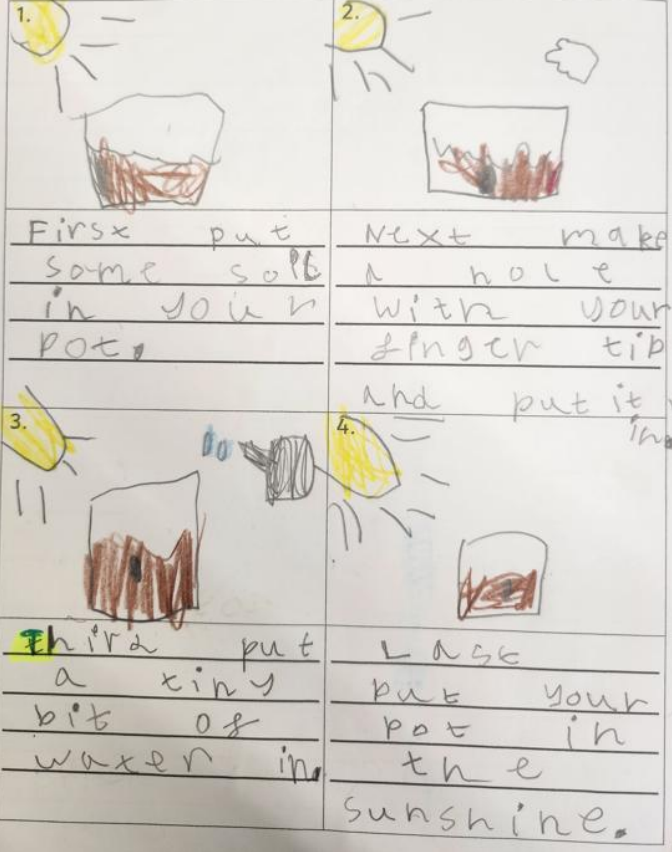
Year 1

Science LO: Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.



LO: To identify and describe the basic structure of a variety of common plants by planting a bean.

Science: Instructions: How to Plant a Bean



SCIENCE Tuesday 19th March 2024

L.O - Identify and name a variety of common plants, including garden plants and wild plants.

Draw a beautiful garden and fill it with lovely flowers. Draw your favourite flowers from the Garden Plants Sheet. Label them with their names.

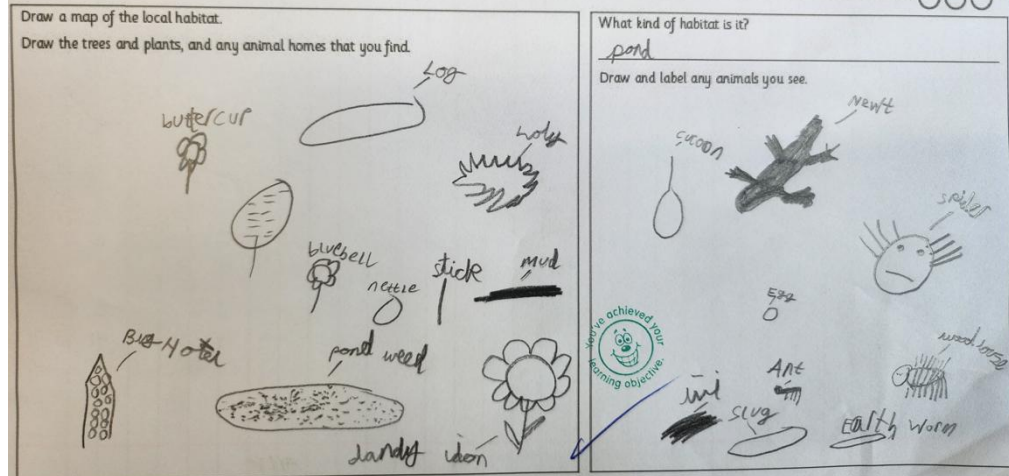


Science L.O: I can identify and name a variety of plants and animals in their habitats.

2.5.24

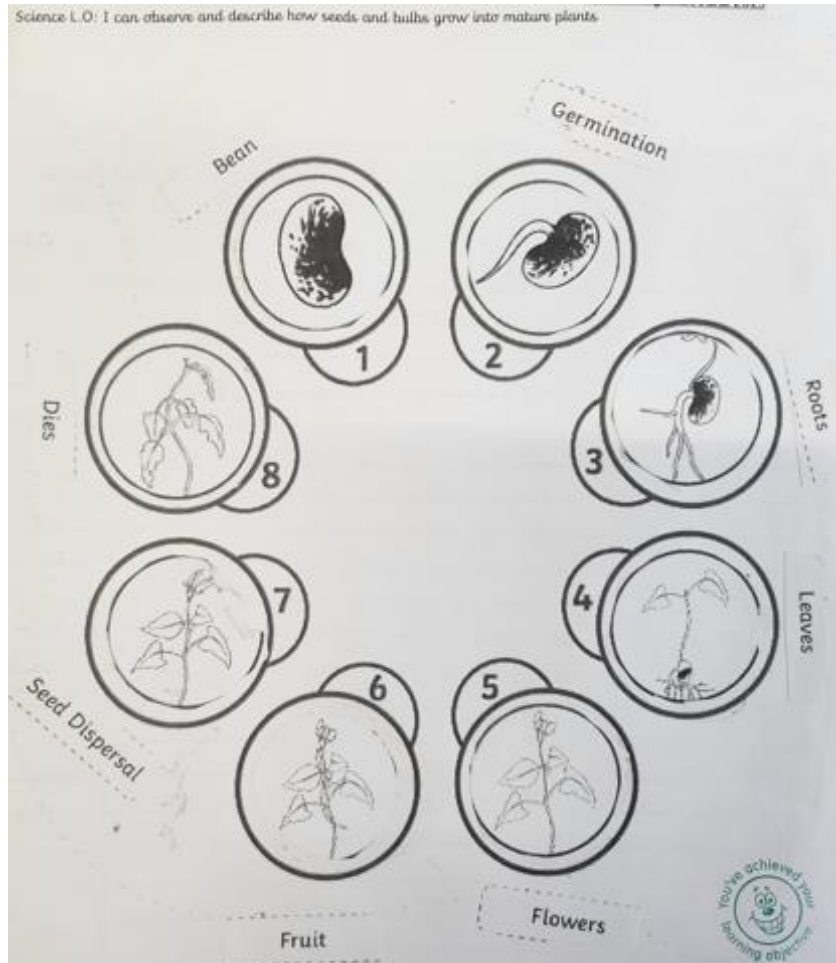
Draw a map of the local habitat.

Draw the trees and plants, and any animal homes that you find.



- Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.
- Identify and describe the structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.

Year 2

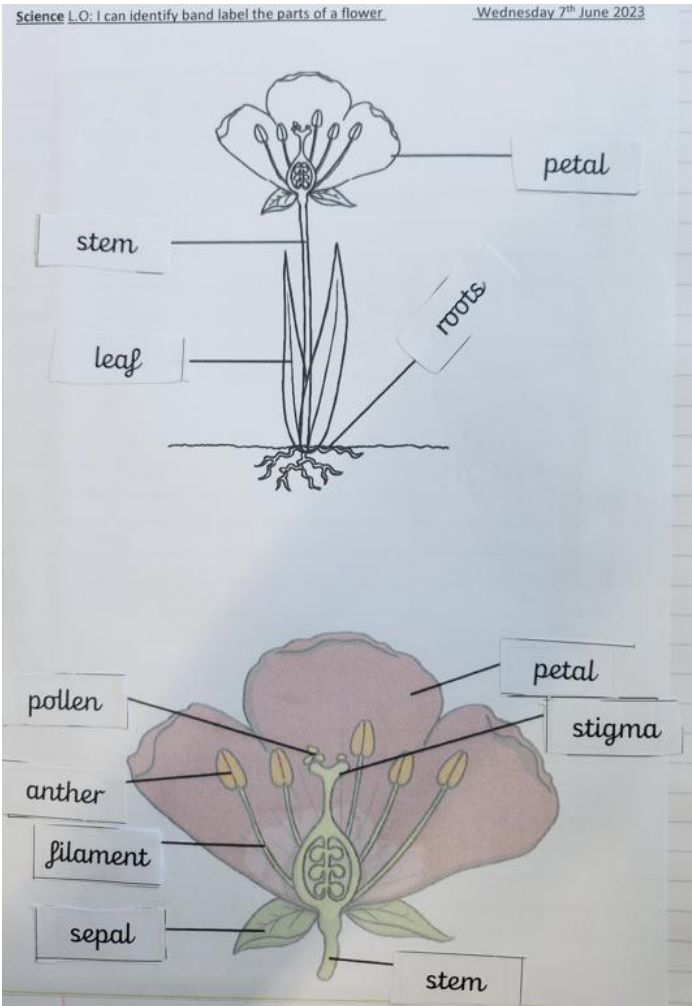


Science L.O: I can find out about and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Growing Conditions How the seed will be planted.	Prediction How the plant will grow.
The seed will be given water and sunlight.  	I predicted that the seeds will <u>germinate</u> because the sun will make the leaves.
The seed will be given water and no sunlight.  	I predicted that the plant will be <u>limsey</u> and it will <u>germinate</u> but
The seed will be given sunlight and no water.  	I predicted that the plant will be <u>abit limsey</u> and it will <u>germinate</u> .
The seed will not be given water and sunlight.  	I predicted that the plant <u>won't germinate</u> and will die.

- Observe and describe how seeds and bulbs grow in to mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Year 2



L.O: I can use observations and ideas to suggest answers to questions. 5.6.23
L.O: I can identify and label the parts of a plant.

Tree Diagram: Draw a picture of an interesting tree. Label the main parts.

The tree diagram shows a hand-drawn tree with labels: 'branches' pointing to the upper parts of the tree, 'Leaves' pointing to the green foliage, 'trunk' pointing to the main stem of the tree, and 'Roots' pointing to the base of the tree.

Leaf Observational Drawing: Find a leaf from the tree you have drawn. Look at it carefully with a magnifying glass and draw what you see.

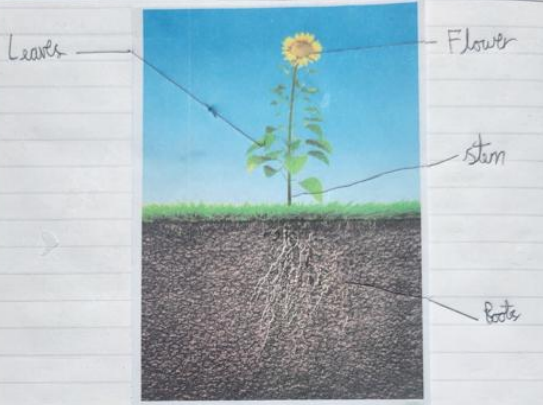
The leaf observational drawing shows a hand-drawn leaf with serrated edges, drawn with green and brown colors.

Measurements:
Measure the length of the leaf with a ruler: 17 cm
Measure the width of the leaf with a ruler: 8 cm
Measure around your tree with a tape measure: 240 cm
Estimate the height of the tree: 8 m

- Observe and describe how seeds and bulbs grow in to mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Year 3

Thursday 2nd May 2024
 TBA1 LO: TBA1 Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.
 TBA1 Explore the requirements for plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.



The Roots work as an anchor for the plant, it keeps the plant in where it is. It sucks up ^{nutrients} ~~nutrients~~ so plant is healthy.

The stem allows nutrients to travel through the plant. It keeps the plant straight.

The leaves soak up nutrients sunlight and turn it to food. The process is called ~~photosynthesis~~ ^{photosynthesis}.

The flower attracts bugs by colourful leaves and enticing smells. It helps to get ^{pollinated} ~~pollinated~~.

The ^{air} that we breath is called oxygen, we release

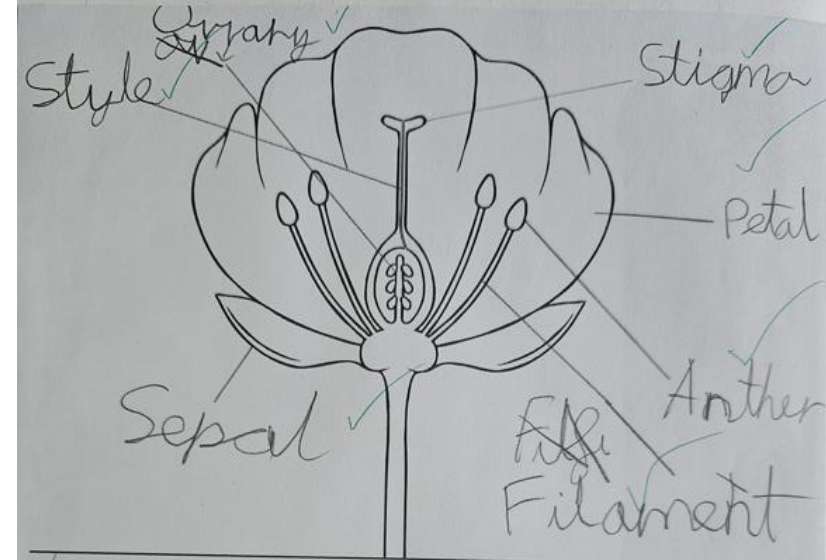
carbon dioxide which plants absorb to make oxygen. So we help the plant and plants help us.

The soil isn't part of the plant but it ^{helps} because it brings nutrients to the plants which makes it strong.

Plants need water but if you put too much then it will drown it in a way because it makes the soil wet and mushy. It does provide nutrients for the plant.

	Term	Week 3	Week 4	Week 5	Week 6
Sunflower Cupboard		There is a little shoot it is a bit floppy and pale.	The sunflower is thin at the bottom of the pot.	The stem is very thin and white and doesn't look alive.	The sunflower hasn't grown and is dead.
Sunflower Window		There are two big shoots. They are tall and upright.	They are a bit bigger but look the same.	The sunflower & leaves are bigger and wiser. The stem is also a bit thicker.	The stems are very tall and upright. They are bright green.
Sunflower shelf		There are some little green shoots.	The shoots are growing a little bit.	The stem has got a bit thicker.	The sunflower has got a bit taller and is upright and tall but not as tall as the one on the window.

LO: TBA1 explain the function of flowers and identify their parts.



What is the function of a flower?

Stigma is a sticky Petals attract pollinators by their look. Insects, Birds and Bats ~~eat~~ take pollen with their Bodies and Bees eat pollen to survive.

- Identify and describe the functions of a different parts of flowering plants: roots, stem, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water nutrients from the soil and room to grow) and how they vary from plant to plant.
- Investigate the way in which water is transported within plants.
- Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Wednesday 21st May 2025
 LO: IBAT investigate the way in which water is transported in plants.

Flower - to ~~attracts~~ ^{burst the seeds to make} insects and birds, new plants.

Leaves - to make nutrients for the plant

Stalk - connects leaves and flowers to stem

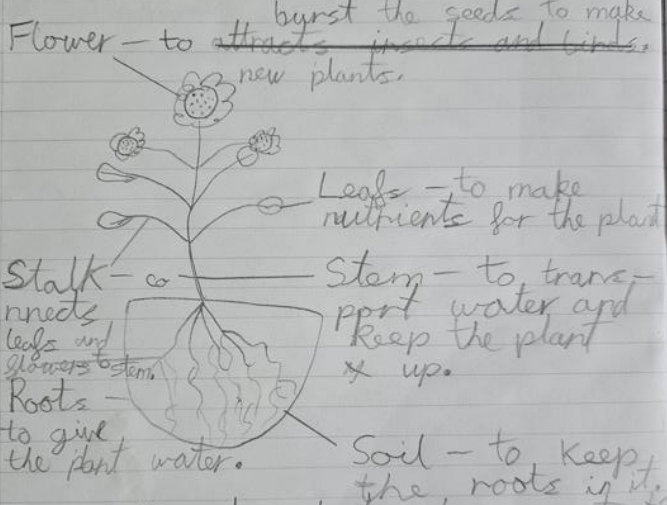
Stem - to transport water and keep the plant ~~up~~ up.

Roots - to give the plant water.

Soil - to keep the roots in it.

How do plants transport water?

Method
 I will put the end of a white rose in to 100ml of water. I will cut the stem short in an angle to make it drink better. I will add 5 drops of food colouring and watch what happens.



Step 1
 Cut the stem at an angle

Step 2
 Fill the cup 100ml and add 5 drops colouring.

Step 3
 Put the rose in and wait.

Thursday 22nd 5:23
 We left the rose for a day and found some blue on it. This shows that the water goes up the stem to the leaves and flowers.



Wednesday 4th June 2025
 LO: IBAT identify and describe the function of the leaves, stem and roots.

The different parts of a plant have different functions.

Roots

anchor - ^{keep} plants into the ground.

storage - To give the plant water and nutrients and stem takes it.

The Stem

Support - To help the plant stand

Transport - Takes water up to the leaves.

Storage - stores water.

Leaves

Produce food - gives the whole plant food and uses sunlight to make energy and store it.




- Identify and describe the functions of a different parts of flowering plants: roots, stem, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water nutrients from the soil and room to grow) and how they vary from plant to plant.
- Investigate the way in which water is transported within plants.
- Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Friday 16 May

TBAT explore the requirements for life and growth (air, light, water, nutrients from the soil and room to grow) and how they vary from plant to plant.

Wind

maple
sycamore
milkweed
thistle
dandelion

Water

coconut
balsam
lotus

Carrying
Animal

burdock
calceol
violet

Carrying
Animal

blackberry
apple
cherry
sunflower

Bursting

witch hazel
balsam
violet
sandalwood

How do the conditions
for growth vary
from plant to plant?

I will test 3 different
plants by putting in
different amounts of water.
I will keep everything
else equal to make it
a fair test. The seeds
will be Sunflower
cornflowers and
Marigolds.

I will give each
plant the same
amount of
water, they will
also be in the
open so that
they have
access to oxygen.

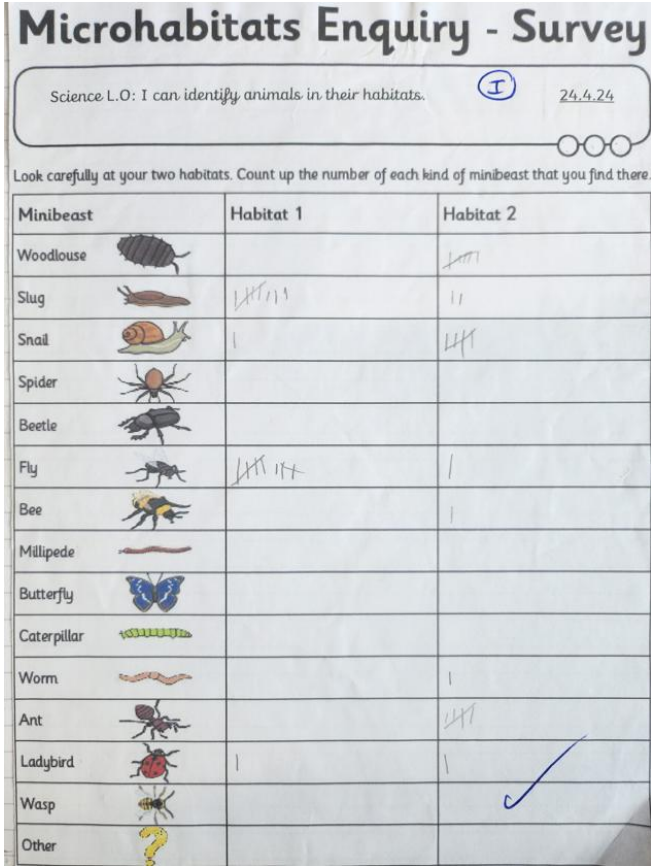
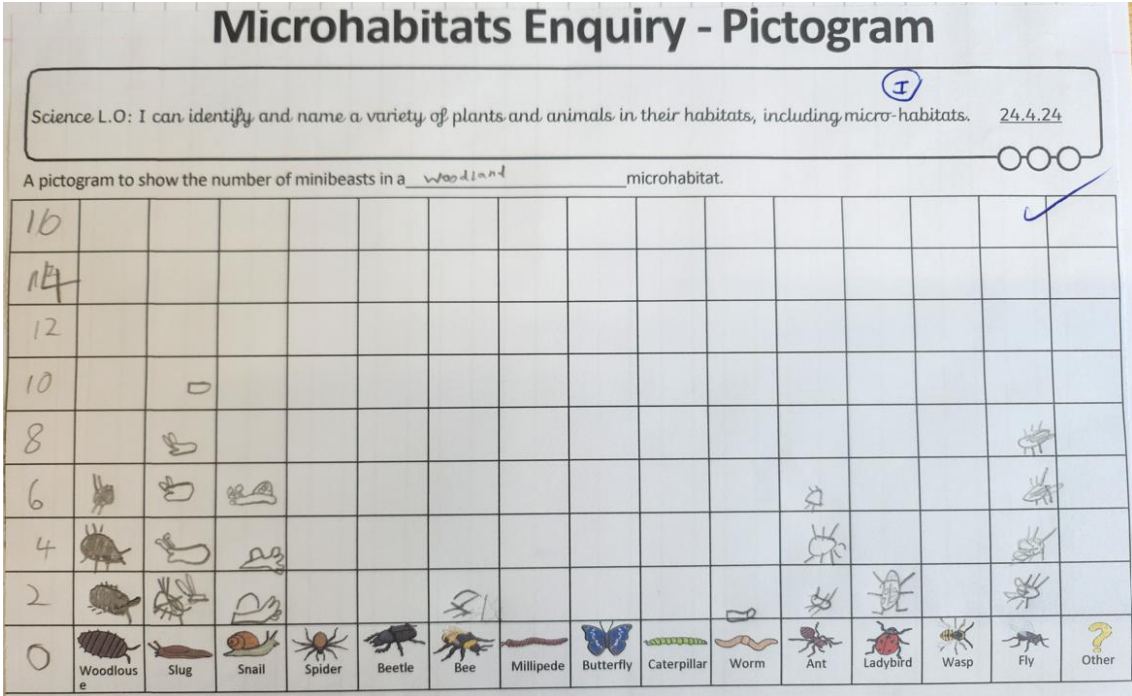


- Identify and describe the functions of a different parts of flowering plants: roots, stem, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water nutrients from the soil and room to grow) and how they vary from plant to plant.
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Biology

Living things and their habitats

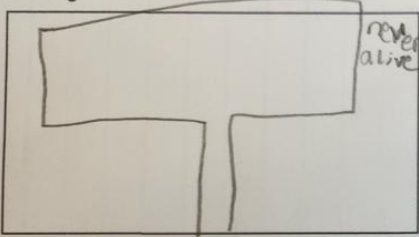
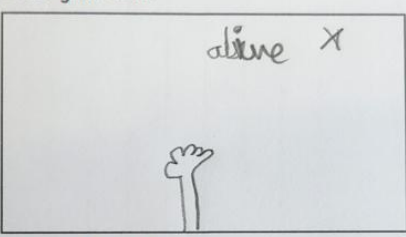
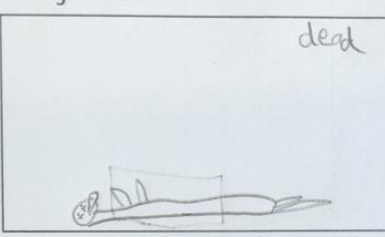
Year 2



- Explore and compare the differences between things that are living, that are dead and that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.
- Identify and name a variety of plants and animals in their habitats and micro-habitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name some different sources of food.

Year 2

L.O: I can explore and compare the differences between things that are living, that are dead and that have never been alive. 17.4.24

Draw your item:	Draw your item:	Draw your item:
		
Is it living, dead or has it never been alive? How can you tell? Give three reasons:	Is it living, dead or has it never been alive? How can you tell? Give three reasons:	Is it living, dead or has it never been alive? How can you tell? Give three reasons:
1. <u>Can't</u> <u>breath</u> .	1. <u>It</u> <u>can't</u> <u>resp</u> .	1. <u>Can't</u> <u>breath</u> .
2. <u>Man</u> <u>made</u> .	2. <u>It</u> <u>reproduces</u> .	2. <u>Can't</u> <u>sense</u> .
3. <u>It</u> <u>is</u> <u>metal</u> .	3. <u>It</u> <u>grows</u> .	3. <u>Can't</u> <u>move</u> .

Science L.O: I can identify and name a variety of plants and animals in their habitats. 2.5.24

Draw a map of the local habitat.
Draw the trees and plants, and any animal homes that you find.

What kind of habitat is it?
pond

Draw and label any animals you see.

bee

bird nest

tree

bee hotel

water boatman

grass worm

buttercup bananas fern nettle pond

You've achieved your learning objective

- Explore and compare the differences between things that are living, that are dead and that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.
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Year 2

Science L.O: I can identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.

24.4.24

Draw your chosen habitat, and label the plants and animals that live there.

Write a sentence describing what it is like in this habitat.

It is not hot which means they sleep and plants grow alot. I is very green and the green animals can hide from their prey.

Science L.O: I can say how living things in a habitat depend on each other.

Thursday 25th April 2024

All living things depend on one another- this means they need other living things to survive. Cut out the labels and stick them on the activity sheet to show how the living things in the rainforest depend on each other, then complete the sentences below.

Monkeys live in trees and eat fruit, insects, frogs and birds.

Birds eat fruit and scatter seeds so new trees can grow.

Jaguars eat deer, monkeys, frogs, snakes and fish.

Insects shelter in trees and eat the leaves.

Trees give shelter and food to animals.

Snakes live in fallen leaves and eat insects and frogs.

Deer shelter in fallen leaves and eat leaves, grass, fruit and berries.

Frogs shelter in trees and eat the insects.

Plants need animals to spread seeds. Animals need plants for food and shelter. Some animals eat other animals.

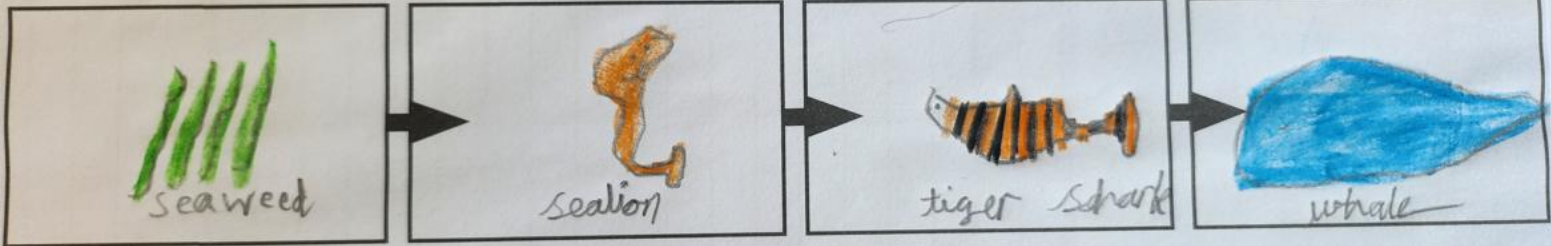
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Year 2

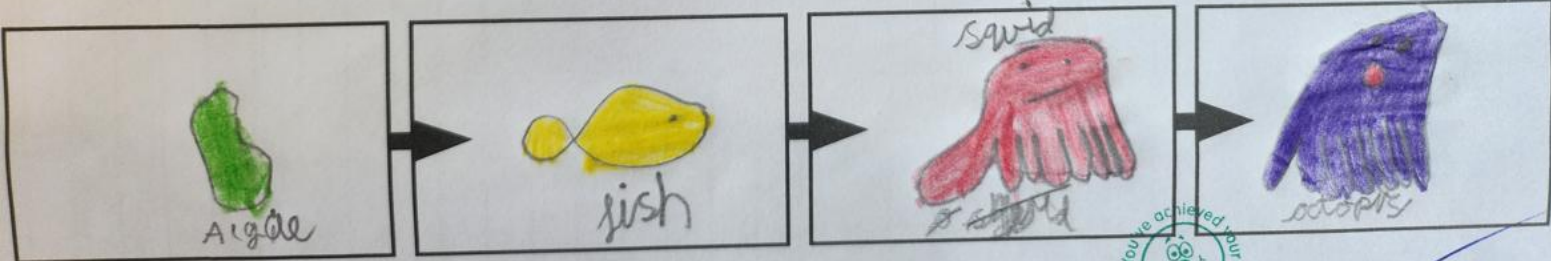
1.5.24

Science L.O: I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Draw two food chains in the spaces below. Which habitat would you find this food chain in?



Habitat: The sea

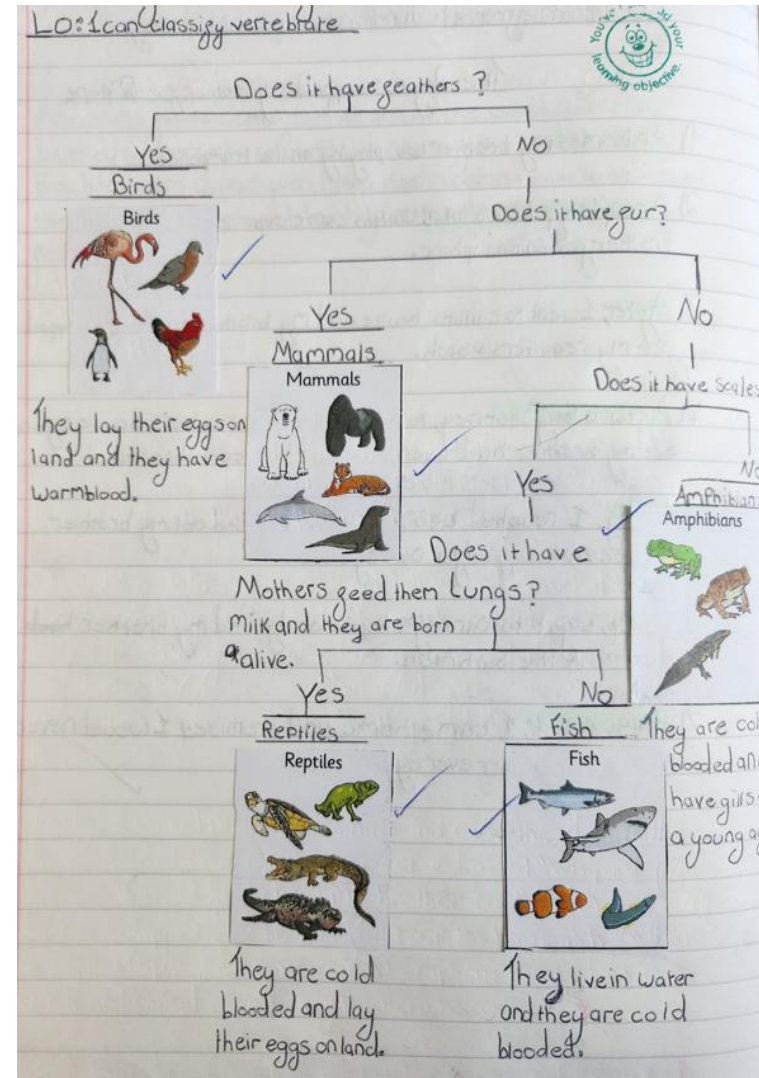


Habitat: sea



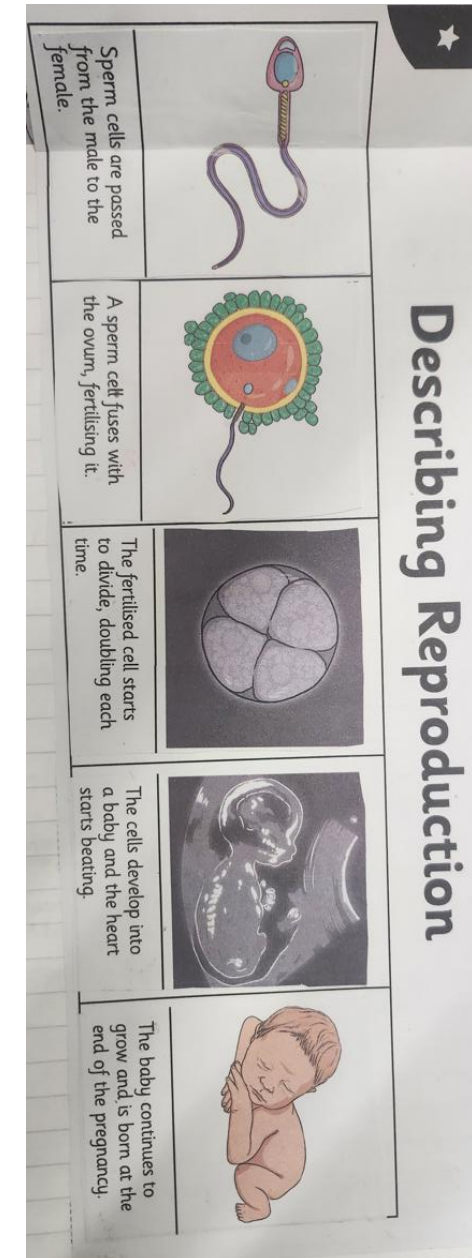
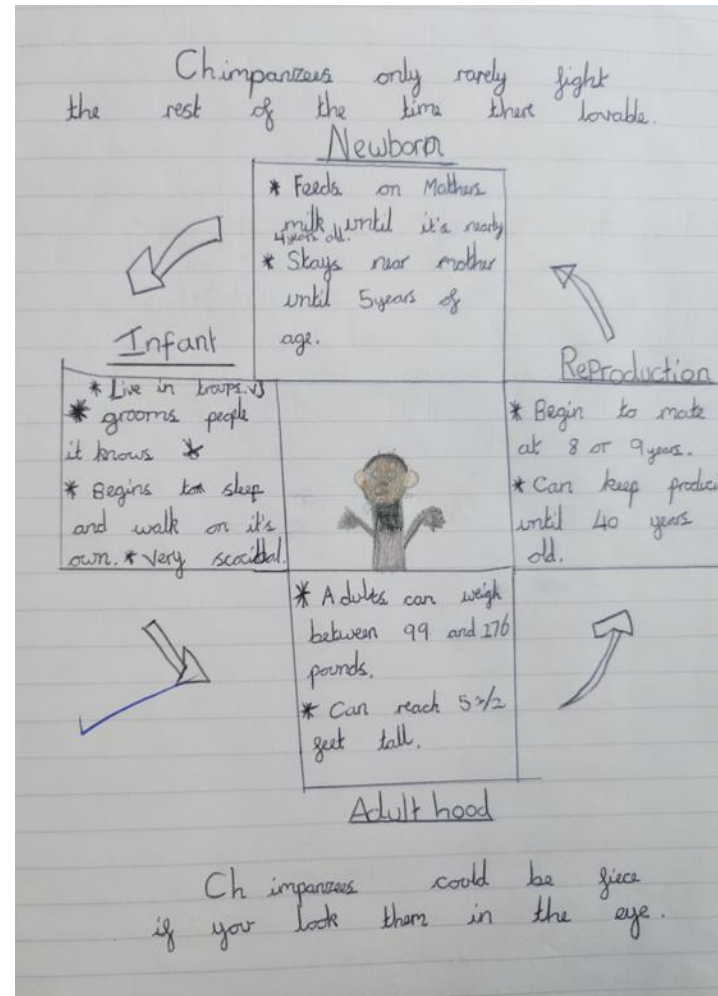
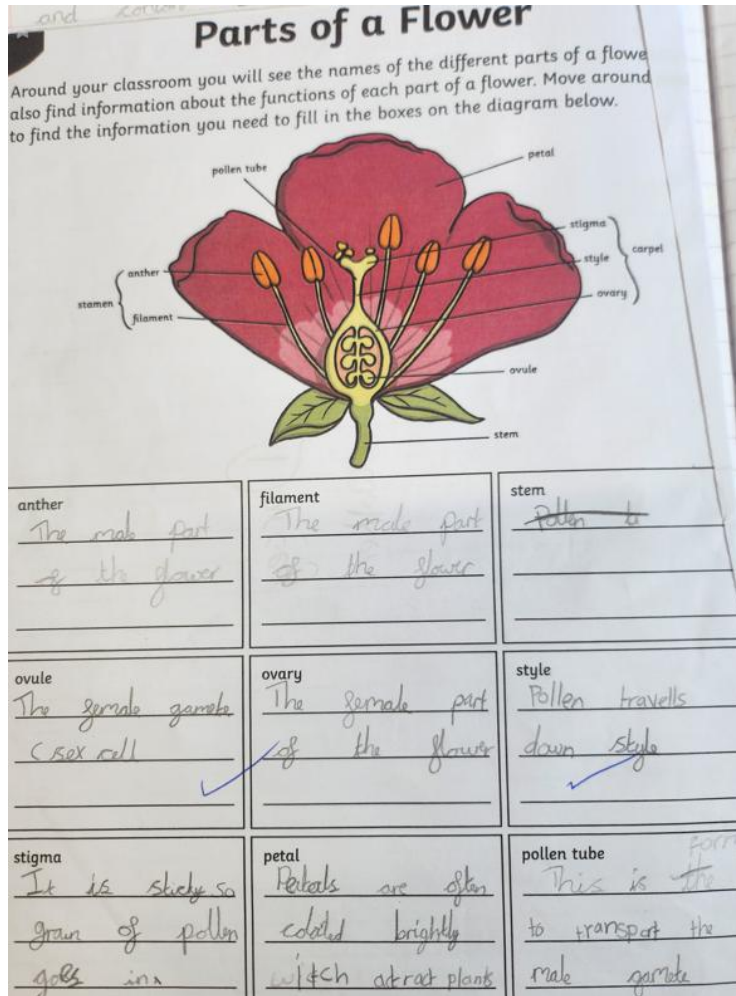
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Year 4



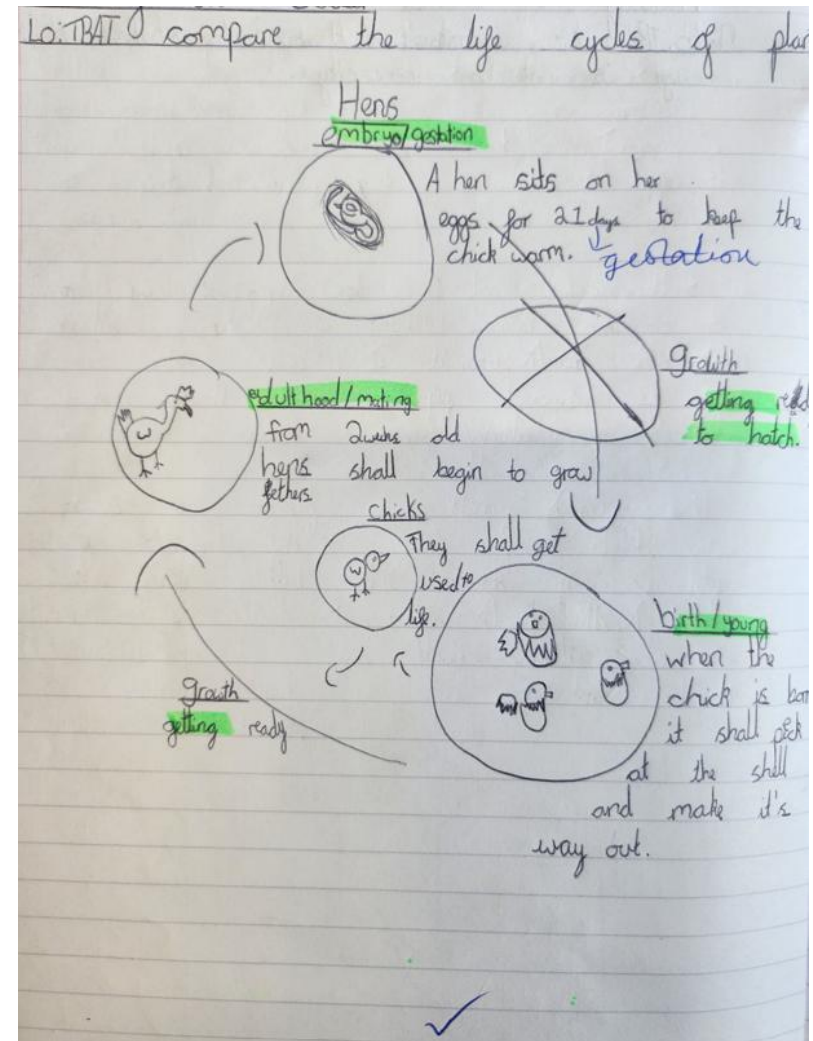
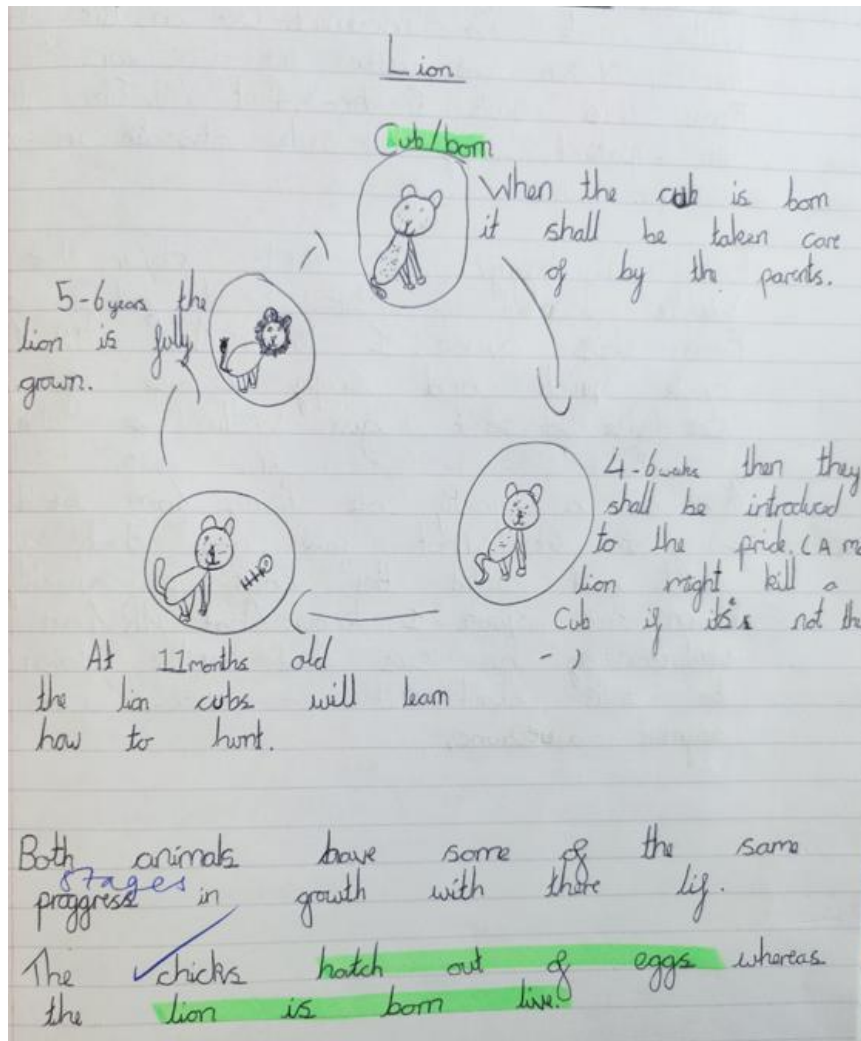
- Recognise that living things can be grouped in a variety of ways.
- Explore and use classification keys.
- Recognise that environments can change and that this can sometimes pose dangers to specific habitats

Year 5



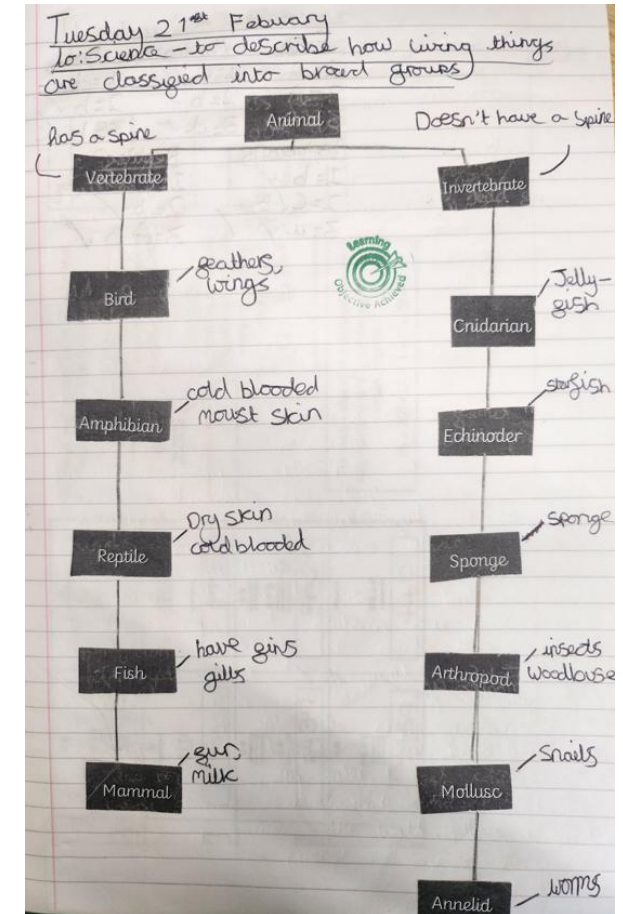
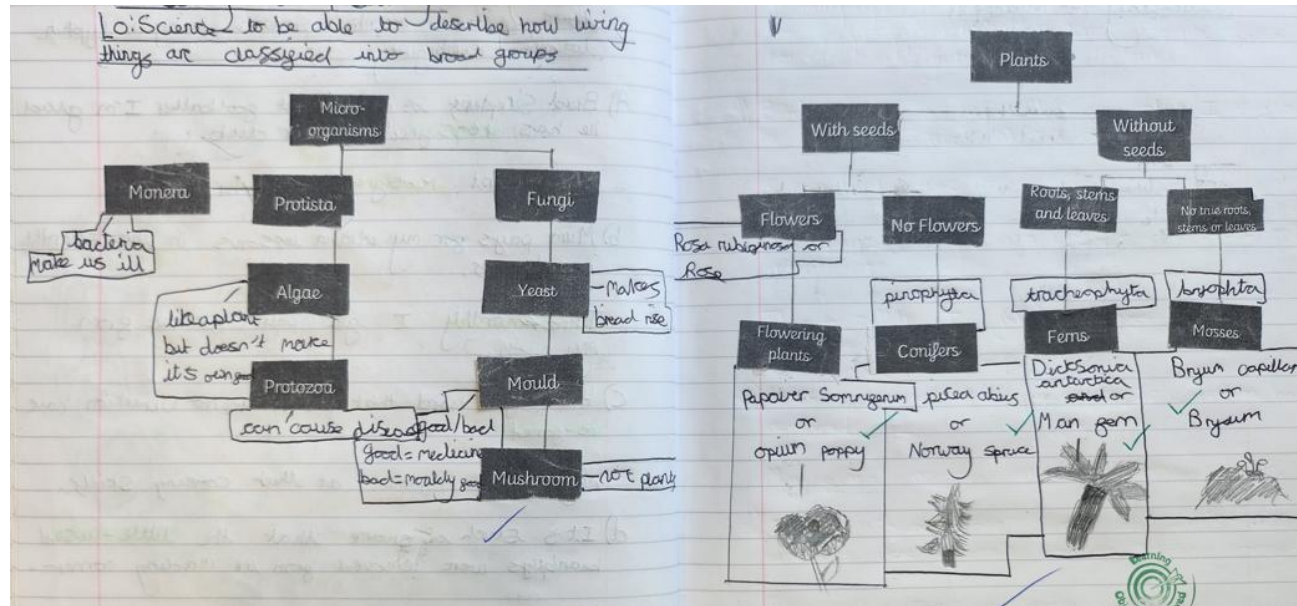
- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- Describe the life process of reproduction in some plants and animals.
- Describe how living things are classified into broad groups according to common observable characteristics.
- Give reasons for classifying plants and animals based on specific characteristics

Year 5



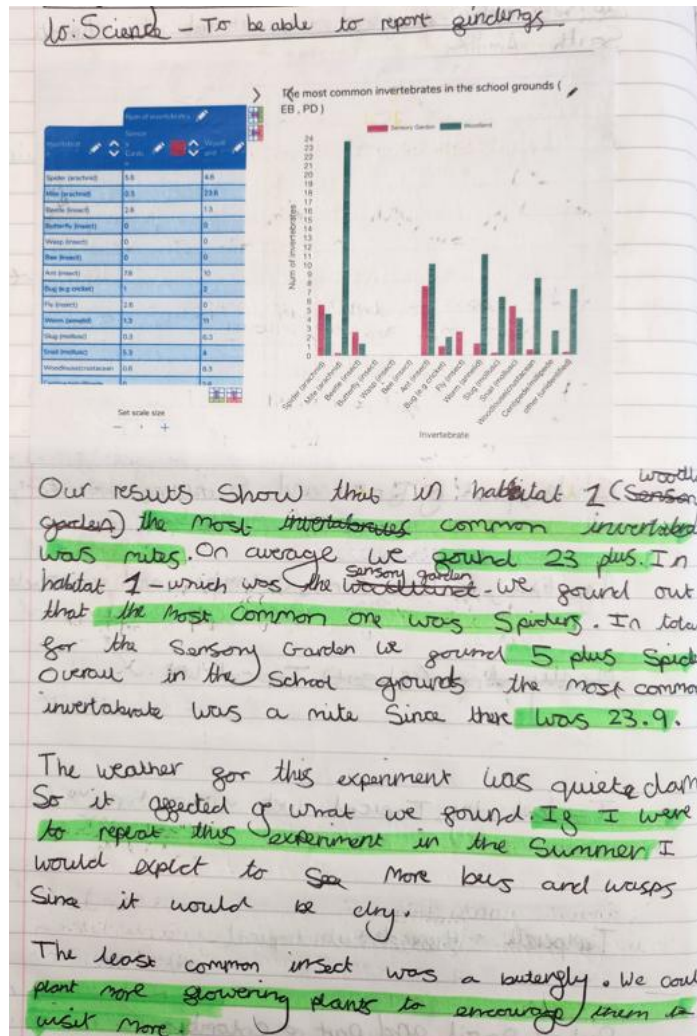
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Year 6



- Describe how living things are classified into broad groups according to common observable characteristics.
- Give reasons for classifying plants and animals based on specific characteristics.

Year 6



Features:

1 = Skin
a) Wet scales
b) Wet smooth
c) Dry scales
d) Feathers
e) Fur or hair

2 = Breathing
a) Gills
b) Lungs
c) Through skin

3 = Reproduction
a) Lays eggs in water
b) Lays eggs on land
c) Eggs have hard shell
d) Gives birth to live young, fed on milk

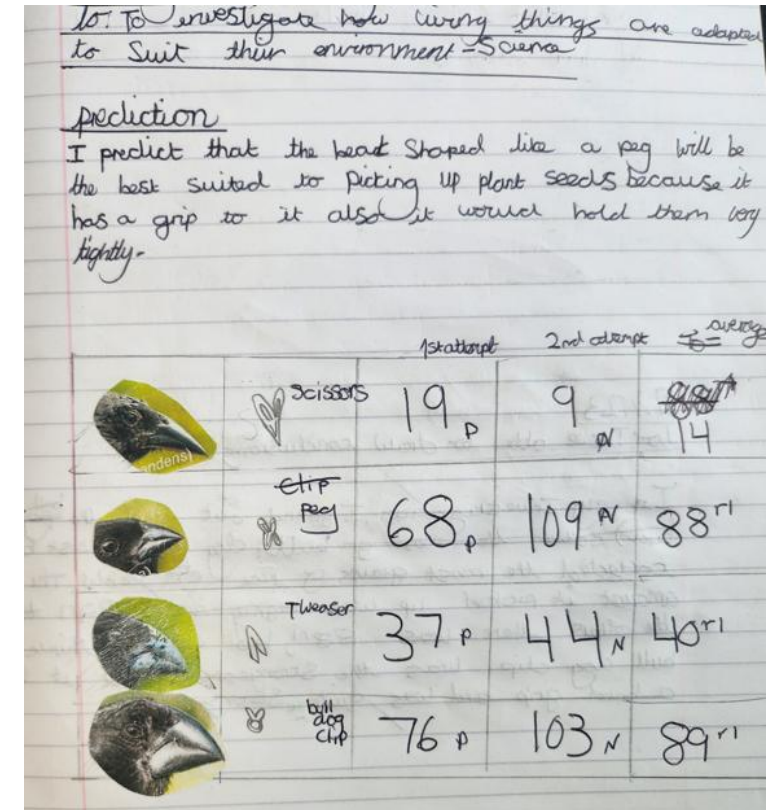
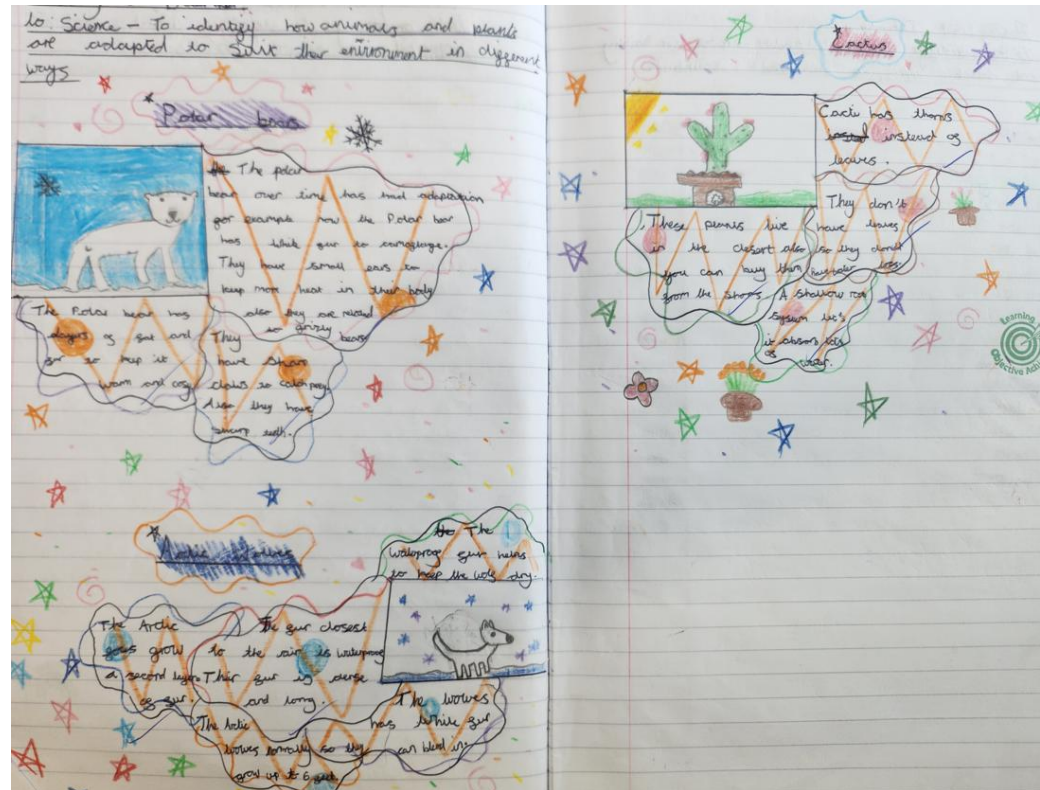
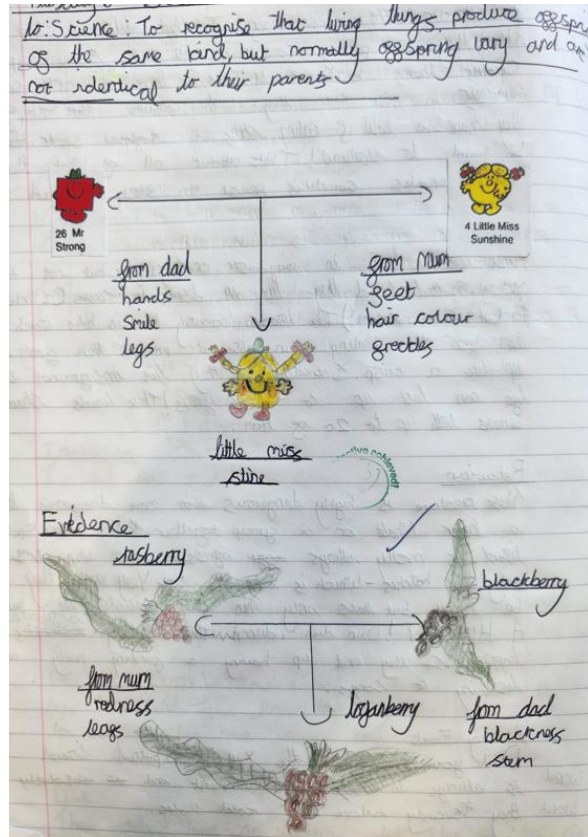
Class	Feature 1	Feature 2	Feature 3
Fish	1=A ✓	2=A ✓	3=A ✓
Mammals	1=e ✓	2=b ✓	3=d ✓
Bird	1=d ✓	2=b ✓	3=b ✓
Amphibians	1=b ✓	2=c/b ✓	3=a ✓
Reptiles	1=c ✓	2=b ✓	3=a/b ✓

- Describe how living things are classified into broad groups according to common observable characteristics.
- Give reasons for classifying plants and animals based on specific characteristics.

Biology

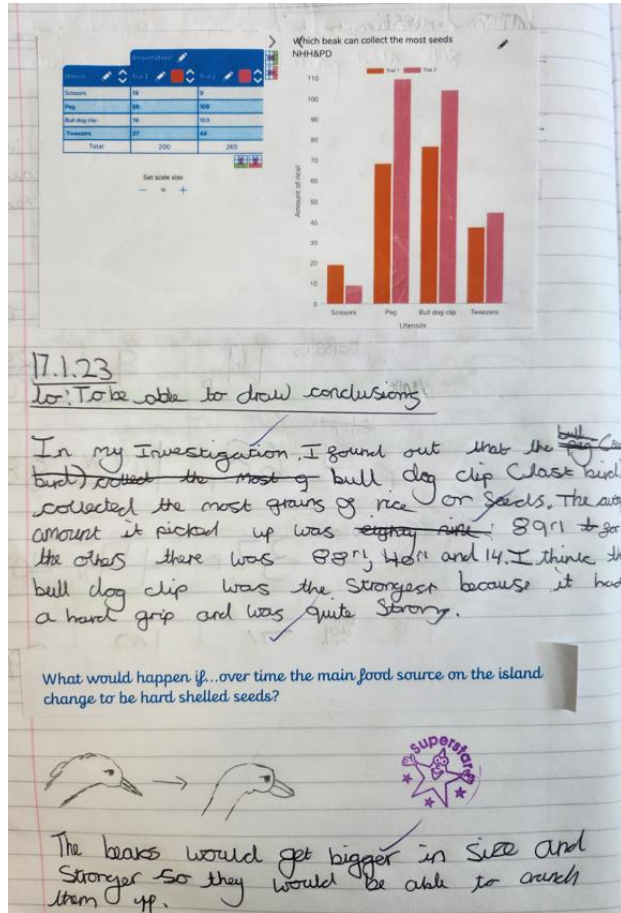
Evolution and Inheritance

Year 6



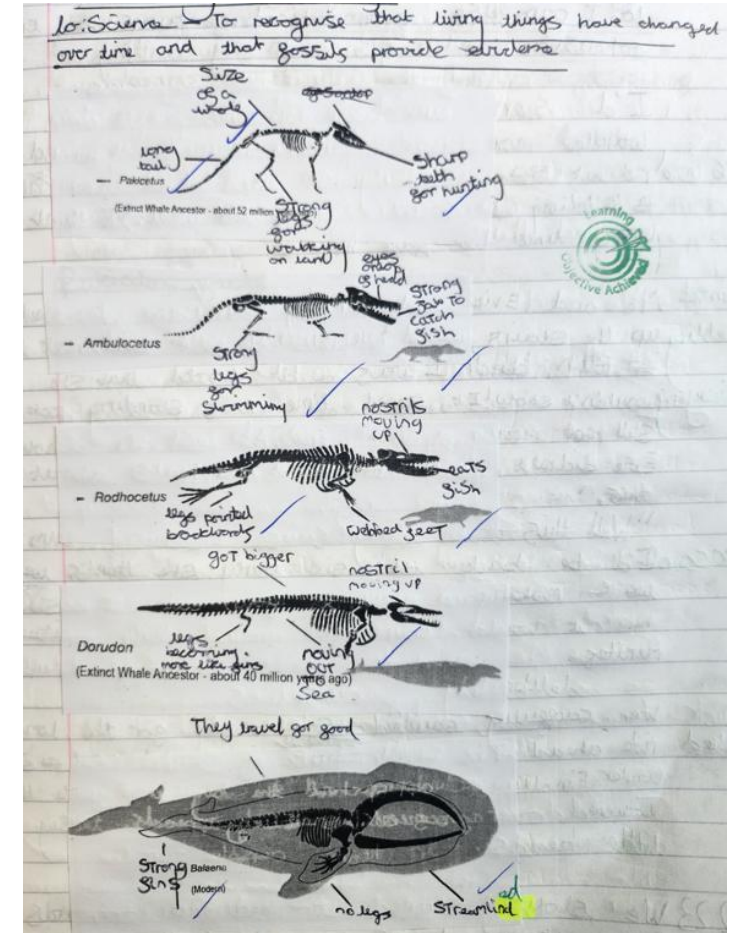
- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Year 6



10: Science - to identify how adaptation may lead to evolution.

Let's go back millions of years ago when giraffes didn't have a long neck! Sure then they didn't have a long neck it would have been hard to reach food. But let's say a mother giraffe had a baby that was slightly taller. They would be able to reach more food and survive a lot better. When that giraffe has baby's babies it will pass it to their offspring so they have a longer neck. And after millions of years we have the giraffe we know today.



Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Chemistry

Everyday materials – Yr1

Uses of everyday materials – Yr2

Rocks – Yr3

States of matter – Yr4

Properties of materials – Yr5

Year 1

LO - I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.

Match the label to the same material.

LO - I can gather and record data. I can identify which materials have certain properties.

Test the objects, write what the object is made from and then put a tick in the right box.

Object	Material/s object is made from	Waterproof ✓	Not waterproof
wellies	rubber	✓	✓
t-shirt	cotton	✓	✓
paper	Paper		✓
rubber gloves	rubber	✓	

Object	Material/s object is made from	Transparent	Opaque
window	glass	✓	
cardboard box	card		✓
plastic bottle	plastic	✓	✓
tin can	metal		✓

Science LO: Distinguish between an object and the material from which it is made.

	The <u>scissors</u> are made from <u>plastic</u> and <u>metal</u> .		
	The <u>window</u> is made from <u>glass</u> .		
	The <u>table</u> is made from <u>wood</u> and <u>metal</u> .		
<u>metal</u>	<u>scissors</u>	<u>window</u>	<u>table</u>
<u>glass</u>	<u>wood</u>	<u>plastic</u>	<u>rock</u>

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties

Year 1

L.O - I can gather and record data. I can perform simple tests. Compare and group together a variety of everyday materials on the basis of their simple physical properties.

We want to find out which would be the best material to use to make an umbrella for Ted.

Prediction: What do you think is going to happen? Which material do you think will be best?

I think... Plastic will be best.

Method:

We covered the pot with materials. Then we squirted 5 drops of water and watched to see if the water came through each material and made Ted wet.



Material	What happened?	Can this be used for Ted's umbrella?
Cotton wool	water went through	X
Paper	the paper got wet	X
Rubber	the water did not go through	✓
Plastic		✓

Conclusion: Which material would be the best to use for Ted's umbrella?

Plastic

Why?

It kept the water off of it

Thursday 11th May 2023

L.O: To describe the simple physical properties of a variety of everyday materials.

Now have a go at describing these materials yourself.



Wood can be rough and spiky ✓



Metal is sharp and dull ✓



Plastic is transparent ✓

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties

Year 2

Science LO: I can identify and compare the suitability of a variety of everyday materials, including wood, glass, plastic, metal, paper, cardboard, fabric and rubber
LO: I can gather and record data to help in answering questions

20.11.23

Grouping uses:

Building a house Brick Wood and Brick glass windows, teddy's bed.	Things you might find in a bedroom teddy's bed glass windows, fabric.
Building a car rubber and glass windows	Things you might find in the bathroom plastic, towel
Come up with your own	

Science LO: I can identify and compare the suitability of a variety of everyday materials, including wood, glass, plastic, metal, paper, cardboard, fabric and rubber
LO: I can gather and record data to help in answering questions

22.11

Changing Shape

Which was the most changeable object on your table? Why? pipe cleaner because it is flexible.	Which was the least changeable object on your table? Why? Paper because it is flexible.
What have you noticed about the objects which change shape? there not strong.	What have you noticed about the objects that don't change shape? There There are not strong. They
Which objects can't be squashed, bent, twisted or stretched? Table.	Why do you think some objects change and others don't? They are different shapes and materials.

Science LO: I can identify and compare the suitability of a variety of everyday materials, including wood, glass, plastic, metal, paper, cardboard, fabric and rubber
LO: I can identify and classify

23.11.23

Read the object descriptions and write down a material which you think would be suitable for the job. Explain the properties it has that make it suitable.

Description	Material	Why is it Suitable?
A hutch to keep a rabbit in. It has to be kept outdoors and keep the rabbit warm and dry.	Wood ✓	Because it is strong and stiff ✓
A cup for a toddler. It has to be light, brightly coloured and safe for a toddler to use.	Plastic ✓	Because it is safe and water proof ✓
A pillow case. It has to be soft and able to go in the washing machine.	fabric ✓	because it is soft and smooth.
A vase. It has to hold flowers and look pretty.	glass ✓	because it is clear and you can see. ✓ transp

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.

Year 2



Uses of Everyday Materials Knowledge Organiser Quiz

7 Which of the following is the most suitable material for a shopping bag?

A wood ☐

B fabric ☒

C metal ☐

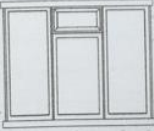
8 Which of these materials is the strongest?

A paper ☐

B rubber ☒

C fabric ☐

9 Why is glass a more suitable material for a window than paper?



A it is transparent ☒

B it is light ☐

C it is flexible ☐

10 What material is being described here?
It is strong, hard, shiny and easy to clean.

A fabric ☐

B wood ☐

C metal ☒

5/10

Science LO: I can identify and compare the suitability of a variety of everyday materials, including wood, glass, plastic, metal, paper, cardboard, fabric and rubber. 29.11.23

Uses of Everyday Materials Knowledge Organiser Quiz

Read each question and tick the correct answer. Use the Uses of Everyday Materials Knowledge Organiser for help if you need to.

1 Which of these is the correct definition of 'materials'?

A how the object behaves and what it is like e.g. bendy ☒

B what objects are made from e.g. wood ☐

C things that can be used e.g. chair ☐

2 Which of these is a property of wood?



A strong ☒

B transparent ☐

C stretchy ☐

3 Which of these materials can be described as hard, smooth, transparent and waterproof?

A glass ☒

B cardboard ☐

C fabric ☐

4 Which property of a material is being described here?
It can be pulled to make it longer and wider without breaking it.

A bendy ☐

B brittle ☐

C stretchy ☒

5 Which of these is a property of plastic?



A absorbent ☐

B can be flexible or stiff ☒

C heavy ☐

6 Which of these is NOT a property of fabric?



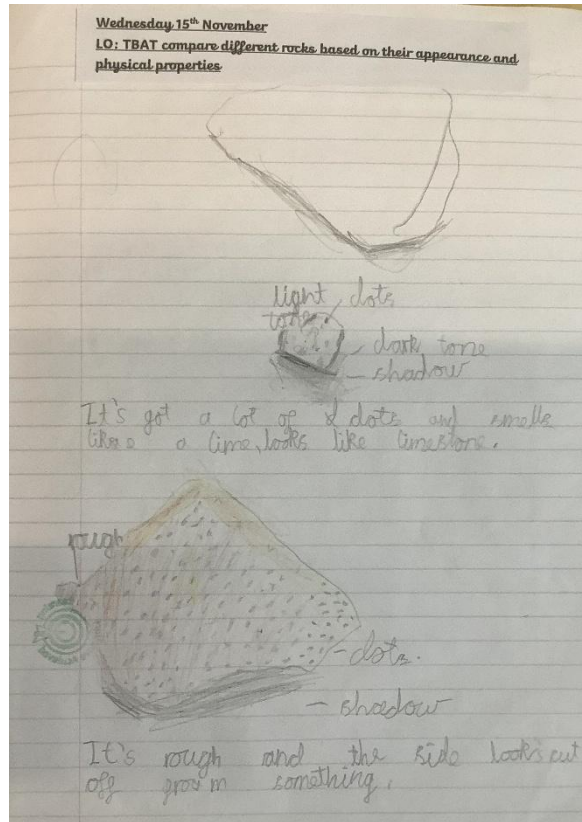
A transparent ☒

B soft ☐

C flexible ☐

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.

Year 3



Rock	Definition
chalk ✓	A bright white rock, which is quite soft. It can be crushed to make small white grains or powder
limestone marble	A light coloured rock (often pale grey or cream). It has a grainy texture and may feel crumbly.
slate ✓	A blue-grey rock that seems to be made of thin layers. It feels hard but can be easily snapped.
limestone marble	A hard attractive rock that come sin many different colours. It may have lines (veins) running through it.
sandstone ✓	A brown or golden coloured rock with grains inside. If rubbed, sand grains may come away

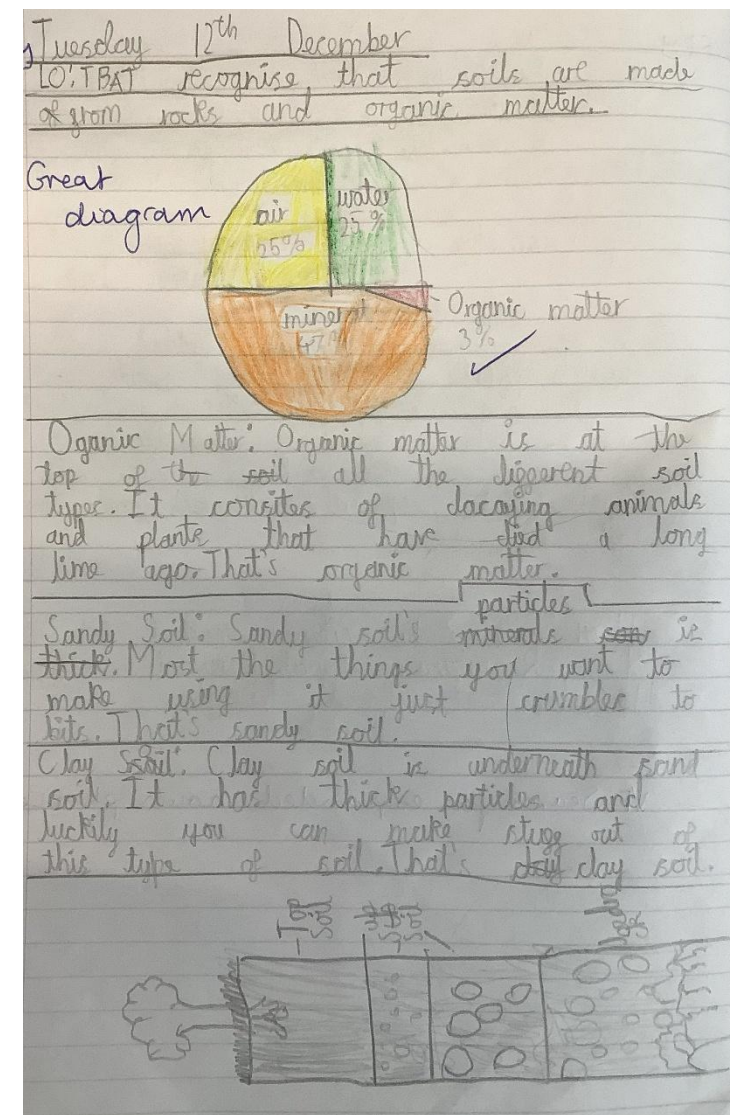
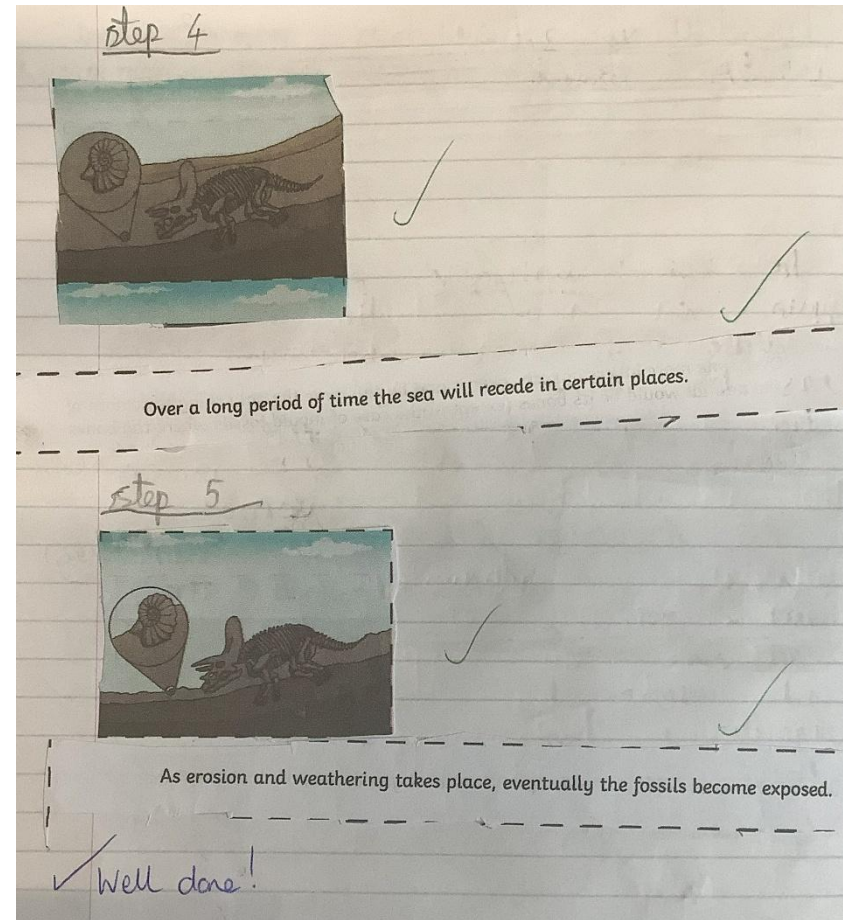
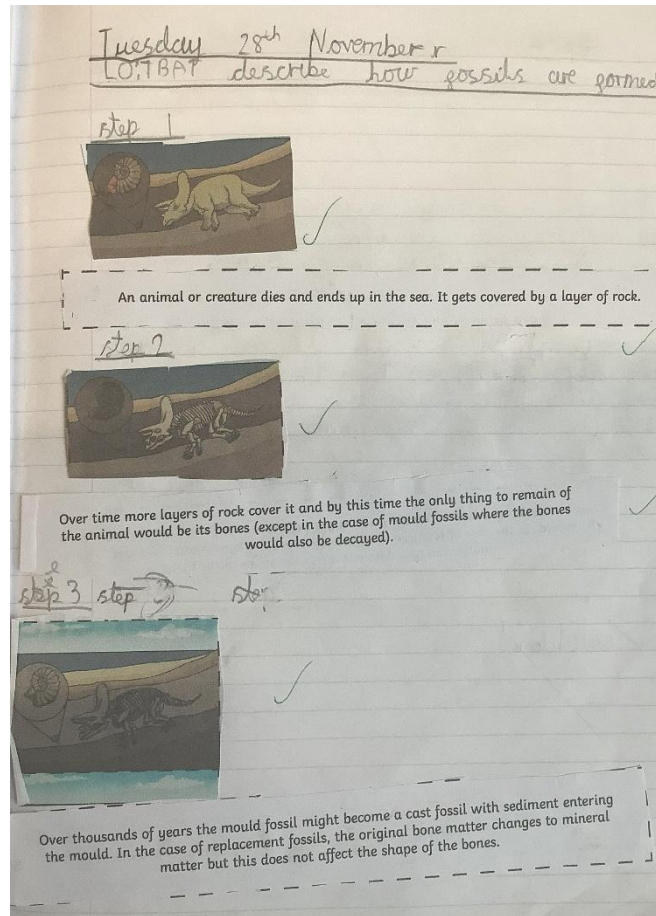
Wednesday 22nd November
LO: TBAT investigate types of rocks based on their physical properties.

Rock	Acid Test	Hardness test	Water test	Judgement
Marble	X	✓	X	Sedimentary Metamorphic Igneous
Granite	X	✓	X	Igneous Sedimentary
Slate	X	✓	X	Metamorphic Igneous
Basalt	X	X	X	Igneous ✓
Sandstone	✓	X	X	Sedimentary Metamorphic
Chalk	✓	X	✓	Sedimentary ✓
Obsidian				
Limestone	✓	X	✓	Sedimentary Metamorphic



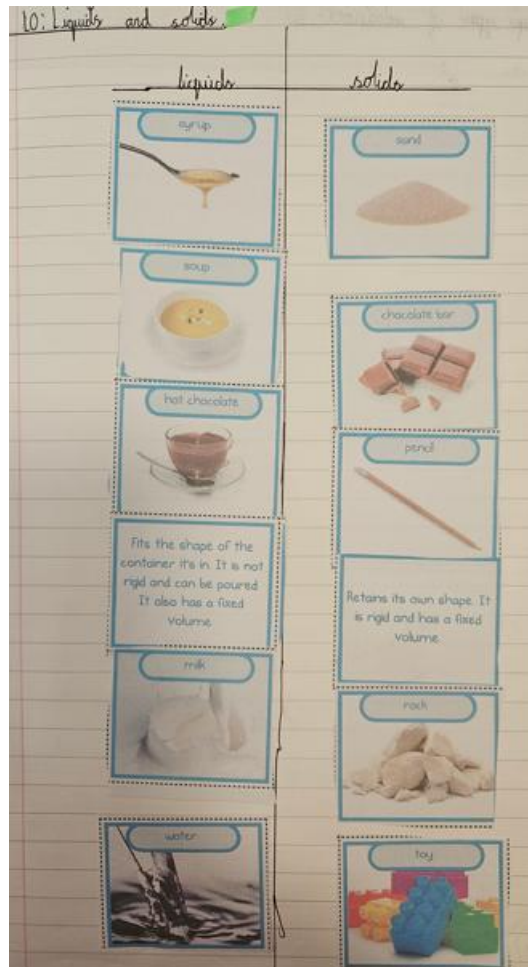
- Compare and group together different kinds of rocks on the basis of their simple, physical properties.
- Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).
- Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.
- Recognise that soils are made from rocks and organic matter.

Year 3



- Compare and group together different kinds of rocks on the basis of their simple, physical properties.
- Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).
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- Recognise that soils are made from rocks and organic matter.

Year 4



Do gases have mass?

Read the method for the investigation on the Experiment Card

Dependent variable	Independent variable	Control variables
Weight of drink	Whether there's gas in the bottle or not.	Same amount of liquid.

Prediction

I think that if the gas is removed from the fizzy drink then it the drink will be lighter.

Result	Weight before	Weight after	Difference
Coke	450g	440g	10g
Sprite	500g	460g	40g
Fanta	500g	480g	20g
HD	520g	500g	20g

Conclusion

When we removed the gas from the drink, became lighter.

Questions I have

Does the weight of the lid affect it.

10: To observe that materials change state when they are heated or cool

Method	Time taken to melt	Observations
Salt Added	9m 47s	it looked mushy
Placed on warm surface	4m 42s	The melted water was around the ice.
Hair Dryer	4m 42s	It was the quickest
Next to heater	12m 8s	you have to hold the ice cube for it
In the sun	459m	it took the longest It was the second by the way

I think The hair dryer will melt it the fastest because there is so much warmth in the air that is coming at it that it will melt the ice.

Worksheet 4B

Name: _____ Date: _____

Sort the materials into the correct categories based on their melting points. Research using the internet to help you.

Melting point below 0°C	Melting point between 0 - 100°C	Melting point between 100 - 1000°C	Melting point over 1000°C
Mercury, Soy wax, olive oil.	galium & Butter.	Salt, Silver,	Gold, Iron

Gold
Mercury
wax
galium
olive oil
salt
butter
iron
silver
glass
sugar
aluminium

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.

Year 5

Since LO: TBAT Investigates thermal conductors and insulators

Fair test

Everything will be kept the same (apart from the different material)
 Same container
 Same size of materials
 Same way of attaching the materials
 Same starting temperature of water
 Same time intervals

Predictions

I think that cling film will be the best insulator. It will keep the heat in for the longest.

Results

Material	Starting state / temperature of contents	Temperature/state of contents after 5 minutes	Temperature/state of contents after 10 minutes	Temperature/state of contents after 15 minutes	Temperature of contents after 20 minutes
Tin foil	60°C	40°C 49°C	40°C	38°C	
Cling Film	55°C	40°C	38°C	31°C	
Card board	55°C	45°C	40°C	36°C	
Bubble wrap	60°C	48°C	42°C	40°C	

Since LO: TBAT Understand that some solids dissolve in water

Fair Test

Everything must be kept the same - apart from the solid added.
 Same container
 Same amount of water
 Same temperature of water
 Same amount of material
 Same number of stirs

Time waited to see if dissolving has taken place

Prediction

I think that the following will dissolve...

Sand
 Chalk
 Coffee granules
 Sugar
 Salt
 Gravy

I think that the following will not dissolve...

Flour
 Rice

LO: TBAT Use fair test to find the properties of material

Both

Material	Properties				
	Magnetic Y or N	Hardness 1-5	Transparent Y or N	Flexibility 1-5	Permeable Y or N
Tin	No	5	No	1	Yes
String	No	3	Yes	5	No
White fabric	No	4	No	1	Yes

hardest

We found out that tin was the strongest material that we tested. The string we tested was not permeable. We found out that string was the most flexible.

permeable = absorbent (the opposite of waterproof)
 String is fabric so is permeable

Results

Object	Material	Did it light the bulb?	Was the bulb dim or bright?
Knife	metal	Yes	bright
Spoon	Wood	No	nothing
Paper clip	metal	Yes	bright
Lollipop stick	Wood	No	nothing
Magnet	metal	No	nothing
Battery	metal	Yes	bright

Conclusion

We found out that a battery is an electrical conductor. It passes electricity through it. We found out that wood is an insulator. It doesn't let electricity to run through it.

- Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.

Year 5

Will the materials in the table below dissolve in water? Test the materials and complete the table.

Material	Does it dissolve?
sand	X
chalk	
flour	✓
rice	X
coffee granules	✓
sugar	✓
salt	
gravy	X ✓

What does soluble mean?
That something does dissolve

What does insoluble mean?
Something doesn't dissolve

Classify the materials you tested into the correct category.

Soluble	Insoluble
That something does flour coffee granules sugar gravy	sand rice

Conclusion
We found out that flour, coffee granules, sugar and gravy ~~but sand and rice~~ all dissolved so they are soluble. But sand and rice didn't dissolve so they are insoluble.

Enquiry question: Which materials are the best conductors?

Dear Materials Matters

We are in the process of developing a fun and innovative game called Conducting Cars. Players each have a car with an unconnected circuit into which they need to insert a 'card' that contains a patch of various materials. The card will complete the circuit to make the car either go fast, slow or not at all. The idea is to take turns picking a card and to race the cars over the course of the game - the one that gets the furthest wins.

Our problem is that we are not sure which materials to use as we need an array of good and weak electrical conducting materials as well as those that don't conduct electricity at all. The materials also need to be practical and safe to use. Can you help? We are hoping that you can make some materials recommendations for us.

Yours conductively

Topps Toys Development Team

Diagram

Method

1. Build basic circuit to check everything works.
2. Add in a material to see between two of the wires.
3. See if the light bulb gets any dimmer.
4. Experiment with different materials.
5. Record all your information.
6. Finally, enjoy your creation.

Prediction
I predict that the coin will be the best conductor

You have been asked to help the manager of a supermarket separate some mixed up materials. Draw a diagram showing how you separate each mixture. Complete the sentences to show which process you have used. Choose from these processes:

Filtration	Magnetic Attraction	Evaporation	Sieving
Sand and Water. To separate these materials I will use <u>Filtration</u>	Diagram: To separate these materials I will use <u>Magnetic Attraction</u>	Paper Clips and Rice. To separate these materials I will use <u>Magnetic Attraction</u>	Diagram: To separate these materials I will use <u>evaporating</u>
Raisins and Flour. To separate these materials I will use <u>Sieving</u>	Diagram: To separate these materials I will use <u>evaporating</u>	Salt and Water. To separate these materials I will use <u>evaporating</u>	Diagram: To separate these materials I will use <u>evaporating</u>

Since I don't understand how to separate mixtures

- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.

Physics

Light

Year 3

Friday, 1st March
LO: TBAT recognise when light is reflected from different surfaces.

Mrs Hawes has asked you to create a reflective book bag for the reception children. What material will you use?

Which material do you think will be the most reflective, why?
I think metal CD because it's smooth and metal is reflective.

Material	coloured plastic	metal CD	tin foil	gabrie chad's	coloured tin
Reflective?	X	✓	✓	X	✓

Which material was the most reflective?
Tin foil



Can you help Isaac choose the best material for the new curtains in his baby sister's bedroom?

What materials are you testing? Draw or list them below.
Orange tin, tissue paper, plastic bag, velvet, netting, metal CD, gabrie, brick, cooking plastic.

Shine the torch on each material to see what sort of shadow it makes. Put each material in the correct column below.

Opaque Blocks all light and makes a dark shadow.	Translucent Lets some light through and makes a faint shadow.	Transparent Lets all the light through and does not make a shadow.
Orange tin, velvet	silk, metal & brick, fabric	tissue paper, plastic bag, netting, cooking paper.

Which material have you chosen for the new curtains? Draw the curtains on the window and label the material.
black velvet

Write a message to Isaac to explain why you think he should use this material. Tell him about your investigation and what you found out about the material you chose.
I chose velvet for the new curtains.
I think it will be good for the new curtains because it's opaque which means no light gets through so your sister won't wake up because of the light.

- Recognise that they need light in order to see things and that dark is the absence of light.
- Notice that light is reflected from surfaces.
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- Recognise that shadows are formed when the light from a light source is blocked by a solid object.
- Find patterns in the way that the size of a shadow changes.

Year 3

LO: TBAT + find patterns in the way that the size of a shadow changes.

How do shadows change when the distance between the light source and the object changes?

Distance between the light source and the object.	Size of the object's shadow.
10cm	32cm
20cm	25cm
30cm	22cm ✓
40cm	16cm
50cm	10cm



A shadow is formed when the object blocks the rays of light coming through. When you move the object closer to the light source, the shadow is bigger. When you move the object further away from the light source, the shadow is smaller. When an object is translucent, less of a shadow is formed because you can see through translucent objects but just a bit. Opaque objects form more of a shadow.

because you can't see through them. Transparent objects less of a shadow than all of them because you can see through them.

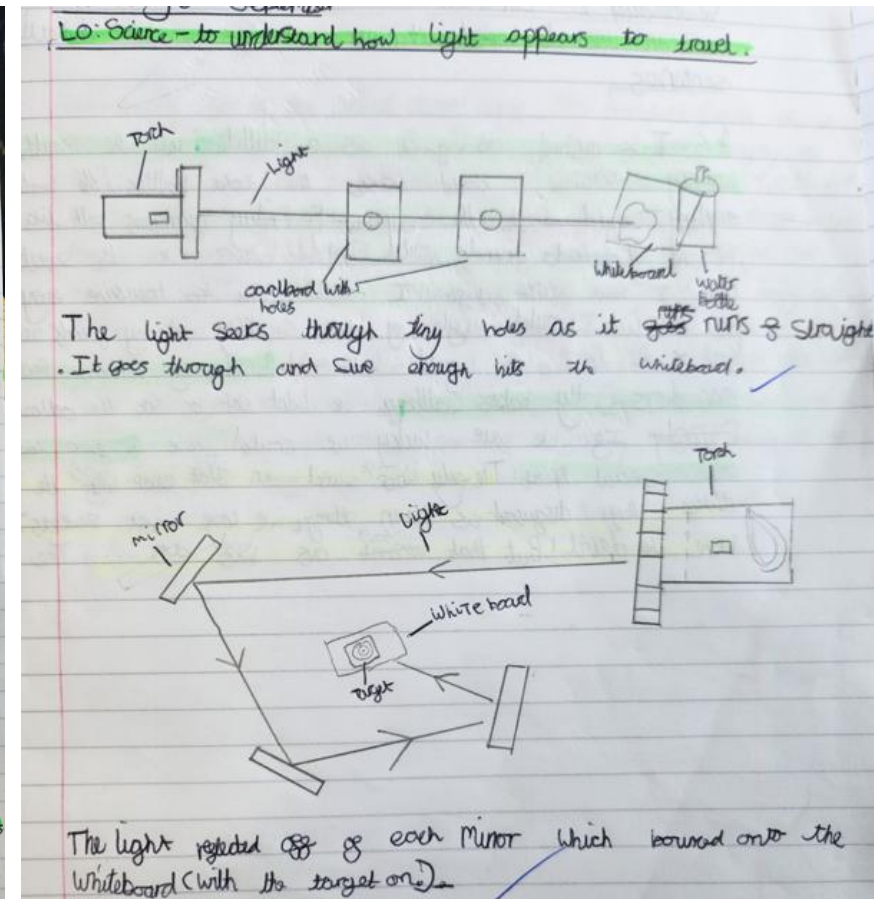
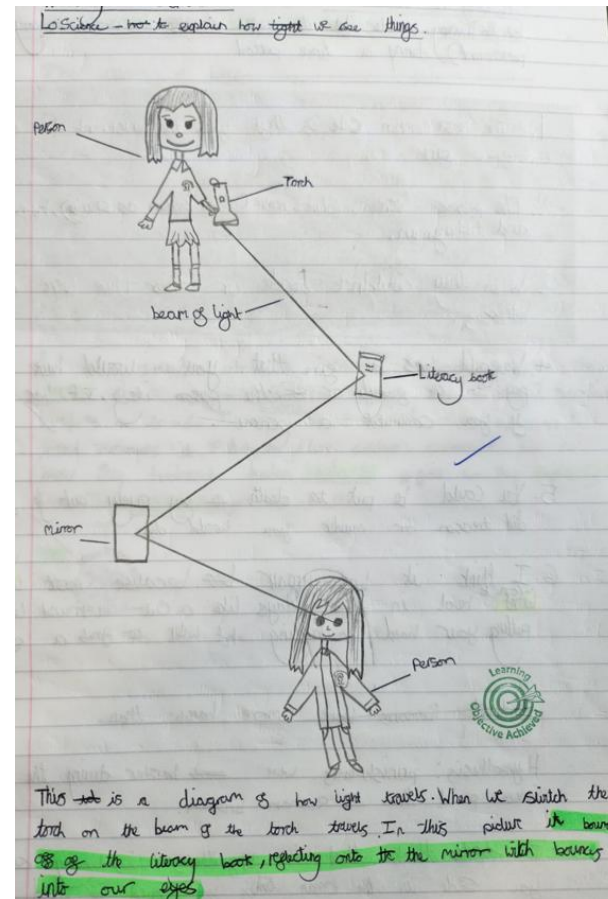


- Recognise that they need light in order to see things and that dark is the absence of light.
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Year 6

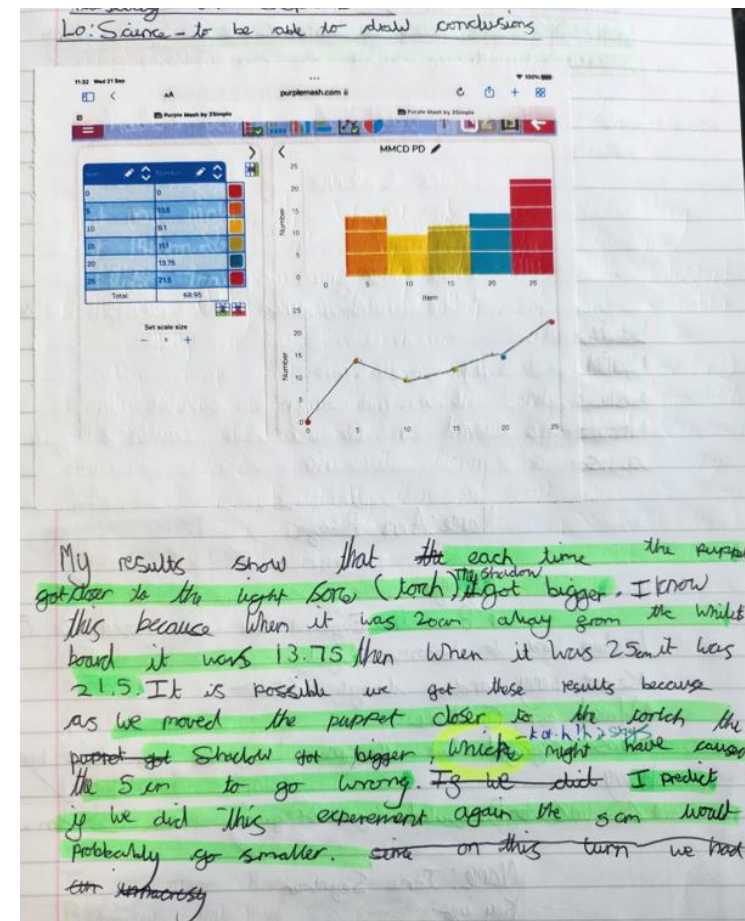
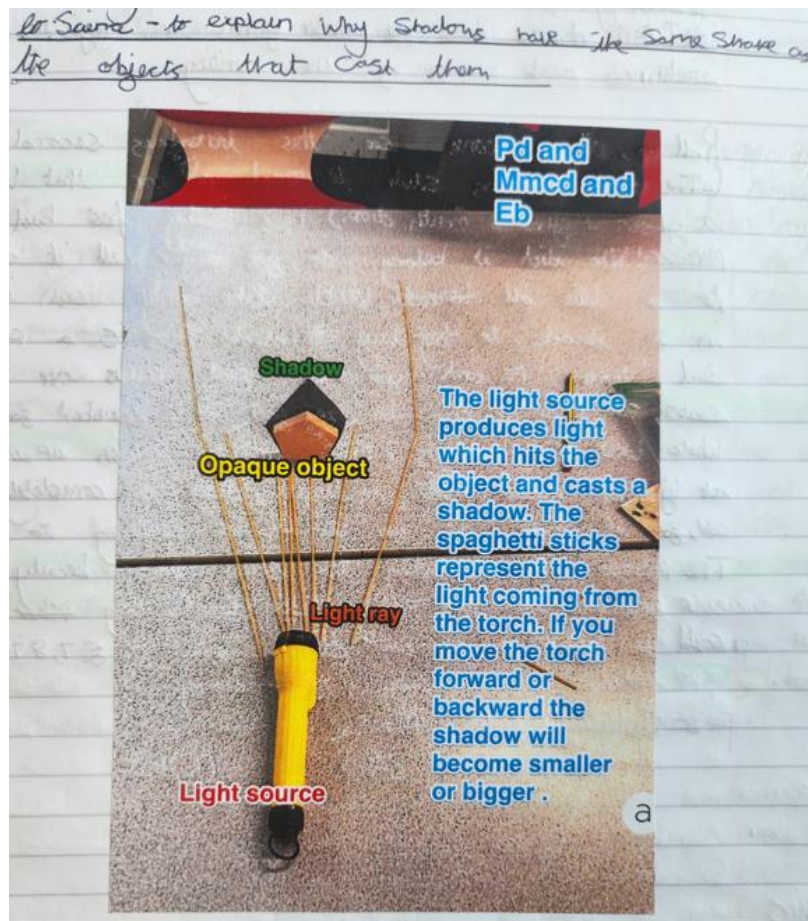
LO: Science - To be able to record results from scientific enquiry

Distance for object to screen	Test 1	Test 2	Average
5 cm	9.5 cm	7 cm	13.5 cm
10 cm	10 cm	8.2 cm	9.1 cm
15 cm	11.2 cm	11 cm	11.1 cm
20 cm	12.5 cm	15 cm	13.75 cm
25 cm	18 cm	25 cm	21.5 cm



- Understand that light appears to travel in straight lines.
- Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.
- Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

Year 6

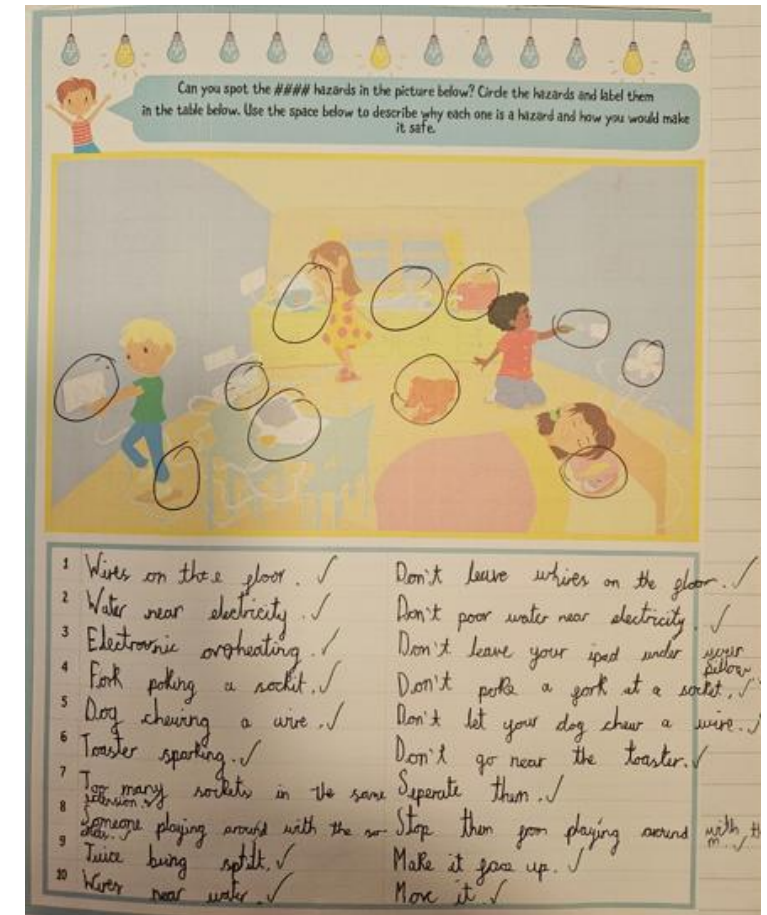
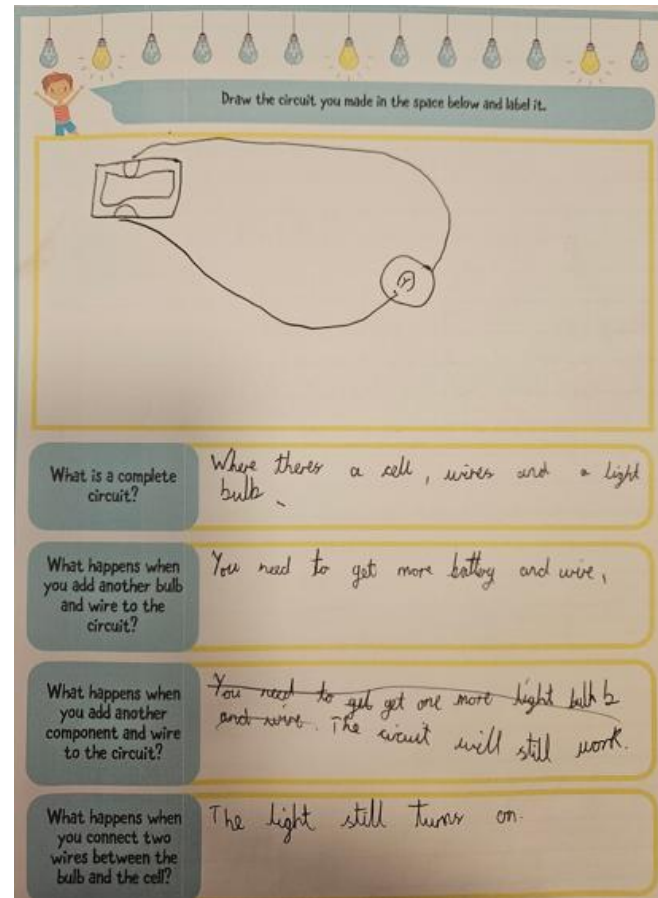
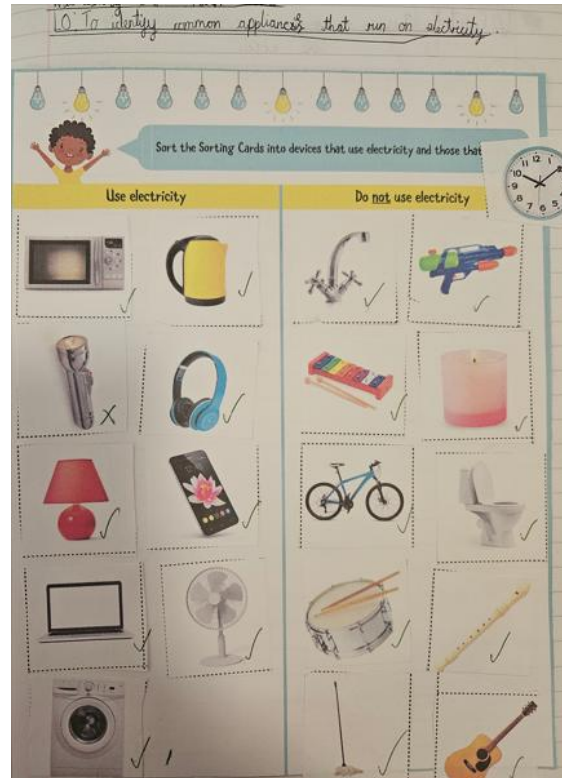


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Physics

Electricity

Year 4



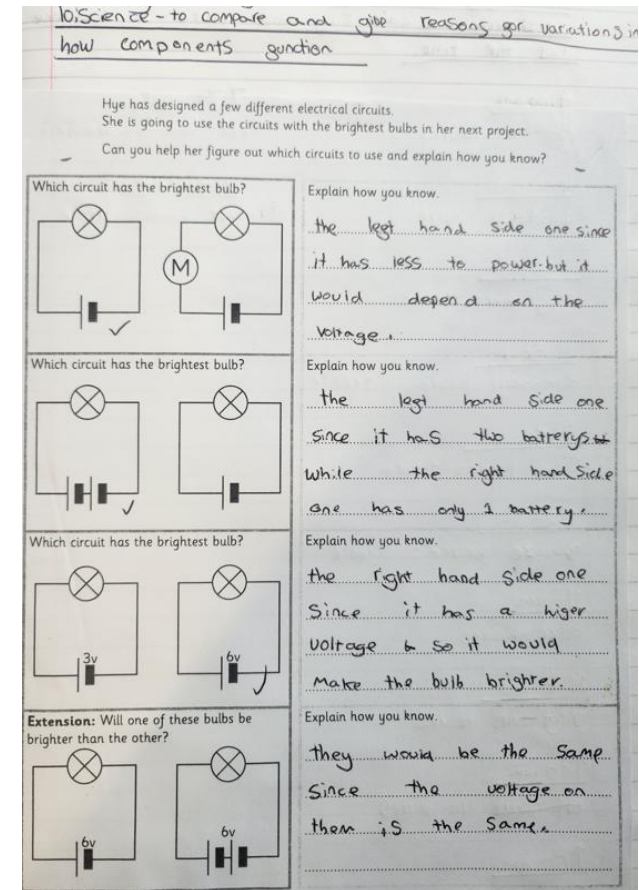
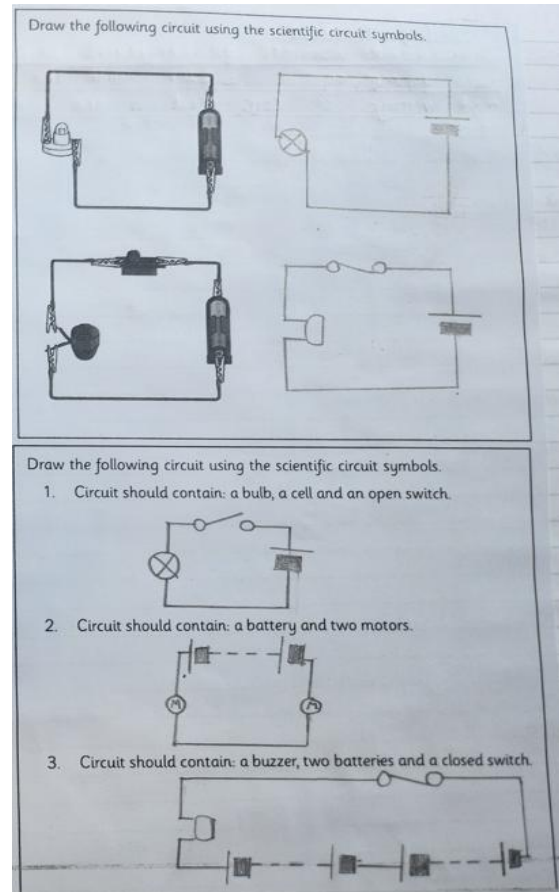
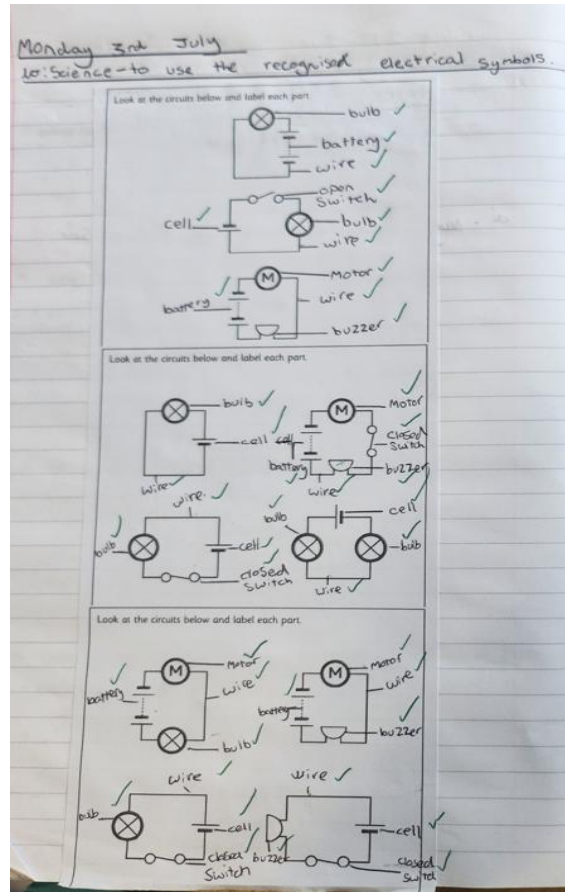
- Identify common appliances that run on electricity.
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.

LO: Using our knowledge of conductors
to make an electronic game



- Recognise some common conductors and insulators, and associate metals with being good conductors.

Year 6



- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
- Use recognised symbols when representing a simple circuit in a diagram.

Physics

Forces and Magnets – Yr3

Forces – Yr5

Year 3



Friday 12th January 2024

LO: BTAT compare how things move on different surfaces

Surface	Distance travelled	Most - least friction
Wood	210cm	
Carpet	149cm	128cm 5 th
foam	145cm	149cm 4 th
Sandpaper	144cm	145cm 3 rd
Rubber		149cm 2 nd
Bubble wrap	128cm	210 cm 1 st

The smoother the surface the lower the friction.
 The rougher the surface the greater the friction.

Friday 12th January 2024

LO: TBAT compare how things move on different surfaces

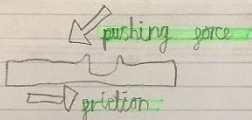
Most - lenst. Prictim.

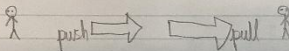
LO: TBAT compare how things move on different surfaces

PIC-COLLAGE

Thursday 15th January

10:15 AM To notice that some forces need contact between two objects, but magnetic forces can act at a distance.





push	pull
<u>pushing</u> closing a door. kicking a football.	<u>pulling</u> tug of war. opening a door. picking something up.

How far away from the kite can the magnet be?

The magnet did not have to touch the paperclip to move it.

magnet +1-15mm
magnet 2-30mm

The magnetic force was strong enough to attract the paperclip without touching it.

magnetic

- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.

Friday 26th January

LO: TBAT compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet.

LO: TBAT identify some magnetic materials



Attention!

An earthquake in Wetherby this morning has caused a disaster at the scrap yard. The large bins of materials have tipped over and are now in one huge pile. They will need to be separated as quickly as possible.

How could we do this?

Professor Force believes that everything apart from the sand will be attracted to the magnets.

Professor Magnet believes that only materials made from metal will be attracted to the magnet.

What do you think? Why?

None because of them because some metals won't attract to the magnet because some metals are not magnetic.

Results
Some of the metals were magnetic but some were not.

Magnetic	Not Magnetic
iron	aluminium
nickel	copper
zinc	lead
steel	brass
	silver
	gold



PIC-COLLAGE

Friday 2nd February

LO: TBAT predict whether two magnets will attract or repel each other, depending on which poles are facing

What are the red and blue parts of the magnets? What do we call them?
What happens if you put the two blue ends near each other?
What happens if you put the two red ends near each other?
What happens if you put a blue end and a red end near each other?

Red and blue together attract
Blue and blue together repel
Red and red together repel
Blue and red together attract

Attract

Repel

Repel

Attract

When the north and south are facing they attract. When south and south are facing they repel. When north and north are facing they repel.

- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.



Year 5

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.
- Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.

Physics

Space

Year 5

~~Activity 1:~~ LO: To know that the earth, sun and moon are spherical.

Write a short explanation text which includes evidence for the different theories before writing a conclusion based on what you think about the shape of the Earth. There are key words or sentence starters to help you.

Shape of the Earth

Flat Earth Theory

I think that people from ancient times believed the world was flat because they didn't yet have a way to know the world is round like this. This means that they couldn't really make predictions of what the earth would look like by what the world was around them.

Spherical Earth Theory

I believe that the earth is a sphere as people have gone into orbit of it and taken pictures of the earth showing that it is quite clearly spherical. As well as this, planes have flown around the earth and never reported spotting the edge of it.

Conclusion

I think the Earth is spherical. The evidence that the Earth is spherical is stronger because many people have all reported never spotting the edge of the world and have photographic evidence proving that ~~this~~ prediction correct.

Wednesday 7th February

LO: To know that the Earth orbits the sun and that day and night are caused by the Earth's rotation.

Why do we have day and night?

During the day, the sun is facing ^{towards} the UK. However, as the Earth spins on its axis the sun begins to go towards the other side of the Earth. This is what gives us the impression that the sun moves across the sky when actually it's us rotating. As well as this, it also means that places in the Arctic never really have sun set as at night time is when the sun is in the middle of the sky.



Activity 2:

Which piece of evidence is the most important in proving the Earth is spherical? Circle just one.



Sailors made observations about the position of the Sun and stars.



Planes have flown around the world and never seen the edge.



Shadows cast by the Earth on the Moon during a lunar eclipse.



Ships have sailed all the way around the world.



Observations of ships sailing across the horizon.



Pictures of Earth viewed from space.

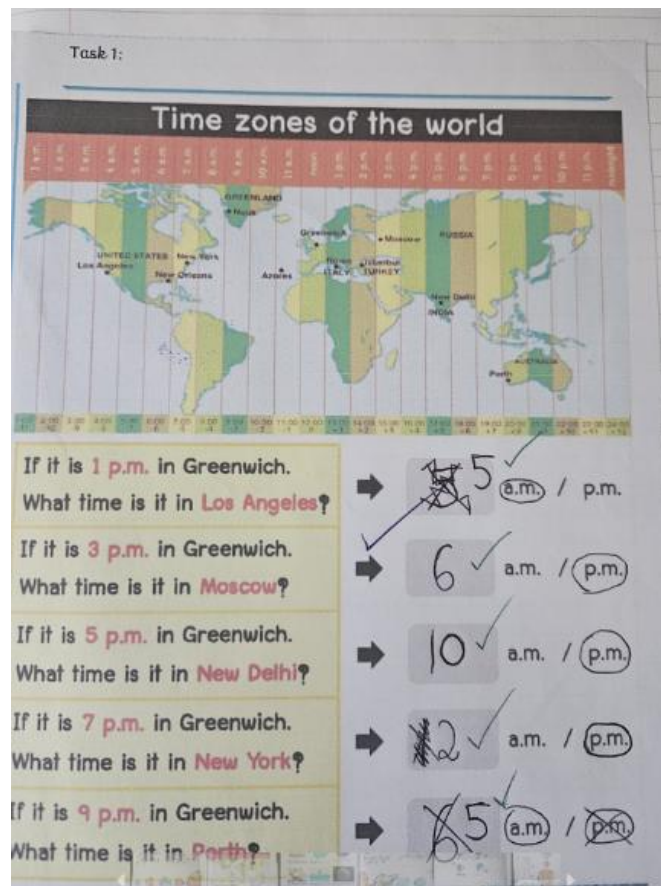
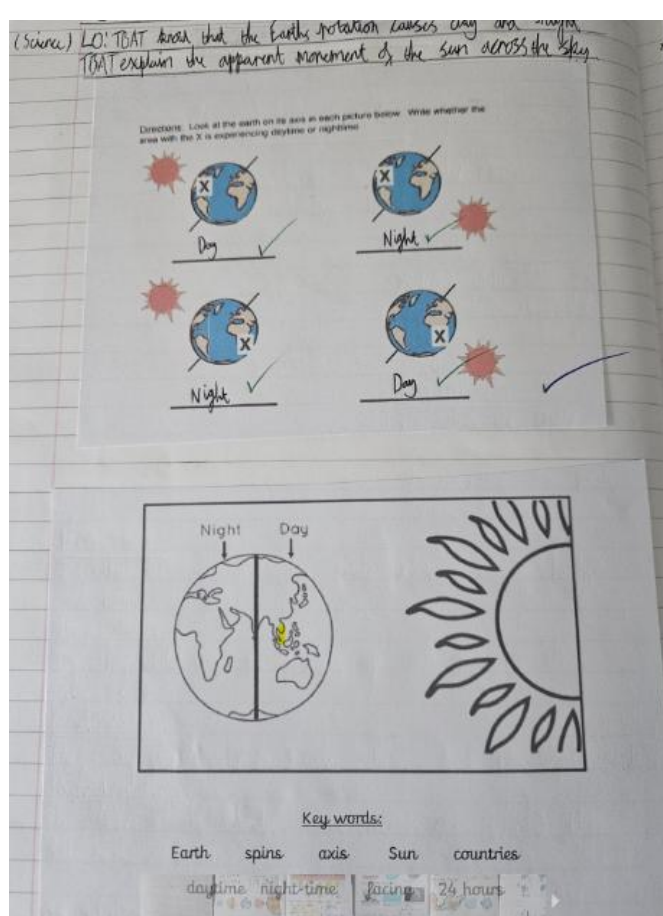
I think the strongest evidence that the Earth is spherical is pictures of Earth viewed from space.

My first reason for this is you can see the earth is spherical so you don't have to make any guesses.

My second reason for this is it just proves that the earth is spherical because if you went around the world you wouldn't see the edge.

Earth spins on its axis and the side of the Earth that is facing the sun is in daytime and the other side is at night-time. It takes 24 hours for the side that is night to become day. ✓✓

- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe the Sun, Earth and Moon as approximately spherical bodies.
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.



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Physics

Sound

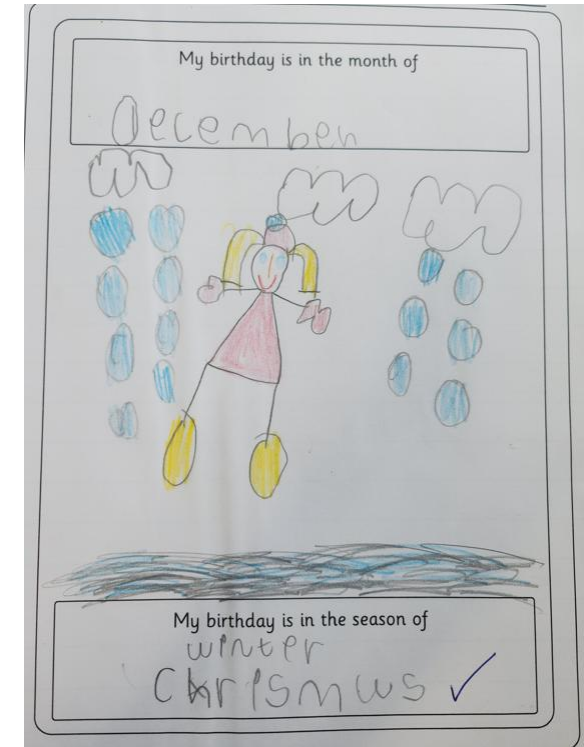
Year 4

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

Physics

Seasonal Change

Year 1



- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.

Year 1

AUTUMN

In autumn, I see... red leaves

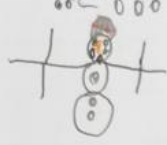
In autumn, I hear... leaves crunchy

In autumn, I feel... chilly

In autumn, I smell... pears and apples

Autumn is... smelly

Can you draw a picture for each of these wintry words?

snowman

cold

icicles

wet

winter clothes

coats

snowflakes


freezing

✓

hibernation


Complete these sentences then draw a picture to show what each season is like.

The coldest season is winter

The hottest season is summer

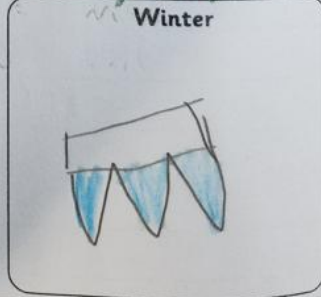
Leaves fall from the trees in autumn

Trees blossom in spring

Spring


Summer


Autumn


Winter


LO: To find out what the weather is like in Spring

Choose 6 words to describe the weather in Spring

<u>chilly</u> ✓	<u>rainy</u> ✓	<u>sunny</u> ✓
<u>windy</u> ✓	<u>stormy</u> ✓	<u>hailstones</u>

- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.