

Biology

	EYFS	Year 1	Year 2	Year 3/4 A	Year 3/4 B	Year 5	Year 6
Living Things		<p>Know what a living thing is.</p>	<p>Know the difference between living, dead and never living. Know that to stay alive, all living things have three basic needs for survival</p>	<p>Know that there are 7 life processes (MRS GREN) that living things need to stay alive and healthy. Know that living things can be sorted into different groups depending on their characteristics. Know that classification keys help us to group and identify living things Know how to use a classification key.</p>			<p>Know that micro-organisms, plants, and animals are different groups of living things. Know that scientists classify living things to help identify, organise and understand them. Know that classification systems, such as the Linnaean system, help group living things in a logical way. Know who Karl Linnaeus was and what he was famous for.</p>
Humans	<p>Make observations of animals and plants and explain why some things occur and talk about changes.</p>	<p>Know what the basic body parts are called. Know the five senses and which body parts are associated with each sense.</p>	<p>Know that humans have offspring (live young). Know that human offspring will grow and develop into adults through their life cycle Know that to grow into a healthy adult, we must eat the right types of food in the right amount and exercise. Know how we can maintain good personal hygiene.</p>	<p>Know the names and functions of the basic parts of the digestive system (oesophagus, stomach, small/large intestine, rectum). Know the names of different types of human teeth and their simple functions (incisor, canine, molar and premolar).</p>	<p>Know the role of the skeleton and its three main jobs. Know the roles of muscles, tendons and joints.</p>	<p>Name the key stages of the human life cycle from fertilisation to late adulthood. Describe each stage of the human life cycle. Understand the role of reproduction in the life cycle. Understand the effects of puberty on the male and female bodies. Know that humans develop inside their mothers.</p>	<p>Understand what the circulatory system is and describe its main parts. Understand that mammals have hearts and how they pump blood around the body. Understand the function of blood. Understand the importance of exercise to keep the body healthy. Understand the effects of drugs and alcohol on the body.</p>

Animals

Make observations of animals and plants and explain why some things occur and talk about changes

Know a variety of animals and where they might be found (farm, pet, etc)
Know what a mammal is and how it can be identified.
Know what a reptile is and how it can be identified.
Know what an amphibian is and how it can be identified.
Know what a bird is and how it can be identified.
Know what a fish is and how it can be identified.
Know that some animals are carnivores, herbivores and omnivores.

Know that animals have offspring (either live young or laying eggs)
Know that animal offspring will grow and develop into adults through their life cycle
Know that animals obtain their food from plants and other animals.
Know what a food chain is and be able to describe what is happening.

Know that the teeth of an animal are designed to eat different foods depending on the diet of the animal.
Know that some animals are herbivores, carnivores or omnivores and what they eat.
Know how to construct and identify food chains- identifying producers, predators and prey.
Know the difference between a vertebrate and invertebrates.

Know that animals need the right types and amount of nutrition.
Know that animals get the nutrition from the food they eat
Know the difference between a vertebrate and invertebrate and name examples of each.

Know that amphibians hatch from eggs and go through many changes until they become an adult.
Know that some creatures go through metamorphosis to become an adult.
Know that birds hatch from eggs and are looked after by their parents until they are able to live independently.
Know that mammals use sexual reproduction to produce their offspring and what happens during fertilisation.

Know that plants, animals and microorganisms can be classified according to observable characteristics
Know that plants, animals and microorganisms can be classified based on similarities and differences

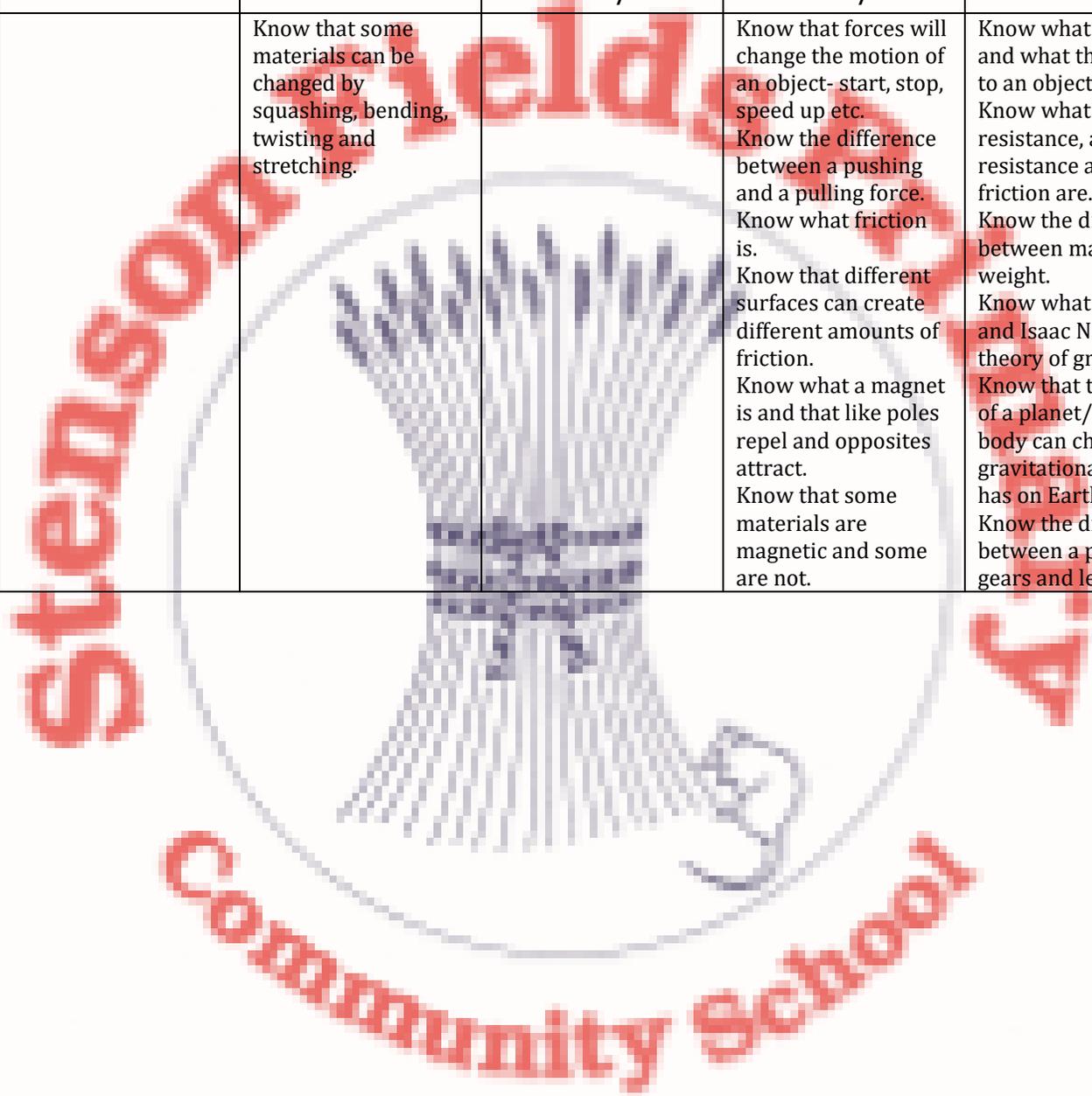
<p style="text-align: center;">Plants</p>	<p>Know that there are four seasons and the associated months. Know the changes seasons bring- weather, daylight etc. Know the relevant changes associated with each season. Know that daylight hours change depending on the season.</p>	<p>Know the key parts of a plant (roots, stem, leaves, petals) Know the functions of the key parts of a plant. Know that plants can bear fruits and vegetables. Know the difference between fruit and vegetables. Know the names of some common trees and identify them. Know the names of some wild plants and identify them. Know the difference between a wild plant and a garden plant. Know the names of some garden plants and identify them. Know the difference between deciduous and evergreen trees.</p>	<p>Know and identify the different stages of the life cycle of a plant. Know that plants grow from seeds/bulbs. Know what is inside a seed/bulb to help it grow. Know what happens during germination. Know that seed dispersal might be the start of the plant life cycle. Know and describe the conditions a plant needs to stay healthy. Know what a healthy plant looks like.</p>	<p>Know and identify the parts and functions of a flowering plant. Know and describe the stages in the life cycle of a flowering plant. Know what plants need for life and growth and how this can vary between plants. Know that photosynthesis is how green plants make their food. Know and describe how water moves through plants. Know that seeds can be dispersed in a number of ways.</p>	<p>Know that most plants contain the male and female sex cells. Know the different ways that plants can be fertilised. Know that some plants use asexual reproduction.</p>	<p>Know that plants, animals and microorganisms can be classified according to observable characteristics. Know that plants, animals and microorganisms can be classified based on similarities and differences</p>
<p style="text-align: center;">Habitats</p>	<p>Talk about the features of their own immediate environment and how environments might vary from one another. Know that the environment and living things are influenced by human activity</p>	<p>Know that there are four seasons and the associated months. Know the changes seasons bring- weather, daylight etc. Know the relevant changes associated with each season. Know that daylight hours change depending on the season.</p>	<p>Know the name and identify a variety of plants and animals in their habitats. Know what a habitat (and microhabitat is). Know that habitats are suited to and provide for the living things in them.</p>	<p>Know that plants and animals rely on the environment to give them everything they need. Know that changes (natural or human made) to the environment can impact on the living things living there.</p>		<p>Know what qualifies as a good habitat. Know that there are different types of environment in the world- polar, deserts etc.</p>

<p style="text-align: center;">Evolution</p>	<p>Talk about the features of their own immediate environment and how environments might vary from one another. Make observations of animals and plants and explain why some things occur and talk about changes.</p>		<p>Know that habitats are suited to and provide for the living things in them.</p>	<p>Know that changes (natural or human made) to the environment can impact on the living things living there.</p>	<p>Describe how fossils are formed.</p>	<p>Know that animals and plants produce offspring that are similar but not identical to their parents. Know the difference between adaptive and inherited traits. Know how animals are adapted to suit their environment and that this may lead to evolution. Know what evolution is. Know that fossils provide information about living things from millions of years ago.</p>
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Physics

	EYFS	Year 1	Year 2	Year 3/4 A	Year 3/4 B	Year 5	Year 6
Forces	Make observations of explain why some things occur, and talk about changes		Know that some materials can be changed by squashing, bending, twisting and stretching.		<p>Know that forces will change the motion of an object- start, stop, speed up etc.</p> <p>Know the difference between a pushing and a pulling force.</p> <p>Know what friction is.</p> <p>Know that different surfaces can create different amounts of friction.</p> <p>Know what a magnet is and that like poles repel and opposites attract.</p> <p>Know that some materials are magnetic and some are not.</p>	<p>Know what forces are and what they can do to an object.</p> <p>Know what water resistance, air resistance and friction are.</p> <p>Know the difference between mass and weight.</p> <p>Know what gravity is and Isaac Newton's theory of gravity.</p> <p>Know that the mass of a planet/spherical body can change the gravitational pull it has on Earth.</p> <p>Know the difference between a pulley, gears and levers.</p>	

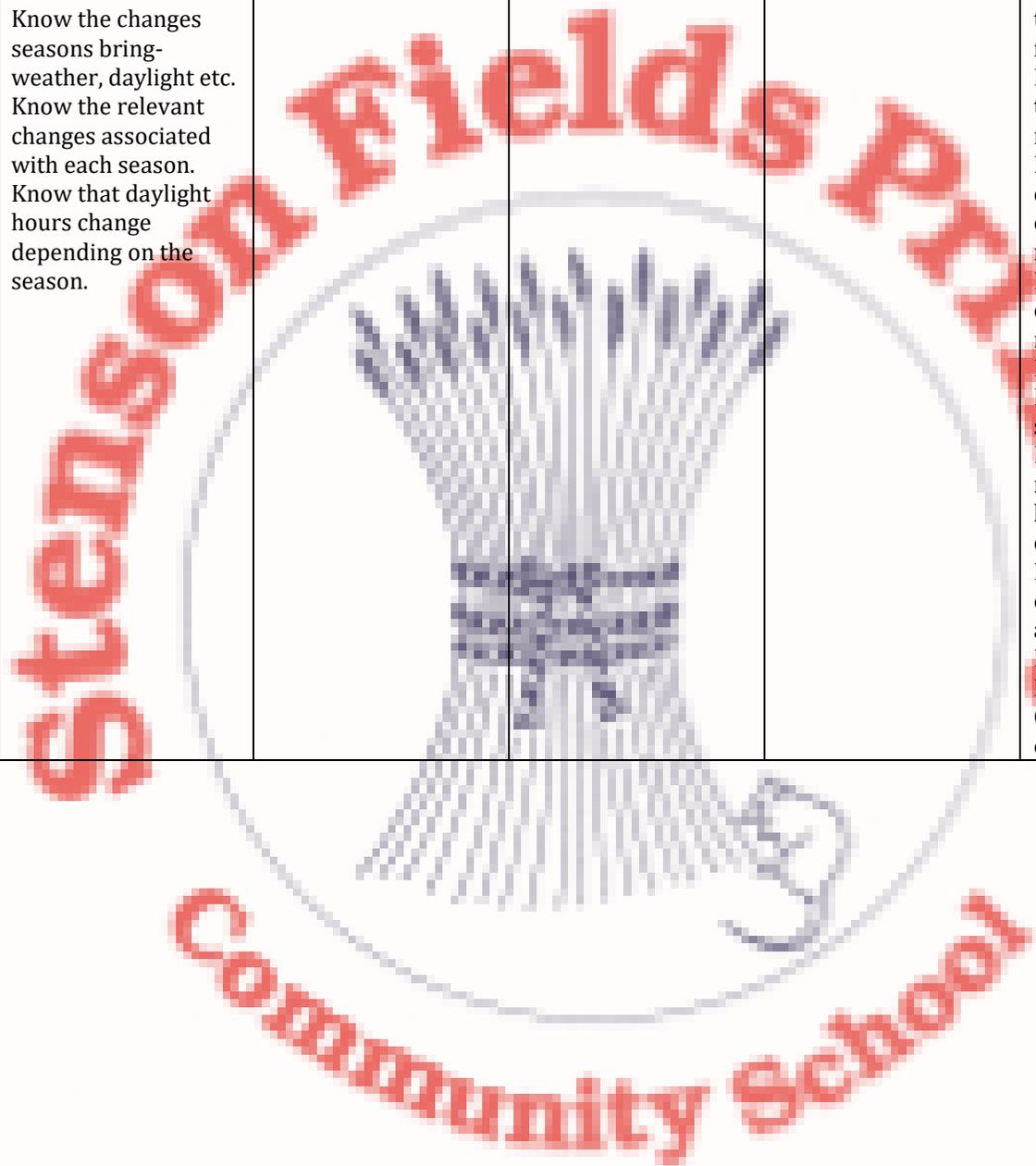


Earth and Space

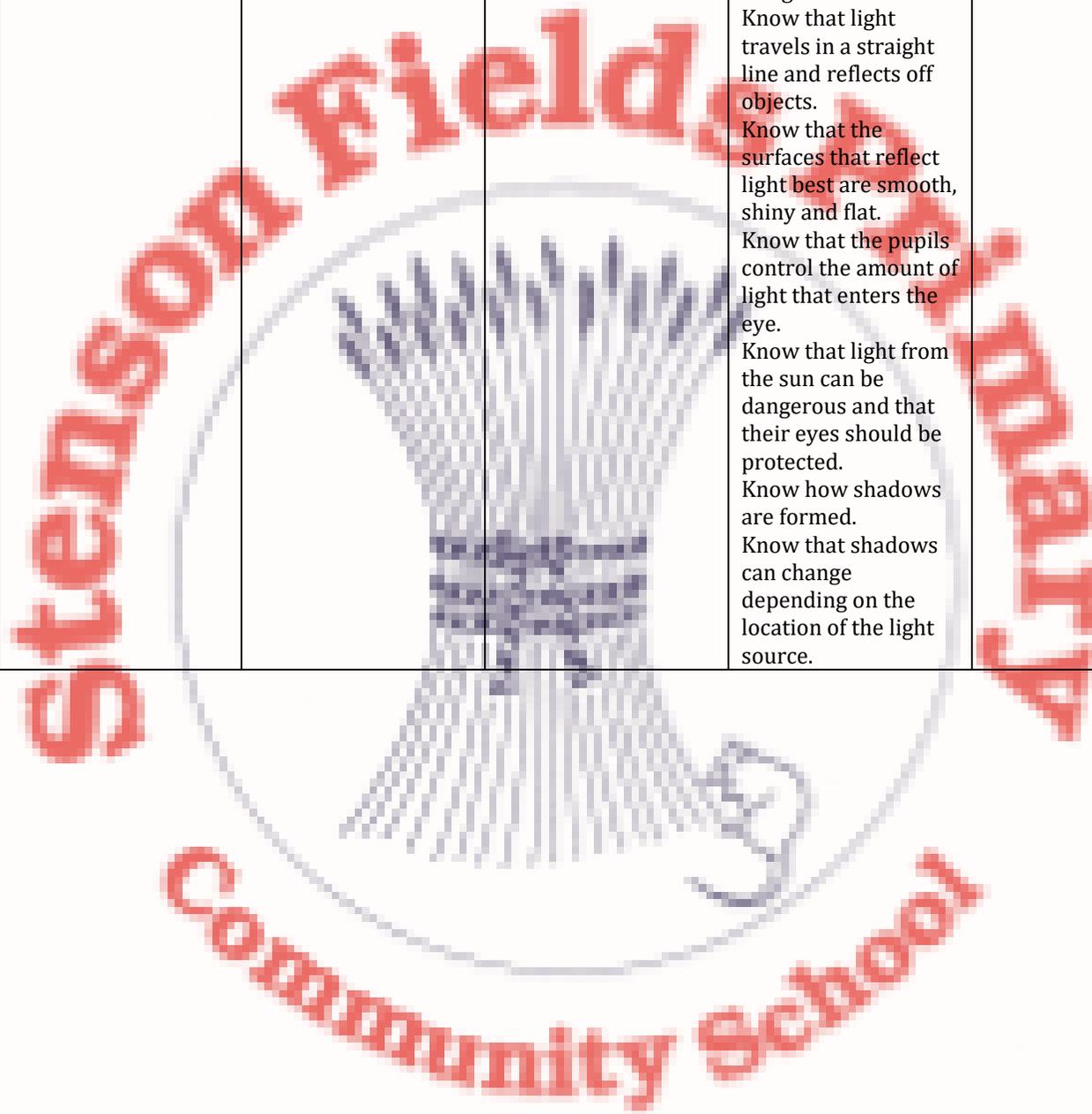
Talk about the features of their own immediate environment and how environments might vary from one another.
Being to understand significance and difference between seasons and months

Know that there are four seasons and the associated months.
Know the changes seasons bring- weather, daylight etc.
Know the relevant changes associated with each season.
Know that daylight hours change depending on the season.

Know the names of the planets in our solar system and their defining features.
Know the order of the planets in relation to the sun.
Know the movements of Earth and the other planets in relation to the sun.
Know that the moon orbits Earth and the nature of this orbit.
Know that the sun, Earth and moon are spherical bodies.
Know that the Earth rotates on its axis and how that impacts on day and night.
Know about the work of astronomers such as Copernicus and Kepler.
Know about the Geocentric and Heliocentric models.



<p style="text-align: center;">Light</p>	<p>Look closely at similarities, differences, patterns and change</p>				<p>Know that we need light to be able to see things. Know that light travels in a straight line and reflects off objects. Know that the surfaces that reflect light best are smooth, shiny and flat. Know that the pupils control the amount of light that enters the eye. Know that light from the sun can be dangerous and that their eyes should be protected. Know how shadows are formed. Know that shadows can change depending on the location of the light source.</p>		<p>Know that light travels in straight lines. Know how light reaches the eyes. Know what happens to light when it moves from air to water- refraction. Know the laws of reflection and incidence. Know the work of Isaac Newton- prism and spectrum. Know that shadows are always the same shape as the object that casts it. Know that shadows can be elongated or shortened depending on the angle of the light source.</p>
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Sound

Looks closely at similarities, differences, patterns and change e.g. exploring sounds made by different instruments

Know the five senses and which body parts are associated with each sense.

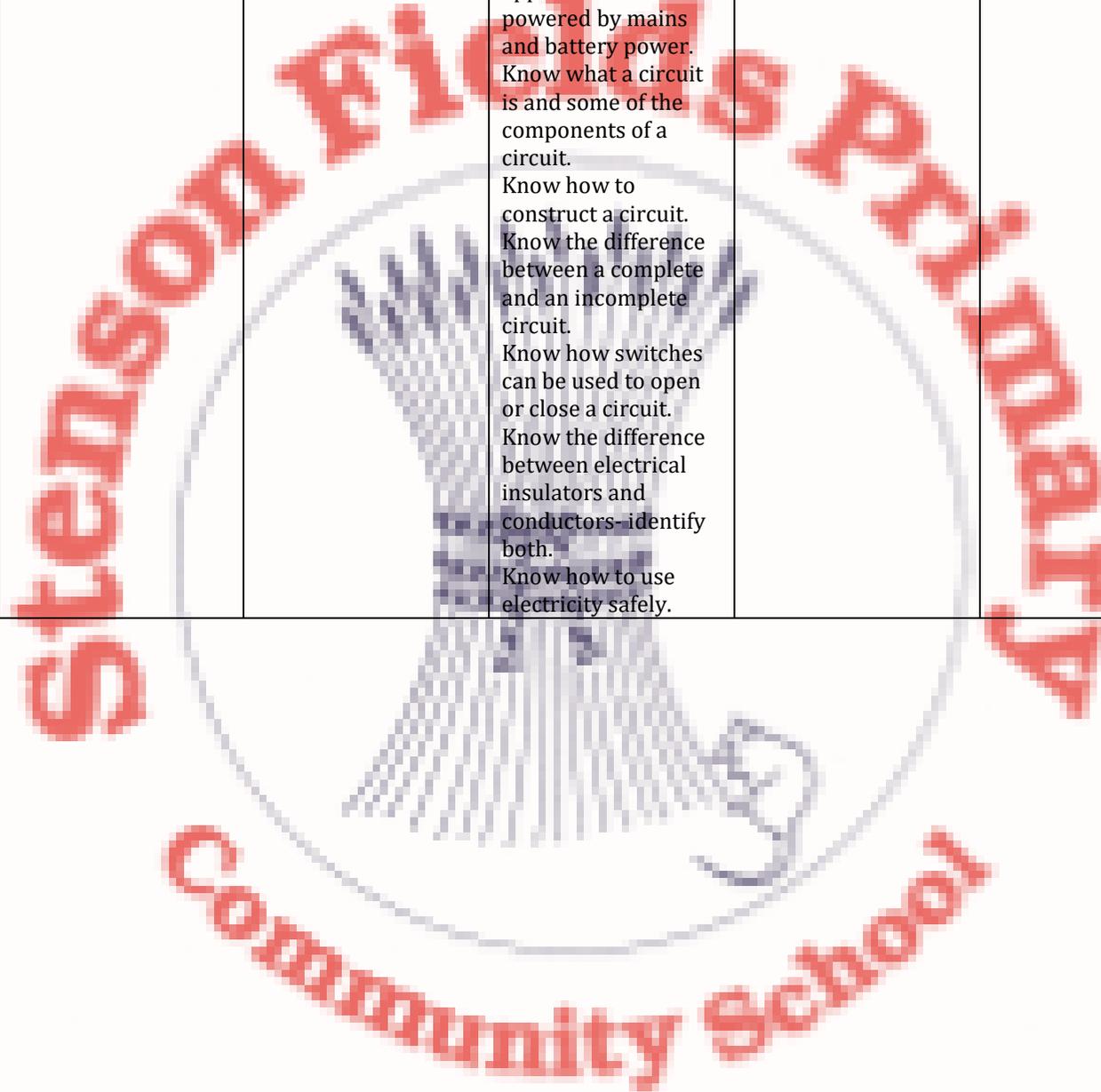
Know that sound is a type of energy and that sounds are created by vibrations. Know that a louder sound creates a bigger vibration and that the size of the vibration is the amplitude. Know that pitch is a measure of how high or how low a sound is. Know that the speed of the vibration changes the pitch of the sound and that this can be changed depending on the instrument. Know that sound travels as a wave and can travel through solids, liquids and gases. Know how the ear receives and processes sound.



Electricity

Know what electricity is and name some appliances which are powered by mains and battery power.
Know what a circuit is and some of the components of a circuit.
Know how to construct a circuit.
Know the difference between a complete and an incomplete circuit.
Know how switches can be used to open or close a circuit.
Know the difference between electrical insulators and conductors- identify both.
Know how to use electricity safely.

Know the components of a circuit and draw a circuit using the correct symbols.
Know what might impact the function of components.
Know what happens when more/less batteries are added to a circuit.
Know how to make a bulb brighter and a buzzer louder.
Know how to make a bulb dimmer or a buzzer quieter.
Know what a series circuit is.



Chemistry

	EYFS	Year 1	Year 2	Year 3/4 A	Year 3/4 B	Year 5	Year 6
Materials and their Properties	<p>Know the properties of some materials and can suggest some of the purposes they are used for</p>	<p>To name and identify different materials including plastic, wood, metal, water, glass, brick, fabric, paper and stone. To name the object and the material from which it is made. To understand the terminology used to describe materials e.g. transparent and rough. To describe the simple physical properties of materials. To group materials according to their physical properties. To suggest the appropriate materials for objects and give reasons.</p>	<p>Know what materials objects are made from. Describe the properties of materials. Know that some materials are more suitable for a specific purpose than others based on their properties. Know that some materials are found naturally and others are man-made. Identify natural and man-made materials. Know the names of some scientists who have invented new materials (John McAdam, John Dunlop and Charles Macintosh).</p>	<p>Describe the three states of matter (including the nature of the particles in each). Know the properties of each state of matter. Group and classify materials based on their state of matter.</p>	<p>Know that there are three types of naturally occurring rock (igneous, sedimentary and metamorphic) and name some of each type. Name some man-made rocks. Describe the properties of different types of rocks. Understand how caves are formed. Know that soil is the uppermost layer of the Earth and the composition of soil (what's in soil and the three layers).</p>	<p>Know the difference in molecular structure between solids, liquids and gases. Know that materials are chosen for specific purposes based on their properties- name these properties.</p>	

Community School

Changing Materials

Know the properties of some materials and can suggest some of the purposes they are used for.

Know that some materials can be changed by squashing, bending, twisting and stretching.

Know that states of matter can change when they reach a certain temperature. Know that these temperatures are called the boiling, melting and freezing points. Describe the water cycle and that condensation and evaporation occur within the water cycle.

Know what dissolving is and that a solution is made after a solid has dissolved in a liquid. Know that materials can be soluble/insoluble. Know that materials can change state- name the processes involved (e.g. solid to liquid= melting) Know that mixing and dissolving solids and liquids together can be reversed by sieving, filtering and evaporating. Know that some changes are irreversible- these often result in a new product being made.

