



### Statutory Requirements:

- 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:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Using test results to make predictions to set up further comparative and fair tests
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

### Key Vocabulary:

- Classification, characteristics
- Vertebrate, invertebrate
- Kingdoms: animal, plant, 'micro-organism', fungi
- Classes: amphibian, reptile, bird etc
- Flowering plant, non-flowering plant
- Algae, moss, fern, lichen, conifer
- Mollusc, annelid, arthropod, platyhelminth

### Key Knowledge:

#### Invertebrates (animals without backbones)

**Platyhelminths** are flatworms, e.g. planaria.

**Annelids** have long bodies which are divided into segments, e.g. earthworms.

**Molluscs** have soft and unsegmented bodies - most have shells, e.g. snails.

**Arthropods** are animals with hard exoskeletons and jointed legs, e.g. beetles (insects), spiders (arachnids), woodlice (crustaceans).

#### Main groups of plants

**Algae** are simple plants that do not have roots, stems or leaves. Most algae live in water.

**Mosses and liverworts** are plants with very simple leaves or a leaf-like form. Some have root-like structures that help in anchoring the plant.

**Ferns** are flowering green plants with true roots. Stems and leaves. They produce spores during reproduction.

**Seed-bearing plants** can be divided into two broad groups, **conifers and flowering plants**. Conifers produce their seeds in cones. Flowering plants produce seeds protected inside fruits.

**Lichens** are a special kind of living thing. They are an algae and a fungus living together.

### Key Scientists:



**Evelyn Cheesman  
(1881 – 1969)**

British anthropologist who collected 70,000 specimens during 8 solo expeditions.