Electricity –

Lesson	Learning objectives
1	**Simple circuits** ▪ Construct simple series circuits and identify the uses of different components ▪ Know how to stay safe when working with electricity
2	**Circuit Diagrams** ▪ Describe the use of different components within a circuit: cells, wire, switch, buzzer, bulb, motor ▪ Represent and reproduce simple circuits in diagrams using recognised symbols ▪ Examine an unfamiliar diagram of a simple circuit and explain how they know whether it will work when constructed
3	**Effect of voltage on a circuit** ▪ Investigate how differences in voltage affect the performance of components within a circuit ▪ Plan and carry out an investigation, ensuring a fair test ▪ Make accurate measurements and draw conclusions based on results
4	**Series and Parallel Circuits** ▪ Describe the differences between series and parallel circuits ▪ Build simple series and parallel circuits to solve problems
5	**Designing circuits for games/Christmas cards – links to DT** ▪ Design and build a game that involves an electric circuit ▪ Evaluate the game/Christmas card

Evolution –

Lesson	Learning objectives
1	**The life and work of Charles Darwin** ▪ Research and recount the main events in the life of Charles Darwin ▪ Describe the contribution he made to scientific knowledge about evolution
2	**Introduction to evolution** ▪ Understand the term evolution ▪ Explore the reasons that some people do not believe that evolution happened and look at some creation stories from different religions, e.g. the Vikings
3	**Adaptation and Survival of the fittest** ▪ Research the ways in which animals and plants are adapted to their environment ▪ Describe ways in which animals are adapted to avoid predation, for example camouflage, use of warning colours in insects, spines on plants
4	**Fossils** ▪ explain how fossils provide evidence for evolution ▪ explain how humans have evolved
5	**Evolution investigation – Darwin's Finch Investigation** ▪ Model evolution through the use of games/simulations ▪ Model and compare evolution/selective breeding

Living Things and their Habitats

Lesson	
1	**The classification system for living things** ▪ Name the five kingdoms of living things ▪ Describe the characteristics of different vertebrate and invertebrate groups
2	**Biodiversity** ▪ Understand that there is a great variety of living things ▪ Understand the term biodiversity ▪ Know about some of the threats to biodiversity, including the threats posed by humans
3	**Microorganisms** ▪ Know that micro-organisms living things that are often too small to be seen with the naked eye ▪ Know that whilst some micro-organisms bring about disease many others are useful ▪ Create a key to identify microorganism classes
4	**Investigating yeast** ▪ Observe the growth of yeast and the waste products of yeast ▪ Investigate the things yeast needs to grow ▪ State some of the uses for yeast

Light –

Lesson	
1	**Reviewing what we know about light** ▪ describe and give examples of light sources ▪ state some basic properties of light ▪ know that light travels in straight lines
2	**Investigating Shadows** ▪ investigate changes in shadows depending on the relative positions of the light source and object and the use of filters ▪ plan an investigation, recognising and controlling variables ▪ take measurements with accuracy and precision, repeating readings when appropriate ▪ record results using scientific diagrams, tables, and graphs
3	**Shadow puppets** ▪ Establish the best arrangement of light source and position of object in a shadow puppet theatre ▪ Devise and perform a shadow puppet show using their knowledge of shadows to add dramatic interest
4	**Exploring reflectivity** ▪ Know that many objects reflect light ▪ Represent the direction of a beam or ray of light travelling from a light source by a straight line with an arrow ▪ Use the properties of reflection to make periscopes
5	**How the eye works** ▪ 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 ▪ Know the basic structure of the eye

Animals including Humans –

Lesson	
1	**Blood and what it is used for** ▪ Describe the functions of blood, including clotting ▪ Know that blood is pumped round the body by the heart ▪ that there are different groups of human blood
2	**How blood circulates** ▪ Describe the basic structure of the circulatory system ▪ Explain the functions of the heart, arteries veins and capillaries
3	**The heart** ▪ Describe the structure of the heart ▪ Explain the basic function of the heart
4	**The lungs** ▪ Describe the structure of the lungs and the basic functions of the lungs ▪ Describe how the heart and lungs work together to keep us alive ▪ Record data and results using tables and line graphs ▪ Report and present findings from enquiries
5	**Exercise, heart rate and breathing rate – investigation** ▪ Know that the heart rate can be determined by taking a pulse, and where pulse points are found ▪ Through investigation, describe the changes that take place in pulse rate and breathing rate before, during and after exercise ▪ Relate these changes to the need for more oxygen and energy in the muscles
6	**Harmful substances** ▪ Know that alcohol, smoking and the use of some drugs can harm the body ▪ Describe some of the short term and long term effects of alcohol, smoking and drugs