

East Lothian 'CFE Science' Framework

Organiser	Planet Earth	Biological Systems
Experiences and Outcomes	<p>I have observed living things in the environment over time and am becoming aware of how they depend on each other. SCN 0-01a</p> <p>I have helped to grow plants and can name their basic parts. I can talk about how they grow and what I need to do to look after them. SCN 0-03a</p> <p>I have experienced, used and described a wide range of toys and common appliances. I can say what makes it go and say what they do when they work. SCN 0-04a</p> <p>By investigating how water can change from one form to another, I can relate my findings to everyday experiences. SCN 0-05a</p> <p>I have experienced the wonder of looking at the vastness of the sky, and can recognise the sun, moon and stars and link them to daily patterns of life. SCN 0-06a</p>	I can identify my senses and use them to explore the world around me. SCN 0-12a
On track in Nursery	<p>a I can explain that some objects and materials are derived from animals or plants that were once living and that to be considered living an object must be able to breathe, reproduce, feed, move, and feel. I can explain that plants and animals depend on each other for food, shelter, pollination, decomposition. I can explain how young animals and humans are dependent on parents.</p> <p>b I can explain how to grow a healthy plant. I can list the different parts of a plant including roots, stem, leaves and flower. I can demonstrate how to grow and care for a plant.</p>	a I can list my 5 senses including see, feel, smell, hear and taste. I can link each body part with each sense. I can discuss these senses in relation to my everyday life.
On track in P1	<p>c I can investigate different toys and appliances through play. I can identify energy sources including batteries, sunlight and wind. I can explain what energy sources produce including heat, light, sound or movement.</p> <p>d I can describe and recognise the 3 states of water including liquid (water), solid (ice), gas (steam). I can discuss melting, freezing and boiling. I can discuss how water is used in my daily life.</p> <p>e I can identify the Sun, moon and stars through safe observation. I can explain why it is darker or lighter in different seasons. I can explain why it is light during the day and dark at night.</p>	
National Benchmarks	<p>a Explores and sorts objects as living, non-living or once living. Describes characteristics of living things and how they depend on each other, for example, animals which depend on plants for food.</p> <p>b Explores, observes and discusses basic needs of plants and what they need to grow including water, heat, sunlight and soil. Demonstrates understanding of how plants grow from seeds.</p> <p>c Ask questions and describes what can 'make things go', for example, batteries, wind-up toys and sunlight. Talks about toys and common appliances and what they do when they work, for example, produce heat, light, movement or sound.</p> <p>d Investigates the different properties of water and shares their findings with others. Talks about water in nature and how it influences their everyday lives. Identifies three main states of water (ice, water and steam) and uses scientific vocabulary such as 'melting', 'freezing' and 'boiling' to describe changes of state.</p> <p>e Describes how the rotation of the Earth in relation to the sun gives us day and night. Talks about how the pattern of night and day changes over the course of a year.</p>	a Identifies specific parts of the body related to each of the senses. Uses their senses to describe the world around them, giving examples of things they see, hear, smell, taste and feel.

Organiser	Forces, Waves and Electricity	Materials
Experiences and Outcomes	<p>Through everyday experiences and play with a variety of toys and other objects, I can recognise simple types of forces and describe their effects. SCN 0-07a</p> <p>I know how to stay safe when using electricity. I have helped to make a display to show the importance of electricity in our daily lives. SCN 0-09a</p> <p>Through play, I have explored a variety of ways of making sounds. SCN 0-11a</p>	Through creative play, I explore different materials and can share my reasoning for selecting materials for different purposes. SCN 0-15a

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On track in Nursery	b	I can discuss how to stay safe when using electricity by identifying common dangers. I can classify items by electricity source including mains, battery and solar. I can create part of a display and explain why electricity is important in my life.		
On track in P1	a	I can identify and discuss push and pull. I can discuss different forces effects including start, stop, slower and faster. I can discuss factors such as how weight and size can affect the movement.	a	I can investigate different types of materials. I can discuss their properties including texture and ability to float. I can explain which materials to use for a variety of purposes including waterproof etc.
	c	I can investigate making different sounds using my voice and objects in my environment. I can describe different sounds including high, low, loud and soft.		
National Benchmarks	a	Explores and sorts toys and objects into groups according to whether they need to be pushed or pulled. Measures, using simple equipment, how the movement of an object is affected by the size of the force or the weight of the object. Demonstrates, through play, how a force can make an object stay still, start to move, speed up, slow down and change shape.	a	Explores and sorts materials into different groups depending on their properties, for example, whether they are strong, smooth, rough and if they float or sink. Justifies the selection of appropriate materials for different uses based on their physical properties.
	b	Groups objects into those which get electricity either from mains electrical sockets or alternative sources, such as batteries and solar cells. Talks about the importance of electricity in their daily lives. Identifies the risks that can be caused by electricity and recognises how to stay safe.		
	c	Predicts, then investigates, ways to make sounds louder and quieter. Identifies different sources of sound.		

Skills				
Experiences and Outcomes	Inquiry and investigative skills	Scientific analytical thinking skills	Skills and attributes of scientifically literate citizens	Topical Sciences
National Benchmarks	<p>Plans and designs scientific investigations and enquiries Explores and observes through play. Asks questions arising from play activities. Makes simple predictions of what might happen. Makes suggestions about what to do to answer the selected question.</p> <p>Carries out practical activities within a variety of learning environments Discusses obvious risks and takes appropriate steps to protect themselves and others. Uses their senses to acquire information. Measures using simple equipment and non-standard units.</p> <p>Analyses, interprets and evaluates scientific findings Presents and sorts data/information, for example, using displays, photographs, simple charts and drawings.</p>	<p>Demonstrates natural curiosity and shows development of basic skills of analysis in simple and familiar contexts, for example, through asking questions, experimenting and making predictions. Demonstrates creative thinking by offering suggestions and solutions to everyday problems. Demonstrates reasoning skills by explaining choices and decisions.</p>	<p>Talks about science, showing developing understanding of risks and benefits, and listens to the views of others. Demonstrates awareness of the importance of respecting living things and the environment and of managing the Earth's resources responsibly. Demonstrates a developing understanding of science in the world around them. Explores the ways in which people use science and science skills as part of their job.</p>	<p>Talks about the science they encounter in their everyday experiences. Explores, through role-play, how science and science skills are used in a variety of jobs</p>

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	<p>Provides oral descriptions of what was done and what happened. Recognises similarities, patterns and differences in the findings and links these to the original question. Discusses, with support, how the experiment might be improved. Relates findings to everyday experiences. Identifies and discusses new knowledge and understanding.</p> <p>Presents scientific findings Communicates findings to others verbally and through drawings, photographs, displays and simple charts. Responds to questions about their investigation.</p>			
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