

Hagley Farm Environment Centre – National Science Curriculum

	<u>Understanding/Human Endeavour</u>	<u>Inquiry Skills</u>	<u>Achievement Standards</u>
F O U N D A T I O N	Living things have basic needs, including food and water. Science involves exploring and observing the world using the senses	Respond to questions about familiar objects and events. Explore and make observations by using the senses	By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things. Students share observations of familiar objects and events.
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
F O U N D A T I O N	<ul style="list-style-type: none"> Animal Feeding/Tractor Ride 	Feed, observe and handle (where appropriate) a variety of farm animals. Discuss the various sounds made by animals and observe features of a variety of farm animals.	Draw and label pictures of animals seen during visit to Hagley. Investigate animal produce e.g. milk, wool.

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G R A D E 1	<p>Living things have a variety of external features.</p> <p>Living things live in different places where their needs are met.</p> <p>People use science in their daily lives, including when caring for their environment and living things.</p>	<p>Respond to and pose questions, and make predictions about familiar objects and events.</p> <p>Use a range of methods to sort information, including drawings and provided tables.</p> <p>Compare observations with those of others.</p>	<p>By the end of Year 1, students describe objects and events that they encounter in their everyday lives. They identify a range of habitats. They describe changes to things in their local environment and suggest how science helps people care for environments.</p> <p>They follow instructions to record and sort their observations and share their observations with others.</p>
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 1	<ul style="list-style-type: none"> Animal Feeding/Tractor Ride 	<p>Feed, observe and handle (where appropriate) a variety of farm animals. Discuss differences in body coverings, feet, bills, beaks etc. Investigate animal shelters and observe differences in these.</p>	<p>Children design and present posters with pictures of animals in categories e.g. feathers, fur, fins</p>

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G R A D E 2	<p>Living things grow, change and have offspring similar to themselves.</p> <p>Earth's resources, including water, are used in a variety of ways.</p> <p>People use science in their daily lives, including when caring for their environment and living things.</p>	<p>Respond to and pose questions, and make predictions about familiar objects and events.</p> <p>Compare observations with those of others.</p>	<p>By the end of Year 2, students describe changes to living things.</p> <p>They follow instructions to record and represent their observations and communicate their ideas to others.</p>
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 2	<ul style="list-style-type: none"> • Animal Feeding/Tractor Ride • Pond/Water Study 	<p>Feed, observe and handle (where appropriate) a variety of farm animals. Observe animals and their babies (seasonal) Discuss animal care.</p> <p>Discuss farm water use. Investigate use of dams, irrigation, water troughs.</p>	<p>Make lists of animals, their young and gestation periods and compare. Incubate and raise chickens in the classroom. Measure and observe chick's growth.</p> <p>Investigate and record water usage at school/in the home. How much water do we use in a day?</p>

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G R A D E 3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things. Science involves making predictions and describing patterns and relationships.	Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends Suggest ways to plan and conduct investigations to find answers to questions.	By the end of Year 3, students describe features common to living things. They use diagrams and other representations to communicate their ideas.
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 3	<ul style="list-style-type: none"> • Farm Study/Tractor Ride • Animal Feeding • Poultry Study • Dairy Study 	Discuss and list domesticated and non domesticated animals. Observe, discuss and classify farm animals. Investigate types of poultry and identify mammals and their features.	Design and create posters identifying domestic/nondomestic, mammals/nonmammals, vertebrates/invertebrates etc

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G R A D E 4	Living things have life cycles. Living things, including plants and animals, depend on each other and the environment to survive.	With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge. Safely use appropriate materials, tools or equipment to make and record observations.	By the end of Year 4, students describe relationships that assist the survival of living things and sequence key stages in the life cycle of a plant or animal. Students suggest explanations for observations and compare their findings with their predictions.
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 4	<ul style="list-style-type: none"> • Pond Study • Mixed Farm Study • Poultry Study • Dairy Study • Sheep Study 	<p>Predict what might be found in the Farm Dam. Collect insects and water creatures and investigate life cycles.</p> <p>Investigate ways in which animals and crops are cared for and ways in which they contribute to the farm. Discuss aspects such as: shelter, feeding, health care etc.</p>	<p>Research and present information on the life cycles of animals eg frogs butterflies</p> <p>Grow broad beans, radishes in the classroom. Record position in relation to light, watering, soil type, temperature etc. Change variables and predict their effect on plant growth.</p>

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G R A D E 5	<p>Living things have structural features and adaptations that help them to survive in their environment.</p> <p>Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena.</p> <p>Solids, liquids and gases have different observable properties and behave in different ways</p>	<p>With guidance, plan appropriate investigation methods to answer questions or solve problems.</p> <p>Use equipment and materials safely, identifying potential risks.</p>	<p>By the end of Year 5, students analyse how the form of living things enables them to function in their environments.</p> <p>They use equipment in ways that are safe.</p>
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 5	<ul style="list-style-type: none"> • Mixed Farm Study • Poultry Study • Dairy Study • Sheep Study • Cottage Industries 	<p>Investigate how animals and plants have changed or been changed over time in order to increase production.</p> <p>Observe changes of melting and solidifying, separating solids from liquids in candle and butter making.</p>	<p>Investigate differences between types of animals within a breed e.g. Dairy cows – Jersey, Friesian/Holstein, Ayrshires and Beef cows – Angus, Brahman, Wagyu.</p> <p>Pose questions concerning the burning rates of candles. Conduct scientific investigation to inform solutions.</p>

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G R A D E 6	<p>The growth and survival of living things are affected by the physical conditions of their environment.</p> <p>Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives.</p> <p>Changes to materials can be reversible, such as melting, freezing, evaporating; or irreversible, such as burning and rusting</p>	<p>With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be.</p> <p>Use equipment and materials safely, identifying potential risks.</p>	<p>By the end of Year 6, students describe and predict the effect of environmental changes on individual living things.</p>
	<u>Activity</u>	<u>Investigation</u>	<u>Follow-up</u>
G R A D E 6	<ul style="list-style-type: none"> • Mixed Farm Study • Poultry Study • Dairy Study • Sheep Study • Cottage Industries • Activity Museum • Agricultural Museum 	<p>Investigate requirements for best growth and production from crops and animals. Soil and water testing may be included by request.</p> <p>Observe changes of melting and solidifying, separating solids from liquids in candle and butter making.</p> <p>Explore the ways in which household and agricultural implements have changed over time in order to make life easier.</p>	<p>Grow grass seed and compare differences between; fertilised/not fertilised, tap water, salt water, sugar water.</p> <p>Investigate chemical change and its ability to be reversed ie melting chocolate, dissolving salt in warm water, setting jelly.</p> <p>Research inventors and inventions which have changed everyday life.</p>

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Hagley Environment Centre Activities

Mixed Farm

Topics covered include - animals, crop & soil management, water usage, fencing, farm machinery, economic aspects of farming, animal reproduction and babies (seasonal).

A farm walk and/or trailer ride is included.

Dairy

Observation of the dairy herd. Breeds of dairy cows, machinery, milk products, economics, life cycles, feeding and a visit to the dairy. Calving takes place throughout August.

Sheep

Observation of our flock. Deals with different breeds of sheep, flock management, facts about wool and aspects of a small shearing shed. Lambing takes place during August. Shearing takes place late spring/summer.

Poultry

Students will study our free range poultry operation including life cycles, egg collection, packaging and marketing.

Cottage Industries

Each student participates in bread, butter and candle making. They will also have a turn at spinning wool.

Pondlife

Children will catch & identify a variety of pondlife from a farm dam, as part of a waterwatch study. This will include a discussion on frogs.

Activity Museum

In this museum students will discover numerous household items from previous eras. Some of the practical activities will include using washboards, a mangle then flat irons, grinding wheat to make damper or scones in our wood-fired stove, dressing up and role-plays.

Agricultural Museum

Machinery, harnesses, tools and implements used in the district years ago are handled by the children. Technological progress is investigated.