

## Cycle A Autumn

## Topic title: Nature Detectives EYFS / KS1

Substantive concepts (themes)

MRS GREN; photosynthesis; adaptation; classification; reproduction

Procedural concepts (skills)

Ask simple questions; observe closely, use simple equipment; perform simple tests; identify and classify; using their observations and ideas to suggest answers to questions; gather and record data to help in answering questions.

**NC Objectives**

Key knowledge and vocabulary

**Science**

Know that **plants** and **animals** are **living organisms**. Know that plants and animals require certain things to survive.

**Understanding the World (EYFS)**

- Know similarities and differences in relation to places, objects, materials and living things.
- Talk about features of their own immediate environment and how environments might vary from one another.
- Make observations of animals and plants and explain why some things occur, and talk about changes.

Know that a **habitat** is a place where living things, such as animals and plants, can find all of the things they need to survive. Some habitats are large, like the ocean, and some are very small, such as under a log (**microhabitats**).

Know that plants are vital for many reasons; such as providing food, giving oxygen, creating habitats for animals and providing nutrients for the soil.

Know the names of some common garden plants (**poppy, rose**) and the names of some common wild plants (**daisy, dandelion, nettle**).

Know that **flowers** are seed-bearing plants. Know the basic structure of a variety of common flowering plants. Identify the **roots, leaves, stem, flower, petal**. Know the life cycle of a **bean: seed, germination, leaf growth** and **flowering**. Understand how bulbs and seeds grow.

**Plants (Year 1)**

- 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

Know what **evergreen** and **deciduous** trees are. Deciduous trees lose their leaves in the autumn every year. Their leaves are generally broad, flat and have veins running through them. Evergreen trees have green leaves all year round. Their leaves are generally thick, waxy and narrow like needles.

Know a variety of animals and the group they belong to. Know that there are different types of animals: **vertebrates** (animals that have a backbone) and **invertebrates** (without a **backbone** or internal **skeleton**).

**Plants (Year 2)**

- 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

There are five groups of vertebrates: mammals, fish, birds, reptiles and amphibians. Know that **mammals** give birth to live young, usually have hair or fur, **warm-blooded**, cannot breathe underwater. Know some common mammals: pets such as dogs, cats, hamsters; farm animals such as cows, sheep and horses; wild animals such as foxes, hedgehogs, lions and giraffes; and humans. Know that **fish** have fins and scales, breathe underwater using gills, lay eggs in water, and are **cold-blooded**. Some common fish are salmon,

healthy

### Animals including Humans (Year 1)

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- Notice that animals have offspring which grow into adults
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

### Living things and their habitats (year 2)

- 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.

cod and tuna. Know that **birds** are warm-blooded, have wings and beaks, have feathers, lay eggs. Know some common birds: ducks, chickens, penguins and pigeons. Know that **reptiles** are cold-blooded, lay eggs, have scales, cannot breathe underwater. Know some common reptiles: snakes and lizards. Know that **amphibians** are cold-blooded, lay eggs, live on land and water, and can breathe underwater through gills. Know some common amphibians: frogs and toads. Know whether they are **herbivores**, **omnivores** or **carnivores**.

Know that **mini-beasts** are small invertebrates and there are more on earth than any other type of animals. There are millions of **species**. Many mini-beasts have other ways of protecting themselves- for example snails have shells and many insects and spiders have an **exoskeleton** which is a hard outer casing.

Animals and plants depend on each other to survive. Know the following food chains; **grass (producer) – rabbit (consumer) – fox (consumer)**. Use the terms **predator** and **prey** to describe the relationship in the food chain. All living things (or things that were once living) have a part to play in food chains. Without them, other animals and plants may not be able to survive.

Know that there are 3 main types of mini-beasts: arthropods, molluscs and annelids. Arthropods include **insects** (ants, beetles, butterflies), **arachnids** (spiders), **myriapods** (centipede) and **crustaceans** (woodlice, crab). Molluscs are mini-beasts like slugs and snails. Annelids are worms.

Identify and classify the different mini-beasts.

- An insect has a three part body, six legs and usually wings.
- An arachnid is an animal with a two part body and eight legs.
- An annelid has no legs and no hard skeleton. Their body is divided into lots of little segments.
- Myriapods have long bodies and many legs.
- A mollusc is an animal with a soft **unsegmented** body and often a hard shell.
- A crustacean is an animal with an **exoskeleton**. They often live in water.

Know that mini-beasts can be found in most places around the world. Many mini-beasts live in **microhabitats** such as rock pools, bushes, under logs and among leaf litter. Mini-beasts are able to survive in their habitats because they can find the things they need to survive there, such as food and water. For example, caterpillars can survive on leaves as they give them food.

Know that mini-beasts are crucial for the survival of humans: they **recycle** dead matter and waste products; they help **pollinate** plants and they are integral to **food chains**.

Know the life cycle of a butterfly. Know the term **metamorphosis** as a profound change in form from one stage to the next in the life history of an organism.