Orton Wistow Primary School – Curriculum Plan

Subject : Science | **Year : 6** | **Term : Autumn**

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Voltage - Electricity can only flow when a power supply is able to "push" the electrons around a complete circuit. The size of the push is called the **voltage**. The higher the voltage, the bigger the push moving the electrons around the circuit. **Components** – objects that can be added to an electrical circuit. E.g. bulb, battery, switch, buzzer, motor. **Cells** - An electrical cell is a device used to generate electricity, or to make chemical reactions by applying electricity. **Battery** - A battery is one or more cells, connected. **Brightness** - the quality or state of giving out or reflecting light. **Volume** – quantity or power of sound; degree of loudness. **Switch** - a device for making and breaking the connection in an electric circuit. **Buzzer** - an electrical device that makes a buzzing noise and is used for signalling. **Bulb** – an object that emits light. **Motor** - a machine that supplies motive power for a vehicle or for another device with moving parts.	How to use recognised symbols when representing a simple circuit in a diagram. As the number and voltage of cells in a circuit increases so does the brightness of a bulb or the volume of a buzzer.			Adding extra components to a circuit makes the function of each component vary – e.g. bulbs will get dimmer, buzzers will get quieter, motors will reduce in speed. This happens because in a circuit, energy is shared between the components, so if the number of components is increased, the less energy there is for each component. Increasing the number of and the voltage of cells in a circuit increases the energy in the circuit – this makes bulbs shine brighter, motors spin faster, and buzzers increase in volume.			Draw circuits using the recognised symbols. Construct simple series circuits. Use their knowledge of simple circuits to create useful circuits e.g. making traffic lights. **Working Scientifically** Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations		

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Evolution and Inheritance | **Year : 6** | **Term : Autumn**

			
Vocabulary	**Knowledge**	**Understanding**	**Skills**
Fossils – the remains or impression of a prehistoric plant or animal imbedded in rock. **Inhabited** – when a person, animal or group live in or occupy a place or environment. **Offspring –** a person or animals' child or children. **Environment** – the surroundings or conditions in which a person, plant or animal lives or operates. **Adaption –** the process of change by which an organism or species becomes better suited to it's environments. **Evolution –** the process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth. From the Latin evolvere – which means unrolling. **Characteristics –** a feature or quality belonging typically to a person, place or thing that helps to identify them. **Breeds –** a stock of animals within a species having a distinctive appearance and typically developed by deliberate selection.	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Know ideas about evolution where developed by Charles Darwin and Alfred Wallace and palaeontologists such as Mary Anning.	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents for example considering different breeds of dogs and what happens when for example a Labrador is crossed with a poodle. Understand how variation in offspring over time can make animals more or less able to survive in particular environments – e.g. exploring how a giraffes' neck got longer, or the development of insulating fur on the arctic fox.	**Use classification keys to sort and organise** organisms into different categories. **Use classification keys** to identify different living things. **Working Scientifically** Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Identify scientific evidence that has been used to support or refute ideas or arguments.

Palaeontology – the science of the former life of the earth such as fossils. From the Greek – pailaios – which means old, ancient,			

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Living Things & their habitats	Year : 6	Term : Spring

								
Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Plant – a living organism typified by growing in a permanent site, that absorbs water and inorganic matter through its roots and uses photosynthesis through its leaves. **Animal** – living organism that feeds or organic matter, typically having specialised sense organs and nervous system and being able to respond rapidly to stimuli. **Micro-Organism** - A microorganism is an organism that is too small to see without a microscope. Common microorganisms include bacteria and some fungi. **Invertebrate** – animals that don't have a backbone. **Vertebrate** - an animal of a large group distinguished by the possession of a backbone or spinal column. **Classify -** arrange (a group of people or things) in classes or categories	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Know about the significance of the work of Carl Linneaus			Give reasons for classifying plants and animals based on specific characteristics. Understand that the broad groupings such as micro-organisms, plants and animals can be subdivided and classify animals into commonly found invertebrates (such as insects, spiders, snails, worms,) and vertebrates (fish, amphibians, reptiles, birds and mammals.)			Research unfamiliar plans and animals from a broad range of other habitats and decide where they belong in a classification system. **Working Scientifically** -Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs -Use test results to make predictions to set up further comparative and fair tests		

according to shared qualities or characteristics. *From the Latin classis – which means division.* Characteristics a feature or quality belonging typically to a person, place, or thing and serving to identify them. **Mammal –** a warm-blooded vertebrate animal that has hair or fur typically gives birth to live young and includes females that secrete milk for the nourishment of their young. *From the Latin – mamma – which means breast.* **Amphibian** – cold- blooded animal, they are born in water and breath with gills. As the larva grows into an adult form they develop the ability to breathe air and they are able to live on land as well as in water. **Insect –** animals that have 3 major body parts (head, thorax and abdomen), 3 pairs of legs and typically 1 or two pairs of wings. *From the Latin in which means into and secare which means to cut.* **Bird** – warm-blooded, egg laying animal with feathers, wings and a beak and typically able to fly.			

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Animals, including humans.	Year : 6	Term : Summer

			

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Diet - the kinds of food that a person, animal, or community habitually eats. **Exercise** - activity requiring physical effort, carried out to sustain or improve health and fitness. **Drugs** - a medicine or other substance which has a physiological effect when ingested or otherwise introduced into the body. **Circulatory system** - the system that circulates blood and lymph through the body, consisting of the heart, blood vessels, blood, lymph, and the lymphatic vessels and glands. **Nutrients** - a substance that provides nourishment essential for the maintenance of life and for growth **Heart** - a hollow muscular organ that pumps the blood through the circulatory system by rhythmic contraction and dilation. **Blood vessels** - a tubular structure carrying blood through the tissues and organs.	Identify and name the main parts of the human circulatory system. Describe the functions of the heart, blood vessels and blood Describe the ways in which nutrients and water are transported within animals, including humans.			Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Understand how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body.			Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health. **Working Scientifically** - Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate		

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Light | **Year : 6** | **Term : Summer**

								
Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Reflect - When light from an object is reflected by a surface, it changes direction. It bounces off the surface at the same angle as it hits it. From the Latin reflex – which means bent back. **Light source -** Light comes from different sources called light sources; our main natural light source is the sun. Other sources include fire, stars and man-made light sources such as light-bulbs and torches **Shadows -** a dark shape that is formed when an object blocks a source of light.	Recognise that light appears to travel in straight lines 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 that objects are seen because they give out or reflect light into the eye Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.			Design and make a periscope and using the idea that light appears to travel in straight lines explain how it works. Investigate the relationship between light sources, objects and shadows by using shadow puppets. **Working Scientifically** - Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate		