

Sacred Heart Science Progression of skills



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
identifying scientific evidence that has been used to support or refute ideas or arguments

Living Things and their Habitats

To know about similarities and differences in relation to living things. (EYFS)
Talk about the features of their own immediate environment and how environments might vary from one another (EYFS)
Explore and compare the differences between things that are living, dead, and things that have never been alive. (Year 2)
Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. (Year 2)
Identify and name a variety of plants and animals in their habitats, including micro-habitats. (Year 2)
Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. (Year 2)
Can group, identify and name a variety of living things (Year 4)
Recognise that environments can change and that this can sometimes pose dangers to living things. (Year 4)
Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird (Year 5)
Describe the life process of reproduction in some plants and animals. (Year 5)
describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals (Year 6)
give reasons for classifying plants and animals based on specific characteristics. (Year 6)

Animals, Including Humans

To know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. (EYFS)
Know the parts of the human body and the senses. (Year 1)
Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Year 1)
Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Year 1)
Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Year 1)
Understand the basic needs of animals (including humans) for nutrition (Year 2)
Notice that animals, including humans, have offspring which grow into adults. (Year 2)
Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Year 2)
Understand humans and some other animals have skeletons and muscles and functions of these (Year 3)
Know that animals including humans need the right types of nutrition (Year 3)
Understand functions of teeth and the digestive system (Year 4)
Construct and interpret a variety of food chains, identifying producers, predators and prey. (Year 4)
Describe the changes as humans develop to old age. (Year 5)
identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (Year 6)
recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function (Year 6)
describe the ways in which nutrients and water are transported within animals, including humans (Year 6)

Evolution and Inheritance

Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Year 3)
Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Year 3)
Recognise that soils are made from rocks and organic matter. (Year 3)
recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago (Year 6)
recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents (Year 6)
identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution (Year 6)

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Light

Recognise that they need light in order to see things and that dark is the absence of light. (Year 3)
Notice that light is reflected from surfaces. (Year 3)
Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Year 3)
Recognise that shadows are formed when the light from a light source is blocked by a solid object. (Year 3)
Find patterns in the way that the size of shadows change. (Year 3)

recognise that light appears to travel in straight lines (Year 6)

use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye (Year 6)

explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes (Year 6)

use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. (Year 6)

Electricity

Identify common appliances that run on electricity (Year 4)
Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers (Year 4)
Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery (Year 4)
Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit (Year 4)
Recognise some common conductors and insulators, and associate metals with being good conductors. (Year 4)

associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit (Year 6)

compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches (Year 6)

use recognised symbols when representing a simple circuit in a diagram. (Year 6)