

# Key Stage 1

## Year A

### Everyday Materials



ORANGE TEXT = OBJECTIVES IN END OF KS1 TEACHERS ASSESSMENT FRAMEWORK

Pupils should be taught to (Y1)

- ↳ distinguish between an object and the material from which it is made
- ↳ identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- ↳ describe the simple physical properties of a variety of everyday materials
- ↳ Compare and group together a variety of everyday materials on the basis of their simple physical properties.

#### Prior learning **YEAR B learning**

- Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)
- Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)
- Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)
- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **Y2 Year B**
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Y2 YB**

#### Future learning

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **Y2 Year B**
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Y2 YB**
- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks)
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)
- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials)
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials)

#### Vocabulary

Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard,

#### Common Misconceptions

Some children may think:

- only fabrics are materials
- only building materials are materials

soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through

- only writing materials are materials
- the word 'rock' describes an object rather than a material
- 'solid' is another word for hard.

### **Scientists**

William Addis - Toothbrush Inventor

Charles Mackintosh - Waterproof coat Standing on the shoulders of giants PTTS resource

John MacAdam- roads

Chester Greenwood-Earmuffs

### **National Curriculum additional Notes Y1**

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?'

# Key Stage 1

## Year A

### Plants



ORANGE TEXT = OBJECTIVES IN END OF KS1 TEACHERS ASSESSMENT FRAMEWORK

Pupils should be taught to Y1

- ↻ identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- ↻ identify and describe the basic structure of a variety of common flowering plants, including trees.

Pupils should be taught to Y2

- ↻ observe and describe how seeds and bulbs grow into mature plants
- ↻ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

#### Prior learning **YEAR B learning**

- Plant seeds and care for growing plants. (Nursery – Plants)
- Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants)
- Begin to understand the need to respect and care for the natural environment and all living things. (Nursery – Plants)
- Explore the natural world around them. (Reception – Living things and their habitats)
- Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)

#### Future learning

- Identify and name a variety of plants and animals in their habitats, including microhabitats. (Follow on Year A unit habitats and food chains)
- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. (Y3 - Plants)
- Investigate the way in which water is transported within plants. (Y3 - Plants)

#### Vocabulary

Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud  
Names of trees in the local area  
Names of garden and wild flowering plants in the local area

#### Common Misconceptions

Some children may think:

- plants are flowering plants grown in pots with coloured petals and leaves and a stem
- trees are not plants
- all leaves are green
- all stems are green
- a trunk is not a stem
- blossom is not a flower.

#### Scientists

Beatrix Potter - Author & Botanist

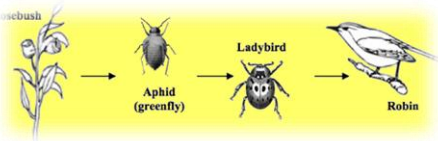
Captain Cook- Botanist  
Agnes Arber - Botanist  
Alan Titchmarsh- Botanist & Gardener

**National Curriculum additional Notes Y1** 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.

**National Curriculum additional Notes Y2** 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.

Key Stage 1

Year A



## Habitats including food chains Y2

ORANGE TEXT = OBJECTIVES IN END OF KS1 TEACHERS ASSESSMENT FRAMEWORK

Pupils should be taught to Y2

- ↻ explore and compare the differences between things that are living, dead, and things that have never been alive
- ↻ 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
- ↻ identify and name a variety of plants and animals in their habitats, including micro-habitats
- ↻ 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.

### Prior learning **YEAR B** learning

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (YA previous unit - Plants)
- Identify and describe the basic structure of a variety of common flowering plants, including trees. (YA previous unit - Plants)
- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (YB - Animals including humans)
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (YB – Animals)
- Observe changes across the four seasons. (YA and B - Seasonal changes)

### Future learning

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (YB - Animals)
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (YB - Animals)
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (YB – Animals)
- Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)
- Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)
- Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)

**Vocabulary**

- Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed
- Names of local habitats e.g. pond, woodland etc.
- Names of micro-habitats e.g. under logs, in bushes etc.

**Common Misconceptions**

Some children may think:

- an animal's habitat is like its 'home'
- plants and seeds are not alive as they cannot be seen to move
- fire is living
- arrows in a food chain mean 'eats'.

**Scientists**

Rachel Carson- Marine Pollution  
Liz Bonnin Conservationist

**National Curriculum additional Notes Y2**

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.

# Key Stage 1

## Year A/B

### Seasonal Changes



ORANGE TEXT = OBJECTIVES IN END OF KS1 TEACHERS ASSESSMENT FRAMEWORK

TAUGHT OVER YEAR A AND B

Pupils should be taught to Y1

- ↳ observe changes across the four seasons
- ↳ observe and describe weather associated with the seasons and how day length varies.

TAF : Describe seasonal changes

#### Prior learning

- Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants & Animals, excluding humans)
- Explore the natural world around them. (Reception – Seasonal changes)
- Describe what they see, hear and feel whilst outside. (Reception – Seasonal changes)
- Understand the effect of changing seasons on the natural world around them. (Reception – Seasonal changes)

#### Future learning

- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light)
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. (Y5 - Earth and space)
- The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. (KS3)

#### Vocabulary

- Weather (sunny, rainy, windy, snowy etc.)
- Seasons (winter, summer, spring, autumn)
- Sun, sunrise, sunset, day length

#### Common Misconceptions

- Some children may think:
- it always snows in winter
  - it is always sunny in the summer
  - there are only flowers in spring and summer
  - it rains most in the winter.

#### Scientists

Dr Steve Lyons (Extreme Weather)  
Holly Green (Meteorologist)

#### **National Curriculum additional Notes Y1**

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.

Key Stage 1

Year A

**Forces exploration unit**  
**(Non-statutory)**



Discovery Dog – Shopping Shambles

Problem Pup – Floating Frogs

Tom Robson – Force and Fun

**Working Scientifically KS1**

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.



# Key Stage 1 Year A

## **Light exploration unit** **(Non-statutory)**



Discovery Dog – Disappearing Dog and Discovery in the Dark

Problem Pup – Scary Shadows

Tom Robson – Lively Light

### **Working Scientifically KS1**

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.