



Year 2 Science Curriculum

WORKING SCIENTIFICALLY	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT ask simple questions	With the support of a teacher, simple questions can be asked, using: How? What will happen if? Why? With the support of a teacher, questions can be sorted into those that can be answered by trying them out and those that cannot.	Generally, simple questions are asked. Generally, questions that can be tested can be asked. Generally, questions can be sorted into those that can be answered by trying it out and those that cannot.	Without support, simple questions are asked. Questions that lead to scientific enquiry are asked independently.
	L.O. TBAT observe closely, using simple equipment	With the support of a teacher, close observations are made and instructions are followed for using simple equipment correctly and safely. Generally, close observations are made, equipment is chosen from a limited range and simple equipment is used correctly.	Close observations are made over time, using simple equipment.	Without support, an explanation can be given as to why something has happened, using appropriate scientific vocabulary. Close observations are made independently, using simple equipment.
	L.O. TBAT perform simple tests.	With the support of a teacher, simple tests are performed.	Generally, simple tests are performed.	More complex tests, such as fair tests, are beginning to be performed.
	L.O. TBAT identify and classify	With the support of a teacher, there is an ability to classify.	Generally, there is an ability to classify.	There is an ability to independently classify using more complicated taxonomies, etc.
	L.O. TBAT use observations and ideas to suggest answers to questions	With the support of a teacher, observations and ideas are used to suggest 'why' something has happened and to answer questions. With guidance, some measurements of what is observed occur. These observations are non-standard, e.g. loud, quiet, short, long.	Observations and ideas are used to suggest answers to questions, using appropriate vocabulary. Generally, systematic observations and measurements of what is observed are made using appropriate vocabulary.	Observations and ideas are used to suggest answers to questions independently. Without support, systematic observations and measurements of what is observed are made.
	L.O. TBAT gather and record data to help in answering questions.	With support, data is gathered and recorded to help in answering questions; drawings and tables are used to show evidence.	Generally, observations are recorded using ICT and on paper, using text drawings and labelled diagrams. Generally, data is gathered and recorded to help in answering questions. Prepared tables and block graphs are generally used to help record data. Secondary sources are used to find evidence.	Observations are recorded independently using ICT and on paper, using text, drawings and labelled diagrams. Prepared tables and block graphs are used to present information without support. Independently, data is gathered and recorded to help in answering questions.

Notes and guidance (non-statutory)

Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers.

They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.

These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end of year 2. Pupils are not expected to cover each aspect for every area of study.

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LIVING THINGS AND THEIR HABITATS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT explore and compare the differences between things that are living, dead, and things that have never been alive	With the support of a teacher, the differences between things that are living, that are dead and that have never been alive are described.	Generally, the differences between things that are living, that are dead and that have never been alive are explored and compared.	The differences between things that are living, that are dead and that have never been alive are explored and compared.
	L.O. TBAT identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other	With the support of a teacher, the fact that living things live in habitats is identified. There are the beginnings of an understanding of how different habitats provide for the basic needs of different kinds of animals and plants, e.g. the desert is the habitat for cacti and camels (living things that can store water for an amount of time).	Generally, the fact that most living things live in habitats to which they are suited is identified. Generally, the way in which different habitats provide for the basic needs of different kinds of animals and plants is described, e.g. rainforest, coral reefs and the tundra are all habitats where particular kinds of plants and animals might be found.	The fact that most living things live in habitats to which they are suited is independently identified. Without support, the way in which different habitats provide for the basic needs of different kinds of animals and plants is described, e.g. rainforest, coral reefs and the tundra are all habitats where particular kinds of plants and animals might be found.
	L.O. TBAT identify and name a variety of plants and animals in their habitats, including microhabitats	With the support of a teacher, plants and animals are named. There is some awareness of animal habitats.	Generally, plants and animals are identified and named. Animals' habitats are identified and described.	Without prompts, a variety of plants and animals are named and described. Animals habitats are identified, described and there is an awareness of why habitats are suitable for an animal.
	L.O. TBAT describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	With the support of a teacher, simple food chains are described.	Generally, simple food chains are described.	Simple food chains are described and explained.

Notes and guidance (non-statutory)

Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'micro-habitat' (a very small habitat, for example for woodlice under stones, logs or leaf litter).

They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals. Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.

Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions. They could construct a simple food chain that includes humans (e.g. grass, cow, human). They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.

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ANIMALS INCLUDING HUMANS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT <i>identify how humans resemble their parents in many features.</i>	With support, common features between offspring and their parents are described.	The way in which humans resemble their parents in many features is identified and described.	Without support, the way in which humans resemble their parents in many features is identified and described.
	L.O. TBAT explain that animals, including humans, have offspring which grow into adults.	With prompts, there is an awareness that animals have offspring which grow into adults.	The changes as young animals, including humans growing into adults are described. [The changes as young animals, including humans growing into adults are described well using scientific vocabulary.
	L.O. TBAT investigate and describe the basic needs of animals, including humans, for survival (water, food and air)	With support, the basic needs of animals, including humans, for survival are described.	The basic needs of animals, including humans, for survival are investigated and described.	The basic needs of animals, including humans, for survival are investigated and described independently.
	L.O. TBAT describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	With the support of a teacher, the importance for humans of exercise, hygiene and diet is described.	Generally, the importance for humans of exercise, eating the right amounts of different types of food and hygiene is described.	Without support, the importance for humans of exercise, eating the right amounts of different types of food and hygiene is described.

Notes and guidance (non-statutory)

Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs. Science – key stages 1 and 2 12
Notes and guidance (non-statutory)

The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.

Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.

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PLANTS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT observe and describe how seeds and bulbs grow into mature plants	Observations are made of how seeds and bulbs grow into mature plants and, with support, this process can be described.	Generally, observations are made and descriptions are given of how seeds and bulbs grow into mature plants.	Without support, observations are made and descriptions are given of how seeds and bulbs grow into mature plants.
	L.O. TBAT investigate and describe how plants need water, light and a suitable temperature to grow and stay healthy	With support, the basic conditions required for plants to survive (food, water, air, warmth and light) are described.	The conditions required for plants to grow and stay healthy (food, water, air, warmth and light) are identified and described.	Without support, the conditions required for plants to grow and stay healthy (food, water, air, warmth and light) are identified and described. Explanations are beginning to be offered for changes in living things, e.g. light or water altering plant growth.

Notes and guidance (non-statutory)

Pupils should use the local environment throughout the year to observe how different plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.

Note: Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them.

Pupils might work scientifically by: observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.

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USES OF EVERYDAY MATERIALS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	With support, the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock and paper/cardboard, can be identified.	The uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock and paper/cardboard, are identified and compared.	Without support, the uses of a variety of everyday materials including wood, metal, plastic, glass, brick/rock and paper/cardboard are identified and compared.
L.O. TBAT investigate how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	With the support of a teacher, there is an ability to find out how the shapes of solid objects made from some materials can be changed.	Generally, there is an ability to find out how the shapes of solid objects made from some materials can be changed.	There is an ability to independently find out how the shapes of solid objects made from some materials can be changed.	

Notes and guidance (non-statutory)

Pupils should identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass).

They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.

Pupils might work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, and recording their observations.

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FORCES	NC Objective/Milestone	Basic	Advancing	Deep
	L.O.TBAT notice and describe how things move using simple comparisons such as faster and slower	With the support of a teacher, there is an awareness of how things move, using simple comparisons such as faster and slower.	Generally, there is an awareness of the way in which things move, using simple comparisons such as faster and slower.	Without support, there is an awareness of the way in which things move, using more complex comparisons such as push and pull.
	L.O. TBAT compare how different things move.	The way in which different things move is beginning to be compared.	The way in which different things move is compared.	The way in which different things move is compared independently.

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ELECTRICITY	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT identify common appliances that run on electricity.	With the support of a teacher, common appliances that run on electricity are identified.	Generally, common appliances that run on electricity are identified.	Common appliances that run on electricity are identified independently.