

Age 9-10

(A) *life and living things*

1. Living things in their environment

Habitats

- study the ways in which living things and the environment need protection (e.g. endangered species, effects of pollution, habitat destruction etc.)
- learn about the different plants and animals found in different habitats and how they are suited to their environment
- study the features of animals and plants in one chosen habitat, including size, shape, colour and, where possible, methods of movement, feeding and protection). Be aware of features such as nocturnal animals; the activity of living things can be related to the time of day and season of the year; use the terms hibernation and migration)

Feeding relationships

- use food chains to show feeding relationships in a habitat: place organisms in order in a food chain; the terms producer, consumer (herbivore, carnivore and omnivore) and notice the relationship between predator and prey
- learn how nearly all food chains start with a green plant

2. Variation and classification

- make and use keys based on observable external features to help identify and group living things systematically (work out how locally occurring animals and plants can be identified and assigned to simple groups)
- the variety of plants and animals makes it important to identify them and assign them to groups (as examples of groups, use vertebrate and invertebrate; insects and spiders; flowering and non-flowering groups of plants)

(B) *Materials, their properties and the earth*

1. Grouping and classifying materials

- some materials are better **electrical conductors** than others
- the metals and carbon (graphite) are conductors of electricity, e.g. copper for household wiring; -
- most other materials are insulators, e.g. plastic for plug covers
- describe and group rocks and soils on the basis of their characteristics, including appearance, texture and permeability. Learn about different kinds of soils, e.g. sand, clay, loam and how particle size affects drainage. Use the term humus and know how this enriches the soil.

2. changing materials

- learn more about **reversible changes**: dissolving, condensing, evaporating

3. Separating mixtures of materials

- recover dissolved solids by evaporating the liquid from the solution. Carry out simple evaporation experiments, e.g. evaporation of a salt solution (know that salt solutions should not be dried completely when heated)

(C) *Energy, forces and space*

1. Forces and motion

- learn about friction, including air resistance, as a force that slows moving objects and may

prevent objects from starting to move. Learn about the concept of friction as a force which opposes the relative movement of surfaces, with reference to everyday situations, e.g. the effect of friction between the wheels of a bicycle and the road, the effect of air resistance on the cyclist

- carry out investigations involving friction, e.g. a toy car running over different surfaces
- when objects [*e.g. a spring, a table*] are pushed or pulled, an opposing pull or push can be felt.

Carry out simple experiments to experience these opposing forces.

- Measure forces and identify the direction in which they act. Understand different types of force: push, pull, frictional (including air resistance), magnetic, gravitational, support (reaction) and upthrust. Use arrows to show the direction in which these forces are acting on an object.

2. Earth and atmosphere

- study the composition of the Earth
- study the structure of the Earth
- study the rock cycle and the formation of igneous, sedimentary and metamorphic rocks