



Markland Hill Science Curriculum – Upper Key Stage 2 Sequence of Learning - YEAR B

 physics
 biology
 chemistry

Animals, including humans (Y5) Scientist: Alexander Fleming Substantive Knowledge: Describe the changes as humans develop to old age. Disciplinary Knowledge: Research the gestation periods of other animals and compare them with humans Find out and record the length and mass of a baby as it grows. End points I can describe the changes as humans develop to old age. I can research the gestation periods of other animals and compare them with humans.	Animals, including humans (Y6) Substantive Knowledge: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans. Disciplinary Knowledge: Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health. End points	Earth and Space (Y5) Scientist: Stephen Hawking Substantive Knowledge: Describe the movement of the Earth and other planets relative to the Sun in the Solar System. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. Disciplinary Knowledge: Comparing the time of day at different places	Properties and Changes of Materials(Y5) Scientist: Jamie Garcia Substantive Knowledge: Compare and group together everyday materials on the basis of their properties, including their hardness, transparency, conductivity (electrical) and response to magnets. Disciplinary Knowledge: Compare materials in order to make a switch in a circuit. End points I can compare and group together everyday materials on the basis of their properties. Key Vocabulary:	Living Things and their habitats (Y5) Scientist: Jane Goodall Substantive Knowledge: 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. Disciplinary Knowledge: Observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times) Asking pertinent questions and suggesting reasons for similarities and differences.	Living Things and their habitats (Y6) Scientist: Carl Linneus Substantive Knowledge: 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. Give reasons for classifying plants and animals based on specific characteristics. Disciplinary Knowledge: Using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and
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I can find out and record the length and mass of a baby as it grows. Key Vocabulary: Life cycle, foetus, baby, child, adolescent, adult, reproduce, sexual, sperm, fertilises, egg, live young Puberty – the vocabulary to describe sexual characteristics in line with RSE policy	I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. I can recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function. I can describe the ways in which nutrients and water are transported within animals, including humans. I can explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health. Key Vocabulary: Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle	on the Earth through internet links and direct communication; Creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; Finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks. End points I can describe the movement of the Earth and other planets relative to the Sun in the Solar System. I can describe the movement of the Moon relative to the Earth. I can describe the Sun, Earth and Moon as approximately spherical bodies. I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	Thermal insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material	They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow. End points I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. I can describe the life process of reproduction in some plants and animals. I can observe and compare the life cycles of plants and animals in our local environment with other plants and animals around the world. I can ask pertinent questions and suggest reasons for similarities and differences. I can observe changes in an animal over a period of time. Key Vocabulary: Life cycle, reproduce, sexual, sperm, fertilises,	plants from a broad range of other habitats and decide where they belong in the classification system. End points I can 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. I can give reasons for classifying plants and animals based on specific characteristics. I can use classification systems and keys to identify some animals and plants in the immediate environment. I can research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system. Key Vocabulary: vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering
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		I can compare the time of day at different places on the Earth through internet links and direct communication. I can create simple models of the solar system; constructing simple shadow clocks and sundials. I can find out why some people think that structures such as Stonehenge might have been used as astronomical clocks. Key Vocabulary: Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets		egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings	
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