St Cuthbert's Learning Organiser: Science
Lower Key 2 2024-2025
K Prior

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer
Rocks **Skills** *name and group the three main types of rocks, compare their features and record findings. *identify rocks that are natural or man-made, record results in a table. *make a prediction, observe changes, record the information collected and form a conclusion on soil permeability. *recognise that soils are made from rocks and organic matter. **Knowledge** *Will know how to compare and group together different kinds of rocks on the basis of their appearances and simple physical properties. *can describe in simple terms how fossils are formed when things that have lived are trapped within rock. *explain what a palaeontologist is. *I know the difference between a bone and a fossil. **Reasoning & Progression** The children will build on prior learning about soil formation throughout Early Years and Year 1-2 where they have looked at worms and how leaves decay and become part of the soil matter. Wormary-mini compost bin. **Core Texts** Rocks and volcanic activities lift the flap	**AIH-skeleton** **Skills** *making systematic and carful observations. *recording findings using simple scientific language and tables. *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. *identifying differences, similarities or changes related to simple scientific ideas and processes. *using straightforward scientific evidence to answer questions or to support their findings. **Knowledge** *Will understand that all animals need the right types and amounts of nutrition, and they get that from what they eat. *Will know what nutrition comes from different food groups. *Will be able to explain that some animals have skeletons and muscles for support, protection and movement. **Reasoning & Progression** The children will build on the scientific knowledge gained throughout Early years and Class 2 where they have been encouraged to look at animal diets and what animals need to survive. They will look in more depth now at a healthy balanced diet and understand the dietary needs of animals including humans.	**Sound** **Skills** * asking relevant questions and using different types of scientific enquiries to answer them. *making systematic and carful observations. *recording findings using simple scientific language and tables. *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. *identifying differences, similarities or changes related to simple scientific ideas and processes. *using straightforward scientific evidence to answer questions or to support their findings. identify how sounds are made, associating some of them with something vibrating. **Knowledge** *knows that sounds get fainter as the distance from the sound source. * I know how sounds are made. *I know how sound travels. *I know what pitch is and how to change it. **Reasoning & Progression** The children will build on the scientific knowledge gained through gathering and recording data and through inquiries they should now be able to plan themselves, to answer specific questions.	**Electricity** **Skills** *identify common appliances that run on electricity by making systematic observations. *Able to classify a range of appliances by which type of electricity they use. *construct a simple circuit. *identify and name all parts of a circuit. *Predict and test complete and incomplete circuits, with and without switches. *Recognise some conductors and insulators, and associate metals with being good conductors. **Knowledge** *Will understand the key ideas about electricity. *will know how to identify complete and incomplete circuits. *Will know what materials will conduct or insulate electricity and some of their uses. *Will know how switches work and why they are needed. *Demonstrate their understanding of electrical safety and how to use devises safely. *will be able to summarise details about renewable energy. **Reasoning & Progression** The children will build on the scientific knowledge they already have about electrical safety. They will now be able to explain the dangers of electricity and how to stay safe around electricity. **Core Texts**	**States of matter** **Skills** *make systematic observations, and record their findings in a chart. *record their findings using simple scientific language using diagrams and labels. *use straightforward scientific evidence to answer questions or to support their findings. *Can design and carry out an investigation. **Knowledge** *will be able to compare and group materials together, according to whether they are solids, liquids or gasses. *Will be able to observe that some materials change state when they are heated or cooled. *Will be able to measure and record the temperature at which changes happen in degrees Celsius. **Reasoning & Progression** The children will build on knowledge gained from EYFS all the way through to Year 3 where they look at changes in materials. They will now be able to explain those changes and make accurate recordings.

Cross Curricular Links

Computing: Using search engines to research Mary Anning
Geography: volcanoes and igneous rock formation

Cultural Capital

Beach trip to Cocklawburn beach. Fossil hunting. Junior palaeontologists.

Fossil workshop at Hancock museum

Vocabulary

Igneous / sedimentary /metamorphic / natural /man-made /identify / permeable / durable / fossil / palaeontologist

Rocks
End Points

- They will know the three main types of rocks and how they are formed.
- They will be able to explain how fossils are formed.
- They will be able to explain what a palaeontologist is and who Mary Anning is.
- They will be able to explain the four main processes of soil formation.
- Design and carry out an investigation into soil permeability and record their findings.

Core Texts

See inside Your Body-Usborne

Cross Curricular Links

Maths: recording information in a table
Computing: research using computers, iPads and chrome books

Vocabulary

Nutrients / vertebrate / invertebrate / hydrostatic bones / endoskeleton / exoskeleton / bones / muscles / contract / relax / joint / photosynthesis

AIH / skeleton
End Points

- They will be able to group food into an eat-well plate.
- They will know what nutrients different foods provide.
- Know that humans and some other animals have skeletons and muscles for support, protection and movement.
- They will demonstrate understanding of how muscles work.

Core Texts

See inside your body-Usborn

Cross Curricular Links

Maths: recording information in a table
Computing: research using technology. ipads used to record 'science of sound' videos

Vocabulary

Volume / amplitude / loud / quiet / travel / particles / wave / pitch / vibrate / vibration / absorb / soundproofing / soundwave

Sound
End Points

- They will know how sounds are made.
- They will be able to explain how sound travels.
- They will know what pitch is and how to change it.
- They will understand how sound travels different distances depending on the volume of the sound and the medium it needs to travel through.

See inside Science-Usborne

Cross Curricular Links

Computing: Using search engines to research renewable energy
Geography: Looking at renewable energy sources in our local area.
Maths: Using a VEN diagram and other charts to record findings.

Cultural Capital

Torness nuclear power station visit

Vocabulary

Battery / wires / bulbs / circuit / switch/ complete / incomplete / conductor /insulator / renewable energy

Electricity
End Points

- They will know common appliances that run on electricity.
- They will be able to construct a simple electrical circuit and name all the basic parts.
- They will be able to identify complete and incomplete circuits.
- They will understand that a switch makes a circuit incomplete.
- They will be able to recognise some conductors and insulators.

They will recognise some renewable energy sources.

Core texts

See Inside Weather and Climate-Usborne

General Knowledge – Usborne

Cross curricular links

Maths: Recording information in graphs and a pie chart. Using a data logger to check and record temperatures

Vocabulary

Solid / liquid / gas / particles / melt / freeze / properties / evaporation / condensation / water / temperature / weight / precipitation / rain / hail / sleet / snow

States of matter

End points

- They will be able to sort and describe materials.
- They will be able to explain and demonstrate understanding of gasses and their properties.
- They will be able to describe and summarise about different materials as they change state, understanding why they change state.
- They will have an in depth understanding of the water cycle and will be able to demonstrate understanding of all of the stages of the water cycle.