

Light –

Lesson	Learning objectives
1	Introduction to light ▪ know that some objects produce light energy and that these are light sources ▪ know that some surfaces reflect light ▪ distinguish between light sources and objects that reflect light ▪ know that the Sun is a light source but the Moon is not
2	Reflected light ▪ know that some surfaces reflect light ▪ know which surfaces have the best reflective properties
3	How do we see? ▪ know that the eyes are the organs of sight ▪ recognise that they need light in order to see things and that dark is the absence of light ▪ know how to protect their eyesight, including protection from sun damage
4	What materials let light through? ▪ know that some substances allow light to pass through completely or partially and use the terms transparent, translucent and opaque ▪ set up a simple comparative and fair test ▪ make measurements using data loggers ▪ record findings using simple scientific language, bar charts, and tables ▪ reporting on findings and draw conclusions
5	Exploring shadows ▪ know how shadows are formed ▪ know what determines the length of shadows

Forces and Magnets –

Lesson	Learning objectives
1	What is a force? ▪ Identify forces as pushes, pulls or twists ▪ Know that a force can change the speed, direction or shape of an object ▪ Know that force is measured using a force meter and that the units of measurement are Newtons. ▪ Recognise that many forces require a contact between them for the force to take effect
2	What is friction? ▪ Know that friction is a force between two surfaces that slows objects down ▪ Describe some factors that affect friction ▪ Provide examples of useful and non-useful friction in everyday life
3	What is a magnet? ▪ Describe what a magnet is ▪ Know that magnets can exert forces at a distance ▪ Know that magnets have two ends called poles that attract or repel each other depending on how they are arranged ▪ Describe some everyday uses for magnets
4	What materials are attracted to magnets? ▪ Classify materials as magnetic or non-magnetic ▪ Determine a general rule for predicting which materials are magnetic
5	Investigating the strength of magnets ▪ Investigate the relationship between the size of a magnet and its strength
6	Uses of magnets- optional lesson ▪ Describe some uses of magnets ▪ Summarise their learning about magnetism

Rocks –

Lesson	Learning objectives
1	Looking at rocks ▪ examine and describe different specimens of rock ▪ classify rocks according to their own criteria
2	Investigating rocks ▪ name some of the most common rocks ▪ investigate the properties of igneous and sedimentary rocks ▪ carry out simple tests on rocks, recording results and drawing conclusions
3	How rocks are formed ▪ describe in simple terms how igneous, sedimentary and metamorphic rocks are formed
4	Investigating soil ▪ investigate the composition of soil ▪ use the investigation to come up with a model of how soil is formed
5	Fossils ▪ describe how fossils are made ▪ explain how the fossil record helps us learn about life millions of years ago
6	Dinosaur fossils ▪ use fossil pictures to draw conclusions about dinosaurs

Plants –

Lesson	Learning objectives
1	Setting up an investigation: What plants need for growth ▪ use their knowledge of plants to plan and set up an investigation into plant growth ▪ set up a simple experiment ▪ take careful measurements and make systematic observations
2	Structure of a flowering plant ▪ recording findings using simple scientific language and measurements ▪ describe the structure of a flowering plant
3	How water is transported within plants ▪ observe the movement of food dye through a flower ▪ explain that water moves from the roots through branches and stems to leaves and flowers
4	Seed dispersal ▪ describe some methods of seed dispersal ▪ explain why seeds need to be dispersed
5	Life cycle of a flowering plant ▪ describe the life cycle of a flowering plant ▪ describe the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
6	What do plants need for growth ▪ generate oral and written reports on the findings of their investigation ▪ use results to draw simple conclusions, suggest improvements and raise further questions ▪ use straightforward scientific evidence to support their findings. ▪ explain that plants do not need to eat food because they make their own ▪ describe why plants need water, light, space and nutrients for growth

Animals including Humans –

Lesson	Learning Outcomes
1	Researching animal diets ▪ Using research methods, identify the diets of a number of animals including birds ▪ Classify animals as omnivores, herbivores and carnivores ▪ Understand that animals need to eat because they do not make their own food like plants do.
2	Grouping foods - Develop a classification system for foods - Understand and use the terms variable and value
3	Why do we need to eat different kinds of food – food for energy, growth and repair ▪ Know that the digested food is used for energy, to help us grow and to repair the body ▪ Know that different kinds of food are used for different things: protein for growth and repair, fat and carbohydrate for energy
4	What do owls eat? Investigating an owl pellet. ▪ Investigate an owl pellet, making notes and observations ▪ Come to a conclusion about the diet of an owl as a result of their findings
5	Skeletons inside the body and outside the body ▪ Know that some animals have skeletons inside their bodies and others, such as insects and crustaceans, have a skeleton outside their bodies ▪ Classify animals as vertebrates or invertebrates ▪ Note some differences in movement between animals with a skeleton and animals without a skeleton
6	The human skeleton ▪ Know the main parts of the body associated with the muscular and skeletal system ▪ Know that different parts of the muscular-skeletal system have different functions
7	Muscles ▪ Know that muscles are attached to the skeleton and help us move