

Science - Class 3

Autumn Year A

Everyday Materials - Distinguish between an object and the material from which it is made. Identify everyday materials and describe their properties. Compare and group materials.

Autumn Year B

Forces - Find out how the shapes of some solids change by bending, twisting, etc. Practical work, first predict, then test the materials.

Spring Year A

Light and Shadow - An introduction to light travelling in straight lines. Sources of light, natural and manmade. **Electricity** - an introduction. Simple circuits. **Seasonal changes** - Observe changes across the four seasons. Observe weather and how day length varies. **Sun safety** - Don't look directly at the sun. Cover up, sun glasses, hat, cream.

Spring Year B

Animals and Humans - name a variety of common animals, inc. fish, amphibians, reptiles, across the four seasons. Observe things that have never been alive. Animals in their habitat - explore the local environment. How the habitat provides for the needs of the animal.

Summer Year A

Plants - Identify common wild and garden plants, including deciduous and evergreen trees. Identify basic structure of flowering plants, including trees. Observe growth of flowers and vegetables they have planted.

Summer Year B

Living things and their habitats - Explore the difference between things living, dead birds and mammals. Life cycles. Describe how different habitats provide for different needs of plants and animals. - Micro-habitats - Describe how animals obtain their food from plants. - Simple food chains

Science - Class 4

Autumn Year A

States of Matter - Compare and group materials together as to whether they are solid, liquid, gas. Give reasons for the everyday use of particular materials. Observe that materials change state when heated or cooled, measure the temperature at which this happens. Produce a simple table or graph. Thermal conductivity and insulation. **The water cycle** - evaporation, condensation - associate the rate of evaporation with temperature.

Autumn Year B

Forces and Magnets – Looking at pushes and pulls, friction and magnetism. How can forces exert an influence eg how does a magnet attract and repel, how can changes in friction speed up or slow down a moving object.

Spring Year A

Light and Electricity - Using the data logger to chart the level of light / sound. Recognise the necessity of light to see and that dark is the absence of light. Shadows. Reflection in mirrors. Protection from the sun. Find patterns in the way the size of shadows change. Shadow puppets. Common appliances that run on electricity. Construct a simple circuit, naming parts. Identify whether a lamp will light based on whether there is a complete loop with a battery. What happens if more cells are added. Recognise how a switch works. Recognise common conductors insulators. Associate metals with good conductors.

Spring Year B

Humans – To learn about the human digestive system, its function and basic parts. To identify the different types of teeth in humans and their functions. To construct and interpret a variety of food chains and to identify producers, predators and prey. **Sound** – To learn about pitch and volume, how sounds are made and how they travel.

Summer Year A

Plants and their growth - Experiments including a fair test. Describe the functions of different parts of flowering plants. The requirements of plants and how they vary from plant to plant. Plants make their own food in their leaves. Examine fruits, find the seeds, think about seed dispersal. Investigate the way water is transported within plants. Explore flowers in relation to pollination, seed formation and seed dispersal.

Summer Year B

Rocks - To learn about how rocks are formed, to sort and compare according to similarities and differences and to learn about how fossils are formed. **Sound** – To learn about pitch and volume, how sounds are made and how they travel.

Science - Class 5

Autumn Year A

Properties and changes of materials. - Use/develop keys to group materials. Compare materials using properties including hardness, solubility, transparency, conductivity and response to magnets. Investigate solutions and how to recover a substance. Describe how mixtures are separated. Give reasons for the use of everyday materials. Demonstrate reversible changes. Formation of new materials from changes e.g. burning, acid on bicarbonate of soda.

Autumn Year B

Forces and Magnets – Understanding how gravity acts between a falling object and the Earth. Learning about the effects of air and water resistance and friction that works between moving surfaces. To learn about mechanisms such as levers, pulleys and gears and how they can be used to increase the effect of forces.

Spring Year A

Light - Travels in straight lines. Objects are seen because they give out or reflect light into the eye. Pupils to draw diagram. Investigate where to put a rear view mirror in a car. Build a periscope, Shadow puppets. Light phenomena (rainbow, bubbles, etc.). **Earth and Space** - Describe movement of Earth and planets in relation to Sun. The Moon. That the movement of earth explains day and night and the apparent movement of the sun across the sky. The Solar System. The work of Ptolemy, Alhazen, Copernicus. Compare time of day at different points on the Earth. Create models of the Solar System. Construct simple shadow clocks and sundials. Stonehenge.

Spring Year B

Humans and Reproduction – Learning about evolution and inheritance and that fossils provide information about beings that inhabited Earth millions of years ago. To learn about reproduction, adaptation and inheritance. To learn about the human circulatory system including the function of blood vessels, the heart and blood. To learn about how water and nutrients are transported around the body.

Summer Year A

Plant / food chains - Use/develop keys to identify plants. Describe the broad groups used to classify living things. Include micro-organisms. Pupils to observe insects, spiders, snails, worms and vertebrates. Investigate the work of Carl Linnaeus (classification). Research unfamiliar animals and plants and decide where they belong in the classification system.

Summer Year B

Electricity - Associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells. Construct simple series circuits. Use recognised symbols in diagrams. Safety precautions when working with electricity. Design and make a set of traffic lights, a burglar alarm, etc.