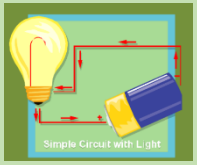
Science Medium Term Planning
Year: 6

Term	Theme	Sub questions	Subject Specific Vocabulary	Linked Visits in / Visits out/Experiences/Stories	Assessment will be based on a formative approach of children being able to answer the key questions using the knowledge acquired over the half term through a quiz-based approach.
Autumn Term A 	Physics – Light	**How do we see?** **What is a light source?** **What does transparent mean?** **What does opaque mean?** **What does translucent mean?** **How does the size of an object affect the size of a shadow?** **How does the distance between the light and the object affect the size of the shadow?** **Does all shadow have the same shape of the object that cast them?** **How does a periscope work? (WW2)** Know that light appears to travel in straight lines Know that light travels from a light source, bounces off an object and into our eyes. Know different materials and objects all different amounts of light to pass through. Know that a shadow will increase in size when the light source is further away. Know that a periscope worked by rays of light reflecting through a mirror.	Refraction, prism, optics, pupil, periscope. Absence of light shadow reflect light source translucent emit	Eden Camp	
Autumn Term B 	Physics – Electricity	**Who invented electricity and when was it discovered? (Greek's link)** **What is static electricity?** **What happens to the brightness of a bulb or buzzer when the voltage of cells is increased?** **What are the recognised scientific symbols when representing a simple circuit in a diagram?** **What happens to the components of a circuit when the length of the wire is changed?** Know that the Greeks discovered static electricity. Know that static electricity is a form of electricity that can be created without electrical equipment. Know what a neutron, proton and electron is. Know what an atom is.	Motor, symbol, components, voltage, series circuit.		

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		Know that a bulb gets brighter and a buzzer gets louder when more voltage is added to a circuit. Know the scientific symbols used when representing a simple circuit in a diagram. Know that bulbs will be dimmer and buzzers will be quieter if the wire length is increased.			
Spring Term A and  **B**	Biology – Living things and their habitats.	**What is a life cycle?** **What types of life cycles are there?** **Do plants reproduce the same way as us?** **How do plants spread their seeds?** **How do animals change over time?** **What happens if animals of different species breed?** **What happens to house plants outside?** **Why do animals and plants compete?** **What are microorganisms?** **How can we prevent the spread of disease?** **Why do animals and plants compete?** Know that scientists sort and group living things according to their similarities and differences (classification). Know that scientists who classify information are called taxonomists. Know how to sort animals based on their similarities and differences (2 legs/4 legs, fly/not fly etc). Know that Carl Linnaeus was a Swedish scientist who published 10 editions of his book 'Systema Naturae' which described his system for classifying living things. Know all the levels of the Linnean System (Domain, Kingdom, Phylum, Class, Order, Family, Genus and Species). Know that all animals and plants are all eukaryotes. know that some microorganisms are helpful (bacteria – milk, yoghurt; yeast – wine, bread; fungi – antibiotics). Know that some microorganisms are harmful (bacteria – food poisoning, plaque; virus – chicken pox, influenza; fungi – mould, athletes' foot). Know that some animals and plants are microorganisms (dust mites, plankton).	Variables, Kingdom, Linnaean, Organism, Microbes		

		Know that mould, penicillium and yeast are a type of microorganism (fungi). Know that bacteria is a type of microorganism (staphylococcus epidermis). **<u>Spring B</u>** **How do mammals produce offspring?** **What happens during the gestation period of a mammal?** **How are placentals born?** **What is a monotreme and how are they born?** **How are marsupials born?** **What is metamorphosis?** **What are the stages of an insect's life cycle?** **What are the stages of a mammal's life cycle?** **What are the stages of a bird's life cycle?** **What are the stages of an amphibian's life cycle?** Know that mammals use sexual reproduction to produce offspring. Know the male sperm will travel down the male's penis and enters the female's body through the vagina. Know that a sperm cell will fuse with the ovum, the female gamete, which causes fertilisation. Know the cell splits split in half and continue to divide each time until a baby is formed and the heart starts to beat. Know placentals grow their offspring inside the female body and are born fully developed. (bats, dogs, humans). Know monotremes hatch from eggs (platypus). Know marsupials' young are born incompletely developed. They are then carried and fed in a pouch on the female's stomach until they are fully developed. Know that metamorphosis is a process by which animals undergo change in the structure of their body (newt, butterflies, dragonflies). Know the stages of an insect's life cycle – complete metamorphosis (egg, larva, pupa, adults). Know the stages of an insect's life cycle – incomplete metamorphosis (egg, nymph, adult). Know the stages of a mammal's life cycle (embryo, young, adult).			

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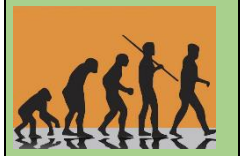
		Know the stages of a bird's life cycle (egg, young, adult). Know the stages of an amphibian's life cycle (egg mass, tadpole, tadpole with legs, young frog, adult).			
Summer Term A and B 	Biology – Evolution and Inheritance	**How do fossils provide information about living things from millions of years ago?** **Why do living things produce offspring of the same kind?** **Why do offspring vary and are not identical to parents?** **How are plants and animals adapted to suit their environment?** **Why may adaptation lead to evolution?** **What theory did Charles Darwin develop about evolution?** Know that fossils provide archaeologists with information about living things from the past? Know why offspring inherit characteristics (such as eye, hair and skin colour) from their biological parents. Know that some characteristics are not inherited from their parents. Know that plants and animals are adapted to suit their environment. Know that plants and animals that are best suited to their environment are more likely to survive long enough to reproduce. Know that Charles Darwin went on a 5-year voyage and visited many places across the world. Know that Charles Darwin discovered finches in the Galapagos Islands and that they had different beaks dependant on their environment. Know that Charles Darwin wrote a book called 'On the Origin of Species'. Know that Charles Darwin's book was not widely accepted at first.	Inheritance, species, genes, evolution, adaptation, variation, inherited, survival of the fittest, evidence.		