DOWN AMPNEY PRIMARY SCHOOL

Term 5
Unit Overview: UKS2 Science
Living things and their habitats

National Curriculum Objectives

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.
- Give reasons for classifying plants and animals based on specific characteristics.

Working Scientifically Skills: Enquiry type focus

- Fair Test: How does the temperature affect how much gas is produced by yeast?
- Identifying and classifying: How would you make a classification key for vertebrates/invertebrates or microorganisms?
- Observation over time: What happens to a piece of bread if you leave it on the windowsill for two weeks?
- Pattern seeking: Do all flowers have the same number of petals?
- Research: What do different types of microorganisms do? Are they always harmful?

Prior learning

Substantive knowledge

- Know that living things can be formally grouped according to characteristics.
- Know that plants and animals are two main groups but there are other livings things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms.
- Know that plants can make their own food whereas animals cannot.
- Know that animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates). Vertebrates can be divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics. Invertebrates can be divided into a number of groups, including insects, spiders, snails and worms.
- Know that plants can be divided broadly into two main groups: flowering plants; and non-flowering plants.

Vocabulary

Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering, classification, kingdom, phylum, order, species, biodiversity, variety, species, environment, virus, bacteria, decay, taxonomy, classify, classification, organism, Carl Linneaus

Phonics / polysyllabic words

characteristic
microorganism
pasteurisation

Reading support

- Word mats
- Scaffolded recording / choice of recording
- Pre teaching of vocab

DOWN AMPNEY PRIMARY SCHOOL

Term 5
Unit Overview: UKS2 Science
Living things and their habitats

- 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)
- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats)
- Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)

Future learning

- Differences between species. (KS3)

Disciplinary knowledge

- Use classification materials to identify unknown plants and animals.
- Create classification keys for plants and animals.
- Give a number of characteristics that explain why an animal belongs to a particular group.
- Use secondary sources to learn about the formal classification system devised by Carl Linnaeus and why it is important.
- Classify plants and animals, presenting this in a range of ways e.g. Venn diagrams, Carroll diagrams and keys

British Values

- Democracy Take the views and opinions of others into account. Take turns and instructions from others.
- The rule of law Understand the importance of safety rules when working scientifically make choices when planning an investigation as others may have different points of view as to where to start.
- Tolerance Scientific discoveries have come from other cultures and religious beliefs often compete with scientific understanding.
- Mutual respect Work as a team, discuss findings and 0ffer support and advice to others.

Extension deeper thinking

- Research and explain the impact of Carl Linnaeus' work.
- Which groups could the duck billed platypus belong to and why?
- What is an axolotl? What group does it belong to
- Research bacteria and the effects on our bodies (e.g. bacterial drinks like Yakult and Actimel).
- How can we preserve food? How was it preserved in the past?
- Research sterilisation. Why do babies' bottles get sterilised, needles for injections, dental equipment? Why are gloves and masks worn by dentists?
- Research how Louis Pasteur and Alexander Fleming have an impact on our lives today

Key People

- Louis Pasteur
- Microbiologist & Science Communicator – Nazifa Tabassum
- Ecological Entomologist – Ben Woodcock
- Carl Linneus
- Aristotle

DOWN AMPNEY PRIMARY SCHOOL

Term 5
Unit Overview: UKS2 Science
Living things and their habitats

Possible misconceptions	Christian Values
Some children may think: ❖ all micro-organisms are harmful ❖ mushrooms are plants.	Courage ❖ Ask our own questions to support our own understanding of the world and understand that sharing ideas, data, and results (for further testing and development by others) is a key principle of the scientific method. Respect ❖ Supporting other's ideas, even if they differ to our own. ❖ Explore and celebrate research and developments that take place in many different cultures, both past and present. ❖ Explore how scientific discoveries have shaped the beliefs, cultures and politics of the modern world. Trust ❖ Celebrate everyone's unique ideas and working together collaboratively.