



*The Best That You Can Be*

**Devonshire Primary Academy**

**Science Long Term Plan**



<b>Year 5</b>			
<b>Week</b>	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>1</b>	Relate knowledge of plants to studies of evolution and inheritance.	Describe the changes as humans develop to old age.	In which ways do the life processes of all living things vary? (contrast)
	Relate knowledge of plants to studies of all living things.	Compare and contrast the physical appearance of children and adults.	
<b>2</b>	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.	Describe the ways in which nutrients and water are transported within animals, including humans.	Explain the similarities and differences between arteries, veins and capillaries.
<b>3</b>	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Describe the life process of reproduction in some plants and animals.	Describe how living things are classified into broad groups according to common observable characteristics.
<b>4</b>		Explain the similarities and differences between the process of reproduction in plants and animals.	Identify plants, mammals, amphibians, insects and birds from classification keys. (Quiz)  Give reasons for classifying plants and animals based on specific characteristics.
<b>5</b>	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	Identify how animals and plants are adapted to suit their environment in different ways and how that adaptation may lead to evolution.	Adapt a comparative test to group materials. Predict the outcomes of your test.
	Categorise differences in living things and their offspring.		
<b>6</b>	Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.	Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.	Apply your knowledge of solutions to explain how a substance has not disappeared when it forms a solution.
			Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
<b>7</b>	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidisation and the action of acid on bicarbonate of soda.	Demonstrate that dissolving, mixing and changes of state are reversible changes.
			Experiment with ways to separate pebbles and silt in a solution of salt. Explain your methods and summarise your results.
<b>8</b>	Describe magnets as having two poles.	Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.	Categorise changes as reversible or not reversible, and give examples.

		Understand that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
<b>9</b>	Predict whether two magnets will attract or repel each other, depending on which poles are facing.	Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
<b>10</b>	Observe and describe the effect of air resistance. Observe and describe the effect of water resistance.	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.	Apply your knowledge of forces and movement to make a working mechanism.
	Observe and describe the effect of friction. Describe these forces as drag forces.		
<b>11</b>	Understand that light appears to travel in straight lines.	Recognise that sounds get fainter as the distance from the sound source increases.	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.
<b>12</b>	Find patterns between the pitch of a sound and features of the object that produced it.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.	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.
	Find patterns between the volume of a sound and the strength of the vibrations that produced it.	Use recognised symbols when representing a simple circuit in a diagram.	