The Best That You Can Be

Devonshire Primary Academy

Science Long Term Plan

Year 6			
Week	**Autumn**	**Spring**	**Summer**
1	Compare and contrast the way different plants and animals have adapted to their environments. Organise information graphically. Organise information, including data that supports the theory that the life processes of all living things vary.	What is the relationship between plants adapting to their environments and the theory of human evolution?	Why do the leaves of deciduous trees change colour and fall off in autumn? (generalise) How does this relate to any life processes of animals?
2	Explain the different functions of the parts of the human heart.	Contrast the different roles of veins and arteries in the human circulatory system.	Make generalisations about the relationship between age and changes in humans. *
3	Explain the similarities and differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Always, sometimes or never? Eggs are common to the life cycles of mammals, amphibians, insects and birds. *	Relate the transportation of water in humans and animals to your knowledge of plants.
4	Explain why observable features are used to classify living things into broad groups. Propose criteria for the creation of classification groups for: • mammals • amphibians • insects • birds. * Present information about and reasons for these groups.	Explain, with examples, how offspring are not identical. Is it possible that a litter of cocker spaniel puppies from two parents of the same colour may vary in colour? *	Explain some of the problems with not using specific characteristics when classifying living things. Observable characteristics are not the only way to scientifically group plants and animals. Do you agree? *
5	Explain and give examples of the idea of adaptation. Compare and contrast different types of adaptation.	Explain why adaptation may lead to evolution.	True or false? Plants and animals would not survive if they could not adapt. *

6	Modify a fair test to group materials. Predict the outcomes of your test.	True or false? Changes in temperature cause only reversible and not irreversible changes. Cite evidence.	Apply your understanding of the properties of materials to explain why a range of everyday items have been made from a particular material.
7	Explain why magnets have poles.	Is it possible to make a magnet? (prove or disprove)	What might happen if a bird sits on a live, uninsulated power line? (propose) * Explain the concepts you are using to give your answer.
8	Interpret data about the rate that different materials fall towards Earth. Summarise your findings.	Always, sometimes or never? The slowing effect of drag forces can be overcome if an object is driven.* (explain concept, make generalisations)	Which will reach Earth first if dropped from the same height: 1kg of feathers or 1kg of steel? (explain concepts)
9	Apply your knowledge of gears, pulleys and levers to demonstrate and explain how a small force can have a greater effect.	Experiment with making or using a periscope to demonstrate how objects may be seen. Explain what is happening to the light.	Can a rotary motion be changed into a linear (up and down) motion? (prove or disprove)
10	Experiment with, explain and demonstrate the pattern between pitch of sound and the features of the object that produced it.*	Is it possible that a shadow can be formed that is smaller than the object that created it? (reason)	Investigate and present information on how objects, such as a stick, appear to bend when placed in water.*
11	Experiment with, explain and demonstrate the pattern between the voltage of cells and the brightness of a bulb.	Why might a thunderclap sound loud to some and faint to others? (suggest, reason)	Relate your understanding of volume to a range of orchestral instruments. (How does, for example, a trombone player alter the strength of the vibrations he or she creates?)
12	Predict the outcome of placing various components into an electrical circuit. Explain the patterns.	Investigate the concept of resistance and prove or disprove that components, including wire, are resistors. *	Make circuits then represent them in circuit diagrams, applying component symbols appropriately.