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Year 2 Science Knowledge Goals Autumn 1-Materials

	An absorbent material **is a type of material which can soak up liquid**. An absorbent material has small holes in it. When a liquid comes into contact with an absorbent material, the tiny holes draw in the liquid and it spreads through the material.
	Materials can be changed by squashing, bending, twisting and stretching. For example: rubber can be bent, twisted, stretched, and squashed. Some materials are able to be squished, bent, twisted, and stretched due to their flexibility.
	Something that keeps water out is **waterproof**.This means that water cannot pass through an object or material that is waterproof.Some examples of waterproof materials include: Plastic, Rubber and Wax
	To find out which material is the most absorbent, you can choose a material, place it carefully in the water and allow time for the material to adapt to being in the water and observe carefully what happens. Diagrams help us record our findings.
	Materials have different properties that make them useful for different jobs. Most **metals** are strong, hard and shiny materials that can be hammered into different shapes without breaking. **Plastic** is used to make things like bags, bottles and toys because they are **strong** and **waterproof**.

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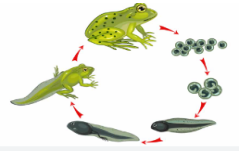
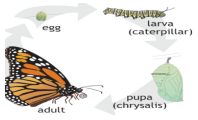
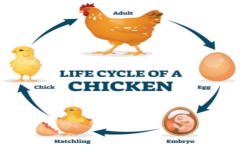
Year 2 Science Knowledge Goals Autumn 2- Animals including Humans

	All Animals come in all shapes and sizes. They live in all sorts of different places. But they all need the same important things to survive: **food, water, air and shelter**.
	The 5 stages of a frog life cycle are: **egg, tadpole, tadpole with legs, froglet, frog.** As the frog grows, it moves through these stages in a process known as metamorphosis.
	There are four stages in the metamorphosis of butterflies: egg, larva, pupa, and adult.
	The human life cycle has six main stages: **foetus, baby, child, adolescent, adult and elderly**. Although we describe the human life cycle in stages, people continually and gradually change from day to day throughout all of these stages.
	During incubation, the hen keeps the eggs warm, dry, and protected. When the chicks are fully developed, they hatch from their eggs and are able to live on their own.

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Year 2 Science Knowledge Goals Spring 1- Health and Growth

	Foods can be sorted into different groups. The different food groups in a **food pyramid** are carbohydrates, protein, dairy, fruit and vegetables and fats and sugars. following a healthy, **balanced diet** is key to **survival.**
	A healthy diet is essential for good health and nutrition**.** To find out if our class is **healthy** we can ask questions about the type of food they eat and then use tables, graphs or charts to **collect data**.
	Humans need to exercise in order to be healthy. When we exercise it has an effect on our body. Exercise makes your muscles (including your heart) and your bones stronger. As your heart rate goes up, your breathing increases. Skin may become red as more blood is pumped round our body as the heart is pumping faster. The increase in breathing can cause you to be a little dehydrated. The dehydration causes you to become thirsty.
	When we exercise our **heart rate** increases. Your pulse rate measures how fast your heart is beating. You can check your heart rate by taking your pulse and counting how many times your heart beats in 1 minute (60 seconds). Your heart rate varies depending on what you're doing. It will be slower when you are resting and faster when you exercise.
	If someone is not leading a healthy life, we can advise them to get enough sleep so they can concentrate better and eat a **balanced diet** so they have more energy. It's important to look after your **hygiene**, this means to have a regular shower and brush your teeth at least twice a day.

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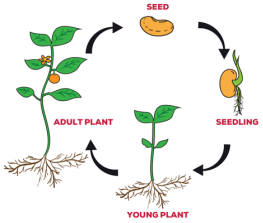
Year 2 Science Knowledge Goals Spring 2 -Plants

	Plants have a **life cycle**, just like humans and other animals. The plant life cycle describes the stages the plant goes through from the beginning of its life until the end when the process starts all over again. The plant life cycle consists of the following stages; **seed, seedling, small plant, and adult plant**.
	To grow and **survive** plants need; light, water and carbon dioxide. Plants also need warmth. This is because if plants get too hot or too cold then they will die. Plants also need space to have healthy growth
	In every experiment we change one thing, this is called the **variable** e.g. the amount of water. **Fair test is** to ensure only one thing (variable) is changed.
	Water helps a plant by **transporting** important **nutrients** through the plant. Nutrients are drawn from the soil and used by the plant.

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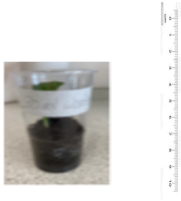
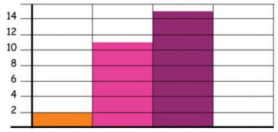
Year 2 Science Knowledge Goals Summer 1

	Recording data after an investigation is important. We can use a ruler to measure the height of a plant to see how much it has grown and then make comparisons.
	Scientists use data to gain understanding and make conclusions. Scientists often use graphs or tables to show their data and research findings.
	A conclusion is a summary of the experiment. The conclusion should state the hypothesis and tell whether the results of the experiment supported the hypothesis.
	Like all living things, plants need to reproduce, or make more of themselves. Some plants, called flowering plants, have a special way of reproducing. They need to move material called pollen from one flower to another. However, they need the help of other living things.

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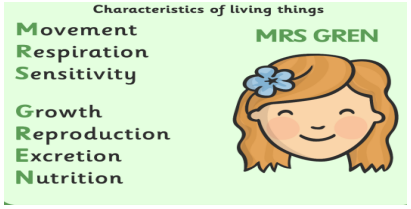
	Plants have features that make them more suitable to grow in certain environments. All plants look different and these differences can be due to their environment. For example, a daisy is a wildflower that grows in the wild, meaning it was not intentionally seeded or planted.

Year 2 Science Knowledge Goals Summer 2

	Scientists use many different apparatus to perform different tasks. In Year 2 we use Thermometers, beakers, Pippets, Measuring jugs and magnifying glasses during our investigation lessons. A magnifying glass is used to see tiny particles of an object.
	All living things do certain things to stay alive. These are called life processes.They are- **movement, reproduction, sensitivity, nutrition, excretion, respiration** and **growth.**

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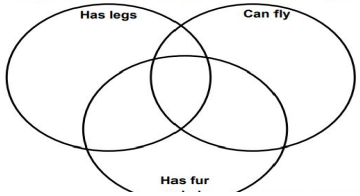
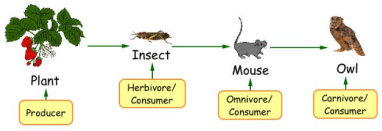
	Living things are grouped into different categories but also share some of the same characteristics. For example, animals can be sorted into groups that live in water/ live on land or both using a venn diagram.
	All **living things** breathe, eat, grow, move, reproduce and have senses. **Non-living** things do not eat, grow, breathe, move and reproduce. They do not have senses. Leaves, twigs, shells and feathers are all dead because they used to be living, but rocks, plastic bottle lids and stones have never been alive because they don't need food, water and air to survive.
	Every living thing needs food. Plants make their own food.These plants are then eaten by animals. These animals then become food for other animals. This makes a **food chain.** Green plants are called **producers** because they make their own food. Animals are called **consumers** because they get their food from plants or other animals.