Term	Autumn One	Autumn Two	Spring One	Spring Two	Summer
Knowledge	**Animals including humans**	**Living things and their habitats**	**Light**	**Electricity**	**Evolution Inheritance SRE**
Scientific enquiry	Comparative / pattern seeking Observing over time	Classifying Researching	Comparative / pattern seeking	Comparative / pattern seeking	Researching Observing over time
Working scientifically skills	To present results To draw conclusions	To ask scientific questions To present results	To make a prediction To measure accurately To evaluate an investigation	To plan an enquiry To gather and record results	To ask scientific questions To present results
Building science capital	Talk from a nurse or health care professional.

British Hear Foundation resources/CPR. | Marine biology workshop (Marine Conservation Society) virtualfieldtrips.org (paid)

Veterinarian visit/talk? | Visit to IWM Museum or RAF Museum – look at search lights. | Possible visitor (electrician maybe?) | Handling fossils – visit or workshop? |
| Composite knowledge | What are the main parts of the human circulatory system?

What are the functions of the heart, blood vessels and blood? | How are living things classified?

How can I classify plants and animals based on specific characteristics? | How does light travel?

How do we see things?

How are shadows formed? | What are the main components of a circuit?

What are the correct symbols to represent the components of a circuit?

What is the effect of changing components in an electrical circuit?

How do components function?

Can I compare and give reasons for variations on how components function? | What is the process of evolution by natural selection?

What features are inherited? |
| Component knowledge | -identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood | -describe how living things are classified into broad groups according to common observable characteristics and based on similarities and | -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 | -associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit | -recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago |

| | | differences, including micro-organisms, plants and animals

-give reasons for classifying plants and animals based on specific characteristics | 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 eyes

-use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them | -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 | -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 |
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| | -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 | | | | |
| Vocabulary | Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration | Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects | Refraction, Reflection, Light, Spectrum, Rainbow, Colour, | Lamp, Voltage, Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Cell, Components | Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics |
| Links to prior knowledge | Year 1
Year 2
Year 3
Year 4 – digestive system
Year 5 | Year 2
Year 4 – classification keys
Year 5 | Year 3 – light needed to see things | Year 4 – construct a circuit | Year 2 – habitats
Year 3 - Fossils |
| Key knowledge for assessment | 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 | Can children classify living things into groups according to characteristics, differences, etc. ?

Can children explain their reasoning for classifying different plants and animals based on specific characteristics? | How does light travel?

How do we see things? | Can children name and use the correct symbols to represent the components of a circuit?

Can children explain the effect of changing components in an electrical circuit?

Can the children compare and give reasons for variations on how components function? | 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 |

Cross-curricular links	English – diary entry of a blood cell Maths – heart rate experiment Ancient Greece – Spartan warriors (diet & lifestyle)	English – non-chronological report (animals)	WW2 – blackout/search lights	WW2 – equipment used during the war/gas lamps (evacuees' suitcase)	South America – native creatures and adaptation English – Fables involving evolution of creatures.
Oracy & Outdoor Learning	Outdoor Lesson – Human Circulatory System Oracy – Sugar Debate	Outdoor Lessons – Fact Run (Carl Linneaus) and Classifying Plants Oracy – Presentation on Carl Linneaus	Outdoor Lesson – Testing Periscopes Oracy – Pupils debate theories (how we see things)	Outdoor Lesson – Learning the correct symbols Oracy – Charades using electrical components	Outdoor Lessons – Scavenger hunt and plant/mini-beast observation Oracy – News Report on Darwin