



# Year 1 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.

## YEAR 1 Science Curriculum

PLANTS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.	With the support of a teacher, a variety of common plants and trees are identified and named. With the support of a teacher, plants and trees can be classified as deciduous and evergreen.	Generally, a variety of common plants and trees and those classified as deciduous and evergreen are identified and named.	Without support, a variety of common plants and trees and those classified as deciduous and evergreen are identified and named.
	L.O. TBAT identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.	With support, the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers, is identified and described.	The basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers, is identified and described	The basic structure of a variety of common flowering plants, including roots, stem/ trunk, leaves and flowers, is identified and described independently.

### Notes and guidance (non-statutory)

Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted.

They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem).

**Pupils might work scientifically by:** observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees. Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.

## Year 1 Science Curriculum

ANIMALS INCLUDING HUMANS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	With support, some common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates are identified and named.	Generally, some common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates are identified and named. Generally, living things can be sorted into groups with justification as to why they have been placed into these groups.	Common animals are classified as birds, fish, amphibians, reptiles, mammals and invertebrates independently.
	L.O. TBAT identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Generally, a variety of common animals that are carnivores, herbivores and omnivores are identified and, with the support of a teacher, these animals are named.	A variety of common animals that are carnivores, herbivores and omnivores are identified and named.	A variety of common animals that are carnivores, herbivores and omnivores are independently and confidently identified and named.
	L.O. TBAT describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	With the support of a teacher, the structure of a variety of common animals is described.	Generally, the structure of a variety of common animals, e.g. spine, tail, fur, wings, is described. These structures can then be compared.	The structure of a variety of common animals is described independently. These structures are then compared and reasons for their differences are suggested.
	L.O. TABT identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	With the support of a teacher, the basic parts of the human body are recognised and named. With support, the part of the body associated with each sense can be identified.	The basic parts of the human body are identified, named, drawn and labelled. The part of the body associated with each sense is identified.	Parts of the human body are identified, named, drawn and labelled independently. The part of the body associated with each sense is identified.

### Notes and guidance (non-statutory)

Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.

Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.

**Pupils might work scientifically by:** using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

## Year 1 Science Curriculum

EVERYDAY MATERIALS	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT distinguish between an object and the material from which it is made	With the support of a teacher, there is the ability to distinguish between an object and the material from which it is made, e.g. a window is made from glass, a bottle is made from plastic.	Generally, there is an ability to distinguish between an object and the material from which it is made, with some corrections if needed.	There is an ability independently to distinguish between an object and the material from which it is made.
	L.O. TBAT identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock	With support, a variety of everyday materials are identified and named.	Generally, a variety of everyday materials are identified and named.	A variety of materials are independently identified, named and compared.
	L.O. TBAT describe the simple physical properties of a variety of everyday materials	With support, the simplest physical properties, e.g. strength, flexibility and transparency, of a variety of everyday materials can be described.	The simple physical properties, e.g. strength, flexibility and transparency, of a variety of everyday materials are described.	The simple physical properties of a variety of everyday materials are described. More complex physical properties of a variety of materials, e.g. waterproof, rigid, magnetic, hard, conductor, insulator, absorbent, are beginning to be described.
	L.O. TBAT compare and group together a variety of everyday materials on the basis of their simple physical properties.	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.

### Notes and guidance (non-statutory)

Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.

Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.

**Pupils might work scientifically by:** performing simple tests to explore questions, for example: ‘What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast’s leotard?’

## Year 1 Science Curriculum

SEASONAL CHANGES	NC Objective/Milestone	Basic	Advancing	Deep
	L.O. TBAT observe changes across the four seasons	With the support of a teacher, simple changes across the four seasons are observed.	Changes across the four seasons are observed and discussed.	The changes across the four seasons are observed and discussed independently, and a clear explanation can be given as to how the four seasons in the UK occur.
	L.O. TBAT observe and describe weather associated with the seasons and how day length varies.	With the support of a teacher, the weather associated with the seasons and the variation in day length is observed and described	Generally, the weather associated with the seasons and the variation in day length is observed and described.	Without support, the weather associated with the seasons and the variation in day length is observed and described.
	L.O. TBAT <i>observe the apparent movement of the Sun during the day.</i>	With the support of a teacher, the apparent movement of the Sun during the day is observed.	Generally, the apparent movement of the Sun during the day and the way in which shadows change as this happens is observed.	Without support, the apparent movement of the Sun during the day is observed and a clear explanation can be given as to how shadows change as this happens.

### Notes and guidance (non-statutory)

Pupils should observe and talk about changes in the weather and the seasons.

Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.

**Pupils might work scientifically by:** making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.