Science in Year 2

Living things and their habitats - Autumn 1
(Living, dead and a different habitats)

National Curriculum statutory requirements:

- 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 microhabitats
- 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.

Observations throughout the year.

- Pupils should use the local environment throughout the year to observe how different plants grow over time.

Working scientifically statutory requirements:	
- ask more complex questions and look at different points of view. -make refined observations through use of equipment. -observe, identify, classify, compare and describe. -use observations and ideas to suggest a variety of answers.	-perform simple tests with increasing independence and confidence. -gather and record data to answer questions confidently. -talk about what they found out and how they found it out. -suggest simple changes to the investigation. 5 types of scientific enquiry: Pattern seeking, research, observations over time, identifying & classifying, comparative and fair testing.

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/ animals within their habitat and observe how living things depend on each other, e.g. 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, e.g. 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 never alive and recording 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.

Vocabulary

Dead alive living never been alive rock leaves birds animals breathing moving still organisms

Science in Year 2

Uses of Everyday Materials - Autumn 2
(Suitability & changing shape)

National Curriculum statutory requirements:

-identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
-find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Working scientifically statutory requirements:

- ask more complex questions and look at different points of view.
-make refined observations through use of equipment.
-observe, identify, classify, compare and describe.
-use observations and ideas to suggest a variety of answers.
-grouping, sorting and classifying
-perform simple tests with increasing independence and confidence.
-gather and record data accurately to answer questions confidently.
-talk about what they found out, how they found it out and suggest simple changes to the investigation.
5 types of scientific enquiry: Pattern seeking, research, observations over time, identifying & classifying, comparative and fair testing.

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.

Vocabulary

Materials, metal, wood, plastic, glass, brick, rock, paper, cardboard, change, squash, squashing, bend, bending, twist, twisting, stretch, stretching, recycle, recycling, reuse, landfill site, environment, recycling depot, shredded, melted, pellets, raw materials, natural, man-made, inventor, invention, pneumatic system

Science in Year 2

Animals including Humans – Spring 1
(Offspring, basic needs, exercise, food and hygiene)

National Curriculum statutory requirements:

-find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
-describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Observations throughout the year.
-Pupils should use the local environment throughout the year to observe how different plants grow over time.

Working scientifically statutory requirements:

- ask more complex questions and look at different points of view.
-make refined observations through use of equipment.
-observe, identify, classify, compare and describe.
-use observations and ideas to suggest a variety of answers.
-grouping, sorting and classifying
-perform simple tests with increasing independence and confidence.
-gather and record data accurately to answer questions confidently.
-talk about what they found out, how they found it out and suggest simple changes to the investigation.
5 types of scientific enquiry: Pattern seeking, research, observations over time, identifying & classifying, comparative and fair testing.

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.
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.

Vocabulary
humans survival oxygen carbon dioxide nutrition meat vegetables reproduction survival oxygen carbon dioxide nutrition food groups healthy nutrition bread, cereals and potatoes fruits and vegetables meat and fish milk and dairy fats and sugars balanced

Science in Year 2

Animals including Humans – Spring 2
(Offspring, basic needs, exercise, food and hygiene)

National Curriculum statutory requirements:

-notice that animals, including humans, have offspring which grow into adults
-find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
-describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Observations throughout the year.
-Pupils should use the local environment throughout the year to observe how different plants grow over time.

Working scientifically statutory requirements:

- ask more complex questions and look at different points of view.
-make refined observations through use of equipment.
-observe, identify, classify, compare and describe.
-use observations and ideas to suggest a variety of answers.
-grouping, sorting and classifying
-perform simple tests with increasing independence and confidence.
-gather and record data accurately to answer questions confidently.
-talk about what they found out, how they found it out and suggest simple changes to the investigation.
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Vocabulary
humans survival oxygen carbon dioxide nutrition meat vegetables reproduction survival oxygen carbon dioxide nutrition food groups healthy nutrition bread cereals and potatoes fruits and vegetables meat and fish milk and dairy fats and sugars balanced

Science in Year 2

Plants - Summer 1
(Seeds and bulbs)

National Curriculum statutory requirements:

-Observe and describe how seeds and bulbs grow into mature plants
Observations throughout the year.

-Pupils should use the local environment throughout the year to observe how different plants grow over time.

Working scientifically statutory requirements:

- ask more complex questions and look at different points of view.
-make refined observations through use of equipment.
-observe, identify, classify, compare and describe.
-use observations and ideas to suggest a variety of answers.
-group, sort and classify.
-perform simple tests with increasing independence and confidence.
-gather and record data accurately to answer questions confidently.
-talk about what they found out, how they found it out and suggest simple changes to the investigation.
5 types of scientific enquiry: Pattern seeking, research, observations over time, identifying & classifying, comparative and fair testing.

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.

Vocabulary

bulbs food storage flower roots hyacinth daffodil grow growth taller wider soil plants seeds cress beans growth water light bulbs healthy temperature plants colder damper sunshine less more sunlight darker lighter mint herb basil curry plant parsley rose

Science in Year 2

Plants - Summer 2
(Seeds and bulbs)

National Curriculum statutory requirements:

- 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.

Observations throughout the year.
- Pupils should use the local environment throughout the year to observe how different plants grow over time.

Working rcientifically statutory requirements:

- ask more complex questions and look at different points of view.
-make refined observations through use of equipment.
-observe, identify, classify, compare and describe.
-use observations and ideas to suggest a variety of answers.
-grouping, sorting and classifying
-perform simple tests with increasing independence and confidence.
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Vocabulary
Sees bulbs growth roots germination stem leaves mature plants flowering plants grass trees bushes weeds trunk
Reproduce reproduction flower grow seeds pollen insects bees nectar bright colour scent pollination pollinate petals
Light water sunlight natural light moisture soil nutrients temperature suitable temperature warm cold hot freezing chilly stem root leaf leaves flower