Castercliff Primary Academy – Year 4 Science Progression.

Curriculum Year 4	**Sound:** Investigating Pitch	**Materials:** Drying Materials	**Materials:** Measuring Temperature	**Living Things:** Local Survey	**Electricity:** Conductors	**Animas Including Humans:** Teeth
Key Skill	Asking and Answering Questions	Comparative and Fair Testing 	Pattern Seeking 	Observing Over Time 	Identify and Classifying 	Research Using Secondary Resources 
Applied Skills						
Knowledge	•Identify how sounds are made, associating some of them with something vibrating. •Recognise that vibrations from sounds travel through a medium to the ear. •Find patterns between the pitch of a sound and features of the object that produced it .•Find patterns between the volume of a sound and the strength of the vibrations that produced it. •Recognise that sounds get fainter as	•Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	•Compare and group materials together, according to whether they are solids, liquids or gases. •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).	•Compare how things move on different surfaces. •Notice that some forces need contact between two objects, but magnetic forces can act at a distance. •Observe how 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 common appliances that run on electricity •Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. •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. •Recognise that a switch opens and closes a circuit and associate this with	•Describe the simple functions of the basic parts of the digestive system in humans •Identify the different types of teeth in humans and their simple functions. •Construct and interpret a variety of food chains, identifying producers, predators and prey.

	the distance from the sound source increases.			identify some magnetic materials •Describe magnets as having two poles. •Predict whether two magnets will attract or repel each other, depending on which poles are facing.	whether or not a lamp lights in a simple series circuit. •Recognise some common conductors and insulators, and associate metals with being good conductors.	
Sticky Knowledge 'Evidencing'	•Can give everyday examples of melting and freezing •Can give examples of things that melt/freeze and how their melting points vary •Using their data, can explain what affects how quickly a solid melts •Can measure temperatures using a thermometer •From their observations, can give the melting points of some materials •Can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear •Can demonstrate how to increase or decrease pitch and volume using musical instruments or other objects •Can use data to identify patterns in pitch and volume	•Can give everyday examples of melting and freezing •Can give examples of things that melt/freeze and how their melting points vary •Using their data, can explain what affects how quickly a solid melts •Can measure temperatures using a thermometer •From their observations, can give the melting points of some materials	•Can create a concept map, including arrows linking the key vocabulary •Can name properties of solids, liquids and gases •Can give everyday examples of evaporation and condensation •Can describe the water cycle •Can give reasons to justify why something is a solid liquid or gas •Can explain why there is condensation on the inside the hot water cup but on the outside of the icy water cup •From their data, can explain how to speed up or slow down evaporation •Can present their learning about the water cycle in a range of ways e.g. diagrams, explanation text, story of a water droplet	•Can name living things living in a range of habitats, giving the key features that helped them to identify them •Can give examples of how an environment may change both naturally and due to human impact •Can keep a careful record of living things found indifferent habitats throughout the year (diagrams, tally charts etc.) •Can use classification keys to identify unknown plants and animals •Can present their learning about changes to the environment in different ways e.g. campaign video, persuasive letter	•Can name the components in a circuit •Can make electric circuits •Can control a circuit using a switch •Can name some metals that are conductors •Can name materials that are insulators •Can communicate structures of circuits using drawings which show how the components are connected •Use classification evidence to identify that metals are good conductors and non-metals are insulators •Can incorporate a switch into a circuit to turn it on and off •Can connect a range of different switches identifying the parts that are insulators and conductors •Can add a circuit with a switch to a DT project and can demonstrate how it works	•Can sequence the main parts of the digestive system •Can draw the main parts of the digestive system onto a human outline •Can describe what happens in each part of the digestive system •Can point to the three different types of teeth in their mouth and talk about their shape and what they are used for •Can name producers, predators and prey within a habitat •Can construct food chains •Can use diagrams or a model to describe the journey of food through the body explaining what happens in each part •Can record the teeth in their mouth (make a dental record) •Can explain the role of the different types of teeth •Can explain how the teeth in animal skulls show they are carnivores, herbivores or omnivores

	•Can explain how loudness can be reduced by moving further from the sound source or by using a sound insulating medium				•Can give reasons for choice of materials for making different parts of a switch •Can describe how their switch works	•Can create food chains based on research