Leamington Primary Science Knowledge Organiser
Year 2 – Materials
Strand – Chemistry

What I should already know

- The names of different everyday materials such as wood, plastic and metal.
- The purpose of each material and what different materials are used for.
- How to group different materials based on their properties.

Interesting Facts

- Polymers are the raw materials used to make what we commonly call plastics.
- Silver conducts electricity better than any other metal.
- Wood is turned into paper in large factories called paper mills.

What I will learn

Which are the best materials for everyday objects?
- I will learn how to choose a type of material for a particular job correctly, thinking about the materials properties and uses.
- I will be able to explain how objects made from some materials can be changed for different everyday uses.

Which is the most waterproof material?
- I will learn about materials that are waterproof and understand that waterproof materials do not allow water to pass through them.

Which material is more transparent?
- I will learn about materials that are transparent and understand that transparent materials are clear and see through.

Which objects change when heated or chilled?
- I will learn about materials that change in different temperatures.

Which is the best material to build a house?
- I will explore different materials and test strength, durability and waterproofness. I will learn that brick is the best material to build a house as it is waterproof, durable and strong.

Important words to help me. (vocabulary)

Waterproof	An object that does not allow water to pass through it.
Transparent	Something that is clear and see through.
Rubber	An object that can bend and is waterproof.
Hard	Something that does not wear easily.
Soft	Something that can be squashed or shaped easily.
Metal	A shiny material that is a good conductor of electricity.
Wood	A material mainly used for furniture.
Plastic	A long lasting material which is waterproof, strong and lightweight.
Material	The matter from which a thing is or can be made from.


Plastic


Wood


Metal


Rubber


Fabric

Ideas for Scientific Enquiry

Classifying and Grouping
- Explore the types of materials you can find in the classroom environment.
- Sort different types of materials based on how waterproof they are, how transparent they are, how easily they can break, how strong they are and what they look like.

Fair / Comparative Testing
- Explore and test the different kinds of waterproof and transparent materials, including those you can find in the classroom environment.
- Compare different types of materials by saying what is similar and what is different using scientific vocabulary.

Secondary Sources
- Research and explain why materials are used for different purposes based on properties.

Leamington Primary Science Knowledge Organiser
Year 2 – Living Things and their Habitats
Strand – Biology

What I should already know

- How to spot and name a variety of common animals.
- Carnivores are meat eaters and examples of carnivores are tigers, bears and humans.
- Herbivores are plant eaters and examples or herbivores are elephants and sheep.
- Omnivores eat both plants and animals.

Interesting Facts

- Herbivores (such as deer, elephants, horses) have teeth that are adapted to grind vegetable tissue.
- Small predators have good hearing and a strong sense of smell. Most small predators are nocturnal.

What I will learn

What do animals need to survive?
- I will learn about the needs of animals to be able to survive such as a safe place to sleep and habitats with good sources of food.

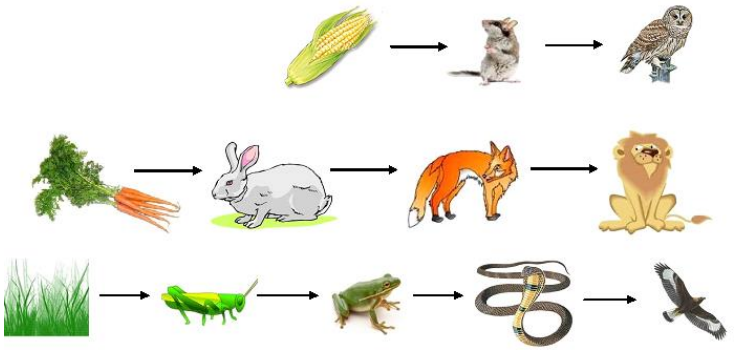
What is a food chain?
- I will explore food chains and understand that within a food chain there must be a producer, consumer, prey and predator which depend on each other as a source of food and ability to survive.

Where do animals live?
- I will explore the different habitats of animals and what helps them to survive. I will learn about how different animals adapt to the different types of weather and how they keep themselves safe from predators.

What is the different between dead and alive?
- I will be able to explain the difference between things that are living such as humans and animals, things that are dead such as skeletons and wood, and things that have never been alive such as plastic materials and metals.

Important words to help me. (vocabulary)

Dead	Something that is no longer alive or living.
Producer	A living thing that makes its own food.
Consumer	A living thing that uses or eats something.
Never lived	A word to describe something that has never been alive.
Prey	An animal that is hunted and killed by another for food.
Predator	An animal that naturally preys on others.
Food chain	A series of organisms each dependent on the next as a source of food.
Habitats	The natural home or environment of an animal, plant, or other organism.
Life cycle	The series of life changes in an animal, plant or human.



Ideas for Scientific Enquiry

Classifying and Grouping
- Explore the types of life cycles in animals and humans and explain why animals survive in different habitats which are suited for them.
- Explore the different kinds of food chains, labelling the producer, consumer, prey and predator.
- Compare different types of food chains and habitats by saying what is similar and what is different using scientific vocabulary.
- Sort different types of animals based on if they are a carnivore, herbivore or an omnivore.
- Sort different types of living things based on if they are a producer, consumer, prey or predator.

Secondary Sources
- Use secondary sources to gain further information on things that are alive, dead or never lived.

Leamington Primary Science Knowledge Organiser
Year 2 – Plants
Strand – Biology

What I should already know

- How to spot and name some common wild and garden plants.
- Deciduous trees shed their leaves annually.
- Evergreen trees keep their green leaves throughout the year.
- How to label, name and describe the basic structure of a plant.

Interesting Facts

- Bees or the wind pollinate most plants. Once seeds form, the wind or animals carry them to new places to grow.
- Some plants are carnivorous. They eat insects.
- Bamboo is an extremely rapid growing plant

What I will learn

How do seeds grow into plants?
- I will plant, look after and observe the changes of how a seed grows into a plant.
- I will explore the different stages of the life cycle of a plant, understanding the germination process which is the development of a plant from a seed.

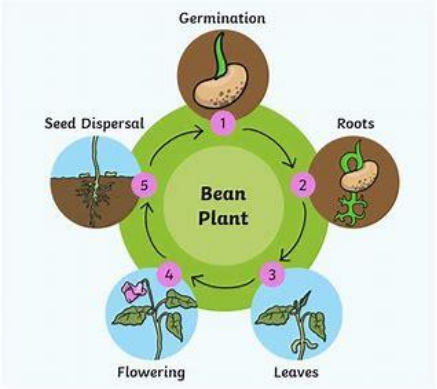
What do plants need to survive?
- I will understand that plants need water, air, space, nutrients and light to be able to grow and stay healthy.
- I will experiment which are the best conditions to grow a healthy, strong plant.

What is photosynthesis?
- I will l earn that Photosynthesis is a chemical reaction that takes place inside a plant, producing food for the plant to survive. Carbon dioxide, water and light are all needed for photosynthesis to take place.

Why are the roots of a plant so important?
- I will look at the roots of a plant and learn that the roots main job is to anchor the plant down into the ground.
- I will also learn that the roots of a plant play a vital role in sucking up the water and nutrients from the soil.

Important words to help me. (vocabulary)

Deciduous	A tree that sheds its leave annually.
Germination	The development of a plant from a seed.
Photosynthesis	The process that plants produce their own food.
Temperature	The degree or intensity of heat present.
Roots	The part of a plant which attaches it to the ground and provides the anchor.
Evergreen	A plant or tree that keeps its green leaves throughout the year.
Reproduction	The production of offspring in an animal or human.
Life cycle	The series of life changes in an animal, plant or human.
Flower	The part of the plants that blossoms.



Ideas for Scientific Enquiry

Fair / Comparative Testing
- Explore the perfect conditions for a plant to grow.
- Compare different types of trees (deciduous/evergreen) by saying what is similar and what is different by using scientific vocabulary.

Secondary Sources
- Use secondary sources to gain further information on the jobs of the different parts of the plant.
- Explore the different stages of the life cycle of a plant in detail.

Observation Overtime
- Observe the changes overtime as a plant grows in different conditions.

Leamington Primary Science Knowledge Organiser
Year 2 – Animals including Humans
Strand – Biology

What I should already know

- There are 5 main senses of the body, smell, taste, hear, sight and touch.
- How to compare the structure of a variety of common animals.
- How to name, draw and label the basic parts of the human body and say which part of the body is to do with each sense.

Interesting Facts

- Germs can enter our bodies through the mouth, nose, eyes and breaks in the skin without our even knowing we've been infected.
- A new born child can breathe and swallow at the same time for up to seven months.
- Your skull has 29 different bones.

What I will learn

What is a life cycle?
- I will learn and be able to explain that animals, including humans, reproduce and have babies which grow into adults and this process is known as a life cycle.

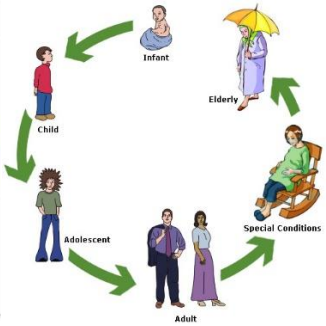
What is offspring?
- Offspring is the young from an animal or human. I will match different types of young to their parents and explain how parents help to keep their young healthy and safe.

How do I keep healthy?
- I will learn about the importance of exercise and how exercise makes our body feel different.
- I will explore how different types of exercise effects our body in different ways such as running supports our fitness levels and gymnastics supports our flexibility.
- I will explore eating healthily and compare healthy and unhealthy foods.
- I will be able to plan a well-balanced diet and understand that food comes from different food groups such as fats, protein, carbohydrates, diary and fruit and vegetables.

What is good hygiene?
- I will learn about good hygiene and understand good practice when it comes to keeping clean and understand that germs can make people sick.
- I will explore ways of keeping clean such as washing my hands, changing my clothes regularly and looking after my teeth.

Important words to help me. (vocabulary)

Healthy	In good health being in good mental and physical condition.
Offspring	A human or animals young.
Grow	Natural development by increasing in size and changing physically.
Hygiene	Maintaining health and preventing disease, especially through cleanliness.
Reproduce	To create offspring of an animal of human.
Nutrition	The process of providing or obtaining the food necessary for health and growth.
Unhealthy	Not having or showing good health.
Life Cycle	The series of life changes in an animal, plant or human.



Ideas for Scientific Enquiry

Pattern Seeking
- Explore the types of life cycles in animals and humans and explain the different stages.
- Explore the different kinds of offspring and match parents to their young.
- Explore patterns in life cycles in animals and humans such as how they feed their young.

Classifying and Grouping
- Compare different types of life cycles in animals and humans saying what is similar and what is different by using scientific vocabulary.
- Sort different types of foods based on if they are healthy or unhealthy

Secondary Sources
- Use secondary sources to gain further information on germs and staying clean and hygienic.

.