

Enquiry Question: What materials are conductors or insulators of electricity and is there a pattern? How can we reduce our energy usage?

Vocabulary

Physics
electricity
circuit
insulators
conductors
metal
conductivity
sustainability
energy
energy usage
renewable
non-renewable

What do we know?



1. Common appliances that use electricity



2. Build and draw series circuit.



3. What has gone wrong?



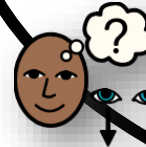
4. Conductors and insulators



5. Conductivity within a circuit.



6. What is energy and how can we reduce our energy usage?



Forever Facts

Know that some common conductors and insulators, and associate metals with being good conductors.

Know why a lamp will light or not light in a simple series circuit.

Know how to ask relevant questions and using different types of scientific enquiries to answer them.

(Working Scientifically- Skill)

Big Ideas

Physics, Sustainability & Working Scientifically



Where will it go?



Showcase

So... what materials are conductors or insulators of electricity and is there a pattern?

Written and oral presentation of results.

How can we reduce our energy usage?

Present knowledge on a poster and present findings as an oral presentation.



We know that some materials are insulators of sound (Y4 Sound)

We know why a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard are suitable for particular uses. (Y2 Materials)



We know how to use results, findings or observations to answer questions (Y3 answer questions)





Enquiry Question: How can we group and classify living things? What living things do we have in our local area and how does this change over a year?

Vocabulary

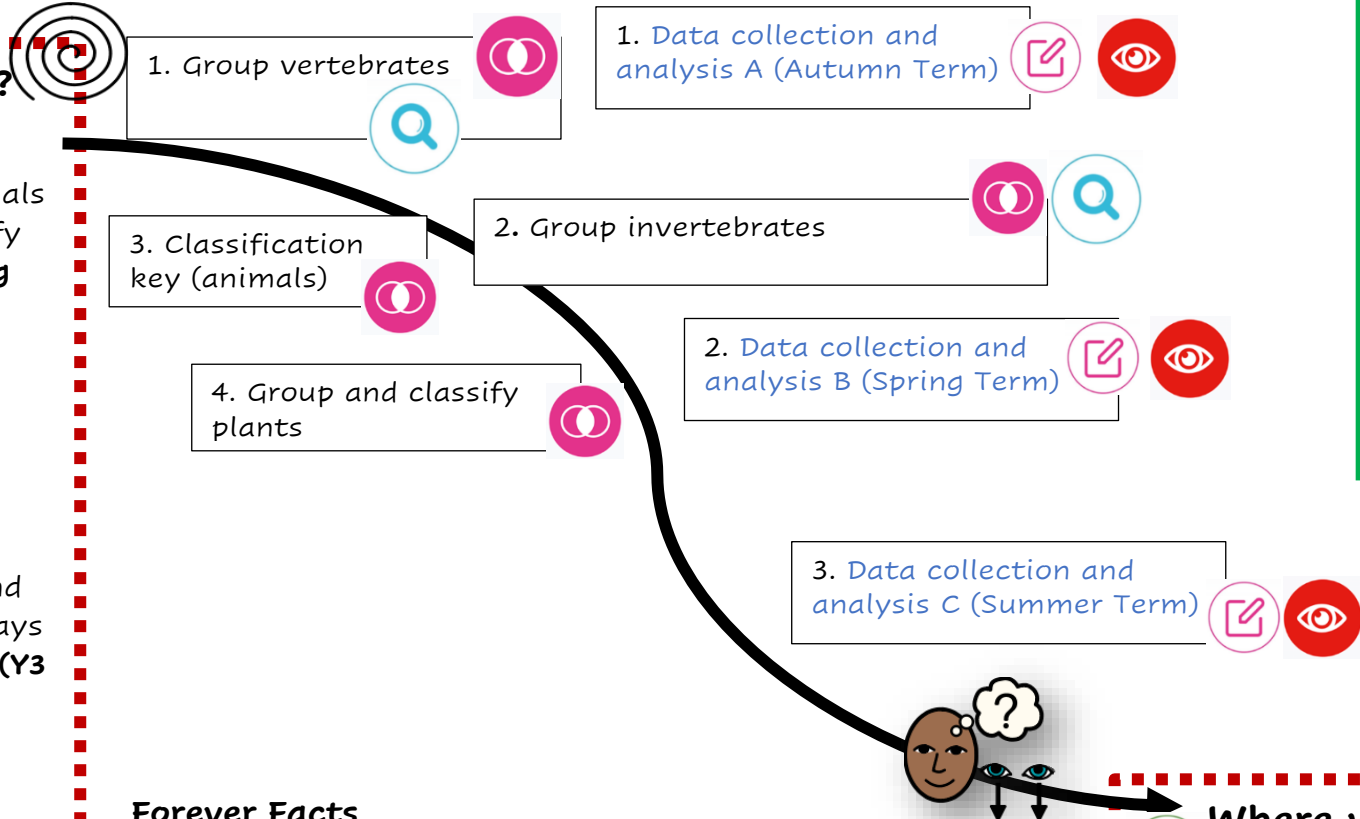
- biology
- vertebrate
- invertebrate
- classify
- mammal
- amphibian
- reptile
- exoskeleton
- stamen
- pistil
- fern
- moss

What do we know?

We know that there are a variety of plants and animals in habitats and can identify and name some. **(Y2 Living things and their habitats)**

We know why most living things live in habitats to which they are suited. **(Y2 Living things and their habitats)**

We know how to gather and record data in different ways to help answer questions. **(Y3 gather, record and classify data)**



Forever Facts

- Know that** living things can be grouped in a variety of ways.
- Know why** classification keys are used to help group, identify and name a variety of living things.
- Know how** to record and present findings using labelled diagrams, keys, bar charts and tables. **(Working Scientifically-Skill)**

Big Ideas

Biology & Working Scientifically



Where will it go?

Showcase

- So... How can we group and classify living things?** Classify animals and plants using classification keys.
- What living things do we have in our local area and how does this change over the year?** Present data collected through observation other time in pictograms, bar graphs, labelled diagrams or data tables.



Learning Organiser Habitats, Deforestation and Food Chains Year 4



Enquiry Question: What impacts do humans have on different habitats? *What are the impacts of deforestation on the planet?*

Vocabulary

- biology
- sustainability
- food chain
- producer
- energy
- consumer
- predator
- prey
- deforestation
- biodiversity
- natural resource

What do we know?

We know that there are a variety of plants and animals in habitats and can identify and name some. (Y2 Living things and their habitats)

We know why most living things live in habitats to which they are suited. (Y2 Living things and their habitats)

We know how to use results, findings or observations to answer questions. (Y3 answer questions and make conclusions)

1. Living things and their habitats.



2. Human impact of on habitats



3. *What is deforestation and What are the impacts in the UK and the rest of the world.*



4. What is a food chain?



5. Interpret food chains



6. Draw food chains.



7. What would happen if?



Forever Facts

Know that environments can change and that this can sometimes pose dangers to living things.

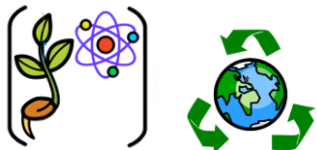
Know why food chains are constructed, interpreted and used to identify producers, predators and prey.

Know how to use straight-forward scientific evidence to answer questions and support findings.

(Working Scientifically- Skill)

Big Ideas

Biology, Sustainability & Working Scientifically



Where will it go?

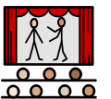


Showcase

So...

What are the impacts of deforestation on the planet?

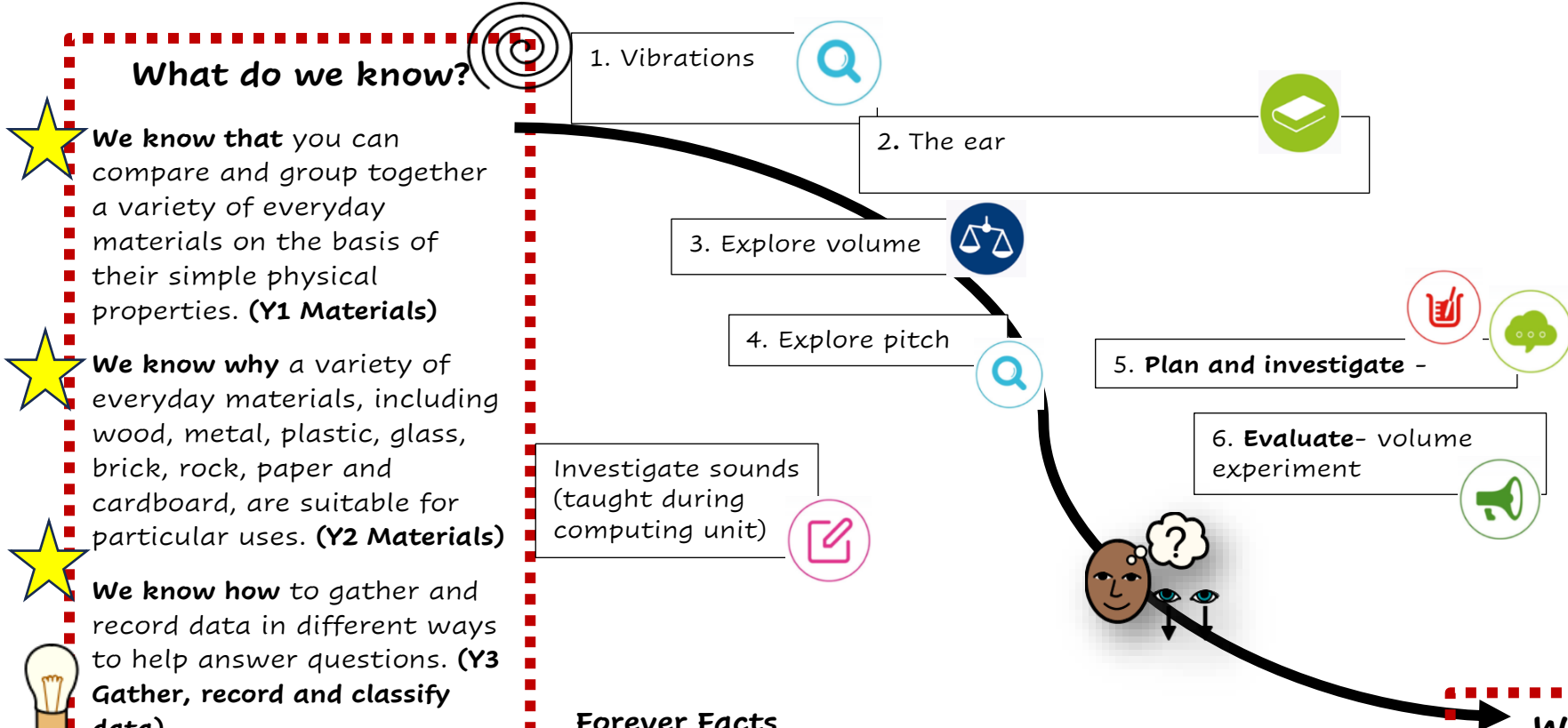
Present findings on a poster and present orally.



Enquiry Question: How does the distance of a sound source affect the volume of sound?

Vocabulary

- physics
- volume
- pitch
- vibration
- decibel meter
- sound source
- distance
- decibel (dB)
- insulator



- We know that** you can compare and group together a variety of everyday materials on the basis of their simple physical properties. **(Y1 Materials)**
- We know why** a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard, are suitable for particular uses. **(Y2 Materials)**
- We know how** to gather and record data in different ways to help answer questions. **(Y3 Gather, record and classify data)**

Forever Facts

- Know that** vibrations from sounds travel through a medium to the ear.
- Know why** sounds get fainter as the distance from the sound source increases.
- Know how to measure** volume using a decibel meter and **record** findings using tables. **(Working Scientifically- Skill)**

Big Ideas
Physics & Working Scientifically

Where will it go?

Showcase

So... how does the distance of a sound source affect the volume of a sound.

Investigation and a discussion of experiment results.



Enquiry Question: How does the temperature of the water affect the time it takes for ice to melt?

Vocabulary

- Temperature
- Observation
- Solid
- Liquid
- Gas
- Volume
- states of matter
- Celsius (°C)
- Evaporation
- Condensation
- Thermometer
- Measure

What do we know?

- We know that** you can compare and group different kinds of rocks on the basis of their appearance and simple physical properties (**Y3 Rocks**)
- We know why** the shapes of solid objects can be changed by squashing, bending, twisting and stretching. (**Y2 Materials**)
- We know how** to make systematic and careful observations. (**Y3 Rocks**)



1. Explore solid, liquids and gases. This differently – solids, liquids and gases



2. Change states and use equipment.



3. Melting experiment



4. **Investigate**- melting experiment.



5. The water cycle



6. **Plan and investigate**- evaporation experiment



7. **Evaluate**- evaporation experiment



Big Ideas

Chemistry & Working Scientifically



Forever Facts

- Know that** you can compare and group materials together, according to whether they are solids, liquids or gases.
- Know why** evaporation and condensation work in the water cycle and how temperature affects this.
- Know how to observe** that some materials change state when they are heated or cooled, and **measure** or **research** the temperature at which this happens in degrees Celsius (°C) (**Working Scientifically- Skill**)

Where will it go?



Showcase

So... How does the temperature of the water affect the time it takes for ice to melt.

Investigation and a discussion of experiment results.





Enquiry Question: What is the digestive system and how does it work?

Vocabulary

Biology
 digestive system
 digestion
 oesophagus
 stomach
 small intestine
 large intestine
 rectum
 saliva
 absorb
 nutrients

What do we know?

We know that basic parts of the human body. (Y1 Animals, including humans)

We know why animals, including humans, need the right types and amount of nutrition. (Y3 Animals, including humans)

We know how to report of finding from enquires, including oral and written explanations. (Y3 Present findings)

1. Teeth – herbivores, carnivores and omnivores

2. Human teeth

3. Layers of teeth

4. Plan – tooth decay experiment

5. The digestive system

6. The digestive system- model

7. Findings – tooth decay experiment

Forever Facts

Know that there are different parts of the digestive systems in humans and describe their simple functions.

Know why humans have different types of teeth.

Know how to report on finding from enquires, including oral and written explanations, displays or presentation of results and conclusions. **(Working Scientifically- Skill)**

Big Ideas

Biology & Working Scientifically



Where will it go?

Showcase

So... what is the digestive system and how does it work?

Creating and presenting their own model of the digestive system.

