Eaves Primary School Knowledge and Concepts Map 2022-2023
Science

Year Group	Autumn Term		Spring Term		Summer Term	
FS1	**Unit Title** **Humans** **Living things and their habitats**		**Unit Title** **Materials, including changing materials.** **Light** **Plants**		**Unit Title** **Animals excluding humans** **Plants**	
	Sticky Knowledge Human Life Cycles Taking care of selves. Use of senses to explore. The natural environment around them. Natural objects from the surrounding environment.	**Key Concepts** Similarity and difference Working Scientifically	**Sticky Knowledge** A range of materials. How to shape and join materials. Combine and mix ingredients. Change materials by heating and cooling, including cooking Light sources. How light shines on or through different materials. Growing plants	**Key Concepts** Similarity and difference Cause and effect Energy Growth Working Scientifically	**Sticky Knowledge** Life cycles of animals. How to compare adult animals to their babies. How baby animals change over time. Growing plants	**Key Concepts** Similarity and difference Variation Growth Working Scientifically
FS2	**Unit Title** **Humans** **Earth and Space** **Light** **Seasonal Change**		**Unit Title** **Materials, including changing materials.** **Forces** **Seasonal Change**		**Unit Title** **Living things and their habitats** **Animals excluding humans** **Seasonal Change**	
	Sticky Knowledge People who are familiar to them. How to take care of themselves. Earth, Sun, Moon, planets and stars.	**Key Concepts** Similarity and difference Working Scientifically	**Sticky Knowledge** A range of materials, including natural materials. Objects made from different materials,	**Key Concepts** Similarity and difference Cause and effect Energy Working Scientifically	**Sticky Knowledge** Animals that live in different habitats. Different habitats. Outside in all seasons. Different weather.	**Key Concepts** Similarity and difference Variation Growth Working Scientifically

	Space travel Shadows and rainbows		including natural materials How materials change when heated and cooled How materials change over time and in different conditions		Living things throughout the year Plants in the surrounding natural environment. Animals in the surrounding natural environment. Plants and animals in a contrasting natural environment	
Year 1	**Unit Title** **Animals and Humans** **Seasonal Change**		**Unit Title** **Everyday Materials** **Seasonal Change**		**Unit Title** **Plants** **Seasonal Change**	
	Sticky Knowledge Common animals including fish, amphibians, reptiles, birds and mammals. A variety of animals that are carnivores, herbivores and omnivores. The structure of a variety of common animals. Name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	**Key Concepts** Variation Working Scientifically Structure Similarity and difference	**Sticky Knowledge** Distinguish between an object and the material from which it is made. Name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Describe the simple physical properties of a variety of everyday materials.	**Key Concepts** Similarity and difference Working Scientifically	**Sticky Knowledge** Name a variety of common wild and garden plants, including deciduous and evergreen trees. Basic structure of a variety of common flowering plants, including trees. Changes across the four seasons. Weather associated with the seasons and how day length varies.	**Key Concepts** Variation Working Scientifically Structure Similarity and difference Cause and effect

Year 2	**Unit Title** **Uses of everyday materials** **Plants**		**Unit Title** **Living things and their habitat**		**Unit Title** **Animals including humans**	
	Sticky Knowledge Materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard are suitable for particular uses. The shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Key Concepts** Cause and effect Changes Working Scientifically	**Sticky Knowledge** The differences between things that are living, dead, and things that have never been alive. Most living things live in habitats to which they are suited and different habitats provide for the basic needs of different kinds of animals and plants. How animals and plants depend on each other.	**Key Concepts** Similarity and difference Cause and effect Working Scientifically	**Sticky Knowledge** Animals, including humans, have offspring which grow into adults. Basic needs of animals, including humans, for survival (water, food and air). Importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**Key Concepts** Growth Energy Function

Year 3	**Unit Title** **Rocks** **Forces and Magnets**		**Unit Title** **Light** **Animals including humans**		**Unit Title** **Plants**	
	Sticky Knowledge	**Key Concepts**	**Sticky Knowledge**	**Key Concepts**	**Sticky Knowledge**	**Key Concepts**
	Rocks can be compared and grouped together on the basis of their appearance and simple physical properties. Fossils are formed when things that have lived are trapped within rock. Soils are made from rocks and organic matter. How things move on different surfaces. Some forces need contact between two objects, but magnetic forces can act at a distance. Magnets attract or repel each other and attract some materials and not others. Magnets have two poles. Two magnets will attract or repel each other, depending on which poles are facing.	Cause and effect Changes Energy Similarity and difference Working Scientifically	Light is needed in order to see things and dark is the absence of light. Light is reflected from surfaces. Light from the sun can be dangerous and that there are ways to protect their eyes. Shadows are formed when the light from a light source is blocked by an opaque object. There are patterns in the way that the size of shadows change. 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. Humans and some other animals have skeletons and muscles for support, protection and movement.	Energy Cause and effect Working Scientifically	The functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Plants require for life and growth (air, light, water, nutrients from soil, and room to grow). These requirements vary from plant to plant. Water transportation within plants. The part flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Structure Function Variation Growth Energy Process Working Scientifically

Year 4	**Unit Title** **Living Things and Their Habitats** **Animals Including Humans**		**Unit Title** **States of Matter**		**Unit Title** **Electricity** **Sound**	
	Sticky Knowledge Living things can be grouped in a variety of ways using classification keys. Environments can change and sometimes this poses dangers to living things. The simple functions of the basic parts of the digestive system in humans. Different types of teeth in humans and their simple functions. Food chains can be used to identify producers, predators and prey.	**Key Concepts** Variation Adaption Function Working Scientifically	**Sticky Knowledge** Part played by evaporation and condensation in the water cycle. Associate the rate of evaporation with temperature. Materials are grouped together, according to whether they are solids, liquids or gases. Some materials change state when they are heated or cooled. The temperature at which this happens is measured in degrees Celsius (°C).	**Key Concepts** Cause and effect Changes Similarity and difference Working Scientifically	**Sticky Knowledge** What are conductors and insulators; metals are good conductors. Common appliances that run on electricity. A simple series electrical circuit has cells, wires, bulbs, switches and buzzers. How a lamp lights in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. A switch opens and closes a circuit. How sounds are made, associating some of	**Key Concepts** Function Cause and effect Energy Process Working Scientifically

					them with something vibrating. Vibrations from sounds travel through a medium to the ear. There are patterns between the pitch of a sound and features of the object that produced it. There are patterns between the volume of a sound and the strength of the vibrations that produced it. Sounds get fainter as the distance from the sound source increases.	
Year 5	**Unit Title** **Earth and Space Forces**		**Unit Title** **Properties and Changes of Materials**		**Unit Title** **Living Things and Their Habitats** **Animals Including Humans**	
	Sticky Knowledge The movement of the Earth, and other planets, relative to the Sun in the solar system. The movement of the Moon relative to the Earth. The Sun, Earth and Moon are approximately spherical bodies. Earth's rotation explains day and night and the	**Key Concepts** Function Cause and effect Energy Process Working Scientifically	**Sticky Knowledge** Materials can be grouped based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Some materials will dissolve in liquid to form a solution.	**Key Concepts** Function Cause and effect Changes Energy Process Similarity and Difference Working Scientifically	**Sticky Knowledge** The differences in the life cycles of a mammal, an amphibian, an insect and a bird. The life process of reproduction in some plants and animals. The changes as humans develop to old age.	**Key Concepts** Structure Function Variation Growth Process Similarity and Difference Working Scientifically

	apparent movement of the sun across the sky. Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Air resistance, water resistance and friction, act between moving surfaces. Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.		A substance can be recovered from a solution. Mixtures might be separated through filtering, sieving and evaporating. Comparative and fair testing can be used to evidence particular uses of everyday materials, including metals, wood and plastic. Dissolving, mixing and changes of state are reversible changes. Some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.			
Year 6	**Unit Title** **Living Things and their Habitats** **Animals, including humans**		**Unit Title** **Evolution and Inheritance**		**Unit Title** **Light** **Electricity**	
	Sticky Knowledge Living things including microorganisms, plants and animals.	**Key Concepts** Similarity and Difference Structure Function Variation	**Sticky Knowledge** Living things have changed over time and fossils provide information about living	**Key Concepts** Variation Adaption Cause and effect Evolution	**Sticky Knowledge** Light appears to travel in straight lines.	**Key Concepts** Energy Cause and effect Function Process

	are classified into broad groups according to common observable characteristics and based on similarities and differences. Main parts of the human circulatory system, and the functions of the heart, blood vessels and blood. The impact of diet, exercise, drugs and lifestyle on the way their bodies function. Ways in which nutrients and water are transported within animals, including humans.	Process Working Scientifically	things that inhabited the Earth millions of years ago. Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Animals and plants are adapted to suit their environment in different ways and adaptation may lead to evolution.	Process Similarity and Difference Working Scientifically	Objects are seen because they give out or reflect light into the eye. We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Shadows have the same shape as the objects that cast them. Know common conductors and insulators, and associate metals with being good conductors. The brightness of a lamp or the volume of a buzzer is associated with the number and voltage of cells used in the circuit. Know variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.	Working Scientifically