Year Six LTP: Autumn & Spring

Working scientifically overview	**Lines of enquiry:** research, pattern seeking, comparative testing, identifying & classifying, investigation over time	**7 super science skills:** asking questions, setting up tests, observations, recording and presenting data, interpreting data, evaluating**.**	
Summary	**Autumn 1: (Amazing Americas history)** **Science:** Physics **Strand:** electricity	**Autumn 2:** Light (Amazing Americas geography) **Science:** physics **Strand:** Light	**Spring 1:** What's it like inside me? **Science** **Science:** Biology **Strand:** Animals including humans
Prior knowledge	**Y4:** electricity – children will be secure in identifying electrical items, creating simple series circuit & identifying conductors and insulators.	**Y3:** light. Children will have a secure knowledge of light and dark & know that light is reflected from surfaces, be able to discuss looking at the sun safely and identify patterns in how shadows are made.	**Y4:** Digestive system – Children will be secure in their understanding of the digestive system, and how this in connected and impacted by different diets (teeth) and be able to make connections in their learning.
Key Vocabulary	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb,buzzer, motor, switch, voltage - NB Children do not need to understand what voltage is but will use volts and voltage to describe different batteries. The words cells and batteries are now used interchangeably.	• straight lines, light ray, reflection, angle, incidence, normal, periscope. • Shadow, light, opaque, size, distance, change, tilt, cast • Light source, dark, absence of light, transparent, translucent, shiny, • matt, surface, reflect, mirror, sunlight, dangerous	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle
Cultural capital	**Famous scientists: Thomas Eddison, the history of light careers: electricians, scientists developing renewable energy**		Experience: **dissecting hearts, Pig Heart Boy**
Core (sticky) knowledge/ skills	Children will be able to 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, use recognised symbols when representing a simple circuit in a diagram**.**	Children will be able to recognise that light appears to travel in straight lines, 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, explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our	Children will be able to identify and name the main parts of the human circulatory system, describe the functions of the heart, blood vessels and 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

		, use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	
Future links	**KS3:** electricity and electro magnetism	**KS3:** light waves	**KS4:** health and disease

Year Six LTP : Summer		
Working scientifically overview	**Lines of enquiry:** research, pattern seeking, comparative testing, identifying & classifying, investigation over time	**7 super science skills:** asking questions, setting up tests, observations, recording and presenting data, interpreting data, evaluating**.**
Summary	**Spring 2: (What legacy did the Ancient Greeks leave us? History)** **Science:** biology **Strand:** evolution and inheritance	**Summer 1: Raging Rivers (Geography)** **Science:** biology **Strand:** living things and their habitats
Prior knowledge	**Y3:** rocks & fossils. Pupils will have a secure understanding of sedimentary rock, where to find it and what fossils are and how they are formed.	**Y4:** classification keys. Pupils will be secure in using classification keys to show that animals and plants can be grouped in a variety of ways.
Key Vocabulary	Year 6 Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossil	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering and non-flowering.
Cultural capital	**Create your own cliff.**	Residential
Core (sticky) knowledge/ skills	Children will be able to recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago, 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 that adaptation may lead to evolution**.**	Children will be able to describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including m microorganisms, plants and animals and give reasons for classifying plants and animals based on specific characteristics
Future links	**KS3:** Inheritance, chromosomes, DNA & genes.	**KS4:** health and disease