

Science

Scientific Knowledge and Conceptual Understanding: Year 3 Expectations

Please Note: There should be plenty of opportunities throughout the year for children to use the school/local environment to observe plant lifecycles with a particular focus on the different parts of a plant (e.g. comparing fruits and seeds and looking for examples of pollination). This could be done through an ongoing/monthly nature journal to observe, record and review over a period of time.

Plants – Functions of Parts of a Plant	Animals - Health/Nutrition	Animals - Skeletons and Movement
<ul style="list-style-type: none"> Identify, locate and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <ul style="list-style-type: none"> Roots grow downwards and anchor the plant. Water, taken in by the roots, goes up the stem to the leaves, flowers and fruit. Nutrients (not food) are taken in through the roots. Stems provide support and enable the plant to grow towards the light. Plants make their own food in the leaves using energy from the sun. Flowers attract insects to aid pollination. Pollination is when pollen is transferred between plants by insects, birds, other animals and the wind. Seeds are formed after the flowers are pollinated. Many flowers produce fruits which protect the seed and/or aid seed dispersal. Seed dispersal, by a variety of methods, helps ensure that new plants survive. Plants need nutrients to grow healthily (either naturally from the soil or from fertiliser added to soil). 	<ul style="list-style-type: none"> Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. An adequate and varied diet is beneficial to health (along with a good supply of air and clean water). Regular and varied exercise from a variety of different activities is beneficial to health (focus on energy in versus energy out. Include information on making informed choices). 	<ul style="list-style-type: none"> Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Identify animals (vertebrates) which have a skeleton which supports their body, aids movement & protects vital organs (e.g. name and locate skull, backbone, ribs, bones for movement/limbs, pelvis and be able to name some of the vital organs protected). Identify animals without internal skeletons/backbones (invertebrates) and describe how they have adapted other ways to support themselves, move & protect their vital organs. <ul style="list-style-type: none"> Know how the skeletons of birds, mammals, fish, amphibians or reptiles are similar (backbone, ribs, skull, bones used for movement) and the differences in their skeletons. Know that muscles, which are attached to the skeleton, help animals move parts of their body. Explore how humans grow bigger as they reach maturity by making comparisons linked to body proportions and skeleton growth – e.g. do people with longer legs have longer arm spans? Recognise that animals are alive; they move, feed, grow, use their senses and reproduce.
Material Properties - Rocks	Light and Astronomy - Light, reflections and shadows	Forces and Magnets
<ul style="list-style-type: none"> Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter <ul style="list-style-type: none"> Recognise that rocks and soils can feel and look different. Recognise that rocks and soils can be different in different places/environments. 	<ul style="list-style-type: none"> Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the size of shadows can change. 	<ul style="list-style-type: none"> Compare how some things move on different surfaces. Notice that some forces need contact between two objects but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles (like and unlike poles). Predict whether two magnets will attract or repel each other, depending on which poles are facing.

