Frieth CEC School **Science Long Term Plan**

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	**Materials** Name and describe the simple physical properties of everyday materials, including wood, plastic, glass, metal, water, and rock, compare and group.	**Seasonal Change Autumn** Observe changes in Autumn and describe weather and day length. Learn what weather is and the weather associated with each season. Use a class weather station, observation, discussion and learning outside to measure and record.	**Animals and Humans** Identify animals including fish, amphibians, reptiles, birds and mammals including carnivores, herbivores and omnivores. Label parts of humans and animals. Trip – Connells Farm	**Seasonal Change Winter** Exploring signs of winter through nature and wildlife. Find out how different types of weather can be measured. Work scientifically by collecting, recording and interpreting simple data.	**Plants** Identify wild and garden plants, e.g. deciduous and evergreen trees, describe structure of flowering plants, trees. Trip – Lady Ryder Memorial Garden	**Seasonal Change Spring and Summer** Observe and collect data about the weather and changes between spring and summer. Sun safety. Go on a nature walk. Work scientifically by using simple equipment, making observations and gathering data.
Year 2	**Living things and their habitats** explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food Pond Dipping	**Everyday Materials** identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	**Animals and Humans** notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	**Animals and Humans** notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene Trip – Jacksons Farm (lambing)	**Plants** observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy Trip – Lady Ryder Memorial Garden	**Biodiversity - Minibeasts** identify and name a variety of plants and animals in their habitats, including microhabitats. describe the basic needs of animals, including humans, for survival and what factors influence this, such as their habitats. describe how different types of animals and plants in a habitat depend on each other. understand the idea of a simple food chain. describe how plants need water, light and a suitable temperature to grow and stay healthy. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different types of animals and plants. Trip – Lady Ryder Memorial Garden

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Year 3	**Rocks** Compare and group together different kinds of rocks on the basis on their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter. Geology Jill j.eyers@openworld.com www.chilternatchaelogogy.com	**Animals and Humans** Animals, including humans, need the right types and amount of nutrition, they cannot make their own food; they get nutrition from what they eat. Humans and some other animals have skeletons and muscles for support, protection and movement.	**Forces** Compare how things move on different surfaces. Some forces need contact between 2 objects, but magnetic forces can act at a distance. Magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials. Describe magnets as having 2 poles. Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	**Magnets** Compare how things move on different surfaces. Some forces need contact between 2 objects, but magnetic forces can act at a distance Magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Describe magnets as having 2 poles. Predict whether 2 magnets will attract or repel each other, depending on which poles are facing	**Plants** Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Trip – Lady Ryder Memorial Garden	**Light** We need light in order to see things; dark is the absence of light. Light is reflected from surfaces. Children recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows changes.
Year 4	**Living Things in Their habitats** Identifying, grouping, sorting and classifying; vertebrates and invertebrates; local habitat classification keys. Reproduction in plants, Trip – Lady Ryder Memorial Garden Pond Dipping	**Electricity** Common electrical appliances; how to construct simple circuits; key vocabulary; and conductors and insulators.	**States of Matter** Solids, liquids and gasses; material properties; investigate the weight of gas; investigate the states of matter of water.	**Sound** How vibrations cause sound; pitch and loudness.	**Animals and Humans** Nutrition and the digestive system; function of teeth; herbivores, omnivores, carnivores, food chains.	**Animals and Humans** Nutrition and the digestive system; function of teeth; herbivores, omnivores, carnivores, food chains.
Year 5	**Living Things in Their habitats** Reproduction and life cycles; pollination and asexual reproduction. Grouping flowering and non-flowering plants, Trip – Lady Ryder Memorial Garden Pond Dipping	**Animals and Humans** Changes in humans over their lifecycle; puberty; gestation of humans.	**Properties and changes of materials** Material properties; uses; dissolving; separating; irreversible changes.	**Forces** Gravity; friction; water resistance; air resistance; mechanisms – levers, gears and pulleys; Newton.	**Earth** Spherical bodies; night and day; night and day international; movement of the moon.	**Space** The planets; geocentric versus heliocentric.

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Year 6	**Living Things in their Habitats** Classify living things including microorganisms, plants and animals, vertebrates and invertebrates, study of scientist Carl Linnaeus, research unfamiliar plants, justify classification Trip – Lady Ryder Memorial Garden Pond Dipping	**Evolution and Inheritance** Variation, adaptation, theories of evolution by Charles Darwin and Alfred Wallace.	**Light** Light, how we see, shadows, reflection and refraction, how light travels.	**Electricity** Represent circuits using symbols, Thomas Edison and Nikolas Tesla, what electricity is and how to measure it.	**Animals and Humans** Circulatory system, job of the heart, what is blood and how it is transported around the body, how heart rate is affected by exercise.	**PSHE/ RSE /SATs**

Field Trips
Theme Days
Pond Dipping