Fairisle Junior School Overview of Science 2021-2022

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 3 Project:	***Plastic Sucks!***	***Going, Going Scone!***	***Misunderstood Monsters***	***Rocking Through Time***	***Groovy Greeks***	
Skills:	**How do we power our bodies?** **Animals (Including humans)** *Nutrition, eating & the function of skeletons & muscles* - I am learning to identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. - I am learning to identify that humans and some other animals have skeletons and muscles for support, protection and movement. - I am learning to record findings using simple scientific language, drawings, labelled diagrams, keys and tables	**What is light?** **Light** *Reflections, the danger of the sun, shadow formation, patterns & sizes* - I am learning to recognise that they need light in order to see things and that dark is the absence of light. - I am learning to notice that light is reflected from surfaces. - I am learning to recognise that light from the sun can be dangerous and that there are ways to protect their eyes. - I am learning to recognise that shadows are formed when the light from a light source is blocked by an opaque object. - I am learning to find patterns in the way that the size of shadows changes. - I am learning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	**How do magnets work?** **Forces** *Comparing how things move on different surfaces, exploring different forces including magnets* - I am learning to compare how things move on different surfaces. - I am learning to notice that some forces need contact between two objects, but magnetic forces can act at a distance. - I am learning to observe how magnets attract or repel each other and attract some materials and not others. - I am learning to 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. - I am learning to describe magnets as having two poles. - I am learning to predict whether two magnets will attract or repel each other, depending on which poles are facing. - I am learning to set up simple practical enquiries, comparative and fair tests.	**What different types of rock are there?** **Rocks** *Comparing & grouping rocks according to appearance & properties, different soils & fossil formation* - I am learning to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. - I am learning to describe in simple terms how fossils are formed when things that have lived are trapped within rock. - I am learning to recognise that soils are made from rocks and organic matter. I am learning to identify differences, similarities or changes related to simple scientific ideas and processes.	**What makes plants special?** **Plants** *Functions of different parts of a plant, life & growth, water transportation & the life cycle of flowering plants* - I am learning to identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers - I am learning to 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. - I am learning to investigate the way in which water is transported within plants - I am learning to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. I am learning to as relevant questions and using different types of scientific enquiries to answer them.	

Year 4 Project:	***Journey to the Jungle***	***You're Gonna Hear Me Roar***	***I Came, I Saw, I Conquered***	***Mummy Mayhem***	***A Taste of Paradise***	***Bright Sparks***
Skills:	**Is it good enough to call all sharks a shark?** **Living Things & Their Habitats** *Classification keys, changing environments & the dangers to living things* - I am learning to recognise that living things can be grouped in a variety of ways. - I am learning to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. - I am learning to recognise that environments can change and that this can sometimes pose dangers to living things. - I am learning to gather, record, classify and present data in a variety of ways to help in answering questions.	**If you saw an adder about to eat a baby robin, would you stop it?** **Animals (including humans)** *Constructing & interpreting food chains, identifying producers, predators & prey* • I am learning to construct and interpret a variety of food chains, identifying producers, predators and prey. • I am learning to use straightforward scientific evidence to answer questions or to support their findings.	**How do we hear?** **Sound** *How sounds are made – vibrations, the ear, patterns between pitch & volume and features of objects* - I am learning to identify how sounds are made, associating some of them with something vibrating. - I am learning to recognise that vibrations from sounds travel through a medium to the ear. - I am learning to find patterns between the pitch of a sound and features of the object that produced it. - I am learning to find patterns between the volume of a sound and the strength of the vibrations that produced it. - I am learning to recognise that sounds get fainter as the distance from the sound source increases. - I am learning to make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including data loggers.	**Glass of ice water – What can you see?** **States of Matter** *Comparing & grouping materials including solids, liquids & gases, observing changes of state when heated / cooled, evaporation & condensation in the water cycle* - I am learning to compare and group materials together, according to whether they are solids, liquids or gases. - I am learning to observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). - I am learning to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. - (Recap) I am learning to make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers. - I am learning to record findings using bar charts	**What happens to our food when we eat?** **Animals (including humans)** *Functions of the digestive system in humans, different types of teeth & their functions* - I am learning to describe the simple functions of the basic parts of the digestive system in humans. - I am learning to identify the different types of teeth in humans and their simple functions. - I am learning to use straightforward scientific evidence to answer questions or to support their findings**.**	**How can we use electricity?** **Electricity** *Identify electricity in the home, construct circuits including switches, & explore conductors & insulators* - I am learning to identify common appliances that run on electricity. - I am learning to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. - I am learning to identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. - I am learning to recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. - I am learning to recognise some common conductors and insulators, and associate metals with being good conductors. - I am learning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

Year 5 Project:	*To Infinity & Beyond*	*The End of the World?*	*Crime & Punishment*	*The Rainbow Bridge*	*Down by the River*	*Guilty or Not Guilty?*
Skills:	**Does the Universe revolve around me?** **Earth & Space** *Describing the movement of the Earth – Sun & Solar System, Moon, describing the Sun, Earth & Moon, linking Earth's rotation to day & night* - I am learning to describe the shape and position of the Sun, Earth and Moon in our solar system. - I am learning to identify scientific evidence which does or does not support an idea or argument. - I am learning to describe the movement of the Earth (and other planets) in relation to the Sun and the Moon in relation to the Earth. - I am learning to explore the rotation of the Earth. - I am learning to explain how our solar system works.	**Why haven't all living things become extinct?** **Living Things & Their Habitats** *Life cycles (mammals, amphibians, insects & birds), reproduction* - I am learning to describe the life process of reproduction in some plants. - I am learning to plan different types of investigation to answer questions. - I am learning to describe the differences in the life cycles of various animals.	**How will I change as I get older?** **Animals (including humans)** *Describe the changes as humans develop to old age* - I am learning to describe the changes as humans develop to old age: gestation. - I am learning to describe the changes as humans develop to old age: pregnancy. - I am learning to describe the changes as humans develop to old age: childhood. - I am learning to describe the changes as humans develop to old age: adulthood. I am learning to take measurements with increasing accuracy and precision, taking repeat readings when appropriate.	**How can I prepare for the Viking life in Britain?** **Properties of Materials** *Comparing & grouping everyday materials based upon properties* - I am learning to explore the hardness of different materials. - I am learning to investigate solubility. - I am learning to record my results and represent them in a variety of ways. - I am learning to understand which materials will block out light most effectively. - I am learning to explore the magnetic properties of different metals. - I am learning to explore conductivity.	**What would life be like without forces?** **Forces** *Gravity, identifying the effects of air resistance, water resistance & friction that act between moving surfaces, recognising that some mechanisms allow smaller force to have greater effect* - I am learning to identify the effect of air resistance. - I am learning to identify the effect of water resistance. - I am learning to identify the effect of friction. - I am learning about the functions of levers, pulleys and gears. - I am learning to record my results and represent them in a variety of ways.	**Chocolate cake: can it ever go back to what it once was?** **Changes of Materials** *Applying knowledge of solids, liquids & gases to separate mixtures (filtering, sieving & evaporating) and explore the differences between reversible and irreversible changes* - I am learning to explore solutions. - I am learning to separate mixtures through filtering, sieving and evaporating. - I am learning about reversible and irreversible changes. - I am learning to use test results to make predictions about what might happen in other tests.

Year 6 Project:	***I'm a Survivor!***		***Keep Calm and Carry On***		***The Show Must Go On***
Skills:	**Why is your teacher not dead?** **Animals Including Humans** *Circulatory system, impact of diet, exercise, drugs & lifestyle and finding out how water and nutrients are transported within animals* - I am learning about the human circulatory system. - I am learning to identify and name the main parts of the human circulatory system. - I am learning to describe the functions of the heart, blood vessels and blood. - I am learning to record data using scientific diagrams and labels. - I am learning to present my findings in oral and written forms.	**Is it really 'survival of the fittest'?** **Evolution & Inheritance** *Changes as humans develop to old age, changes to living things over time, offspring, and adaptation of living things to suit environments* - I am learning that living things produce offspring of the same kind. - I am learning to recognise that living things have changed over time. - I am learning about adaptation. - I am learning about fossils and why they are important. - I am learning to identify scientific evidence which does or does not support an idea or argument.	**How do we see?** **Light** *How light travels, how light is reflected, explaining how we see and how shadow are created* - I am learning about how light travels. - I am learning to explain how objects give out or reflect light. - I am learning to explain how we see. - I am learning to understand how shadows are made. - I am learning to use scientific equipment to take accurate readings.	**How can we work more scientifically when we are studying animals?** **Living Things & Their Habitats** *Classifying plants & animals according to characteristics, similarities, differences & common observable characteristics* - I am learning about animal classification. - I am learning to use similarities and differences to group living things. - I am learning to understand the different animal kingdoms. - I am learning to classify living things based on their characteristics. - I am learning to explain my choices of classification.	**What would life have been like during a black-out in the Blitz?** **Electricity** *Can we live without Electricity?* *Voltage of cells in a circuit & their impact, recognising symbols of a circuit diagram* *(Linked to War experience – black outs)* - I am learning about electrical circuits. - I am learning how to make a lamp brighter and a buzzer louder. - I am learning to compare how components function. - I am learning to draw accurate diagrams using the standardised symbols for electrical components.