



Scotholme Science

Foundation 2

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Subject- Science



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Threshold Concepts and Milestones

Threshold Concept	Foundation Stage 2	Content
<p><u>Work scientifically</u> This concept involves learning the methodologies of the discipline of science.</p>	<ul style="list-style-type: none"> • Explore and observe using magnifying glasses, tweezers, pipettes, magnets etc. • Sort and classify. • Offer explanations for why things might happen, making use of recently introduced vocabulary from non-fiction.(ELG) • Make simple tally charts. 	<p>Use magnifying glasses to examine nature, texture, materials etc Talk about what you can see.</p> <p>Use pipettes to suck up and squirt water - which pipette squirts the furthest? How many pipettes of water will fill a chosen vessel?</p> <p>Use tweezers to separate a range of small objects. Can you take out the red beads etc. Use tweezers to sort a pile of natural materials into groups.</p> <p>Ask simple choice based questions and record the results as a class tally. What is your favourite colour? Which of these fruits do you like the best? etc</p>

BIOLOGY 1

Understand plants

This concept involves becoming familiar with different types of plants, their structure and reproduction.

- Explore the natural world around them, making observations and drawing pictures the plants life around them.(ELG)
- Plant seeds and observe them growing into plants.
- Look after plants in the EYFS garden developing an understanding of what they need to thrive.

Look up close at plants and flowers.

Draw what you see, take feedback and draw again.

Plant a range of seeds (including mustard and cress) and observe how they grow. What can you see? What do the seeds need to help them grow?

Look after the seedlings when they become plants and can grow outside. Talk about happens each day. Over a week, what has changed? Tell others.

Keep a class plant/seed diary. Draw, write and add photos.

BIOLOGY 2

Understand animals and humans

This concept involves becoming familiar with different types of animals, humans and the life processes they share.

- Explore the world around them, making observations and drawing pictures of animals around them. (ELG)
- Identify and name animals a range of animals that live in contrasting environments.
- Name different body parts through songs and games.
- Match animals to their animal babies and be able to name some.
- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.(ELG)

Draw birds, butterflies etc

Birdwatch in the wooded area and school grounds.

Use binoculars.

Find out about wildlife in the local area and at the allotment.

Read a range of stories about animals who live in different habitats. Why do they live there?

Recreate animal habitats in the sand/water and as a carpet activity for small world play

Build up collections of animals for small world play such as sharks, fish, African animals, farm animals etc. What do we know about these animals? Sort them into groups giving reasons for your choice. Make fact books and share them with others. Find out a fact at home and share it in school. Collect and display facts

<p><u>BIOLOGY 3</u> Investigate living things This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.</p>	<ul style="list-style-type: none"> • Explore the world around them, making observations and drawing pictures of mini-beasts. (ELG) • Identify common mini-beasts such as butterflies, spiders, snails, worms, woodlouse, grasshoppers etc. • Learn about their life cycle. • Identify and classify mini-beast between those that crawl and those that fly. 	<p>Using a range of equipment and look at minibeasts in their natural environment. Draw and label what you can see. Photograph and label. Tell someone about what you notice. Which minibeasts likes to live in which place? Why? Observe the bug hotel - what is happening? Make a minibeast recognition guide. Use it to identify minibeasts you find at the allotment/in school.</p> <p>Sort minibeasts with a range of criteria. Read a selection of books about minibeasts. Talk about what you have discovered.</p> <p>Observe caterpillars turn into butterflies. Create life cycles. Explain them to others. Understand the work of bees and why they are important.</p>
<p><u>BIOLOGY 4</u> Understand evolution and inheritance This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.</p>		<p>How have you changed since you were born? Look at photographs and talk about the changes. How have your parents changed?</p>

<p><u>CHEMISTRY</u> Investigate materials This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</p>	<ul style="list-style-type: none"> • Explore and classify everyday materials: investigating soft and hard, bendy and breakable, stretchy and materials that can be squashed. • Identify different materials in the classroom, around school and in the home (wood, metal, glass, and brick). • Sort and classify man-made and natural materials 	<p>Look at a collection of materials and talk about your observations. Which ones are soft? Which ones can you squash? Which ones feel cold? etc.</p> <p>Experiment with cornflour - what is happening? Tell someone what you can see.</p> <p>Make playdough and talk about how the materials involved have changed. What can you do with playdough?</p> <p>Bake and talk about the changes that are happening.</p> <p>Go on a materials walk around school. What can you see? How could you sort these materials?</p> <p>Walk around the allotment and collect different natural objects. Observe with a magnifying glass. What can you see? Tell someone else.</p> <p>Understand the difference between natural and man-made materials.</p>
<p><u>PHYSICS 1</u> Understand movement, forces and magnets This concept involves understanding what causes motion.</p>	<ul style="list-style-type: none"> • Explore and investigate magnets. • Explore and investigate the effects ramps have to a moving object. 	<p>Play with magnetic resources and magnets. What do you notice?</p> <p>Set up a selection of vehicles and a ramp. What happens if you make the ramp higher? What happens to the vehicle if you lower the ramp? How far can a vehicle travel? Which ramp makes the vehicle travel furthest?</p> <p>Present what you have found out to your friends.</p>

<p>PHYSICS 2 Understand light and seeing This concept involves understanding how light and reflection affect sight.</p>	<ul style="list-style-type: none"> • Explore the difference between dark and light- day and night. • Explore shadows during children's play. • Identify sources that give light. 	<p>Talk about day and night. Read stories that take place at different times of the day. Make a 'timetable' of your day and talk about what happens at each time.</p> <p>Experiment with different torches. What can you see? How are shadows made?</p> <p>Make shadow puppets and try them out. Explain to someone else what is happening to make the shadow.</p> <p>Where can you see light? Make a list of light sources and talk about it.</p>
<p>PHYSICS 3 Investigate sound and hearing This concept involves understanding how sound is produced, how it travels and how it is heard.</p>	<ul style="list-style-type: none"> • Listen to and identify sounds in the environment. • Make recordings and listen to their voice and the voice of their friends. 	<p>Go on sound walks in different places. What can you hear? Make a list.</p> <p>Play a range of instruments - talk about the sound they make and how they make that sound.</p> <p>Record yourself singing, shouting, talking etc</p> <p>Listen to some nature sound/city sound recordings etc etc. Talk about what you can hear.</p>
<p>PHYSICS 4 Understand electrical circuits This concept involves understanding circuits and their role in electrical applications.</p>	<ul style="list-style-type: none"> • Explore and investigate how to make a simple circuit. • Identify the use of electricity in school, the local environment and in the home. 	<p>Using snap circuits, make a bulb light up. Teach a friend how to do it.</p> <p>What is electricity and where do we use it? Make a list of places.</p> <p>Make a collection of objects that use electricity. What can you find in your home? Make a list and share it at school.</p> <p>How do we keep safe around electricity?</p>

PHYSICS 5

Understand the Earth's movement in space

This concept involves understanding what causes seasonal changes, day and night.

- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.(ELG)
- Observe the daily weather and develop vocabulary to describe it.

Make a weather monitoring display and change it every day. Explore all types of weather outside. Record what happens when the seasons change. Look at the outside environment - what is the same and what is different?
USE TIME-LAPSE CAMERA OVER YEAR
Take photographs and label them. Compare them during the year.