

Science Long Term Overview – Broken Down into Small Steps

Year 2

Unit	Learning Objectives	Disciplinary Knowledge	Substantive Knowledge
Animal's needs for survival	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Asking simple questions and recognising that they can be answered in different ways.	Mammals have fur or hair on their bodies. All mammals need air, water, food and shelter to survive. Mammals are carnivores, herbivores or omnivores
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Gathering and recording data to help in answering questions.	Birds have feathers, wings and beaks. Some birds can fly. Some birds cannot fly. Birds need air, water, food and shelter to survive.
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Identifying and classifying.	Fish are animals that live in water. Fish need air, water, food and shelter to survive. Fish have gills that they use to breathe.
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Identifying and classifying.	Amphibians live on land and in water. Amphibians do not have scales on their bodies. Some amphibians have webbed feet. Amphibians need air, water, food and shelter to survive.
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Gather and record data to help in answering questions.	Reptiles have dry scales on their bodies. They need air, water, food and shelter to survive. Reptiles need direct heat to survive.
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Using their observations and ideas to suggest answers to questions.	A mammal has fur or hair on its body. Humans are mammals. Humans need air, water, food and shelter to survive. All animals need air, water, food and shelter to survive.
Humans	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Gathering and recording data to help in answering questions.	Exercise improves physical health. Exercise improves mental health. Exercising daily makes your heart stronger.
	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Identifying and classifying.	A healthy diet includes fruit, vegetables and other healthy food. An unhealthy diet is a diet that is high in fat, sugar or fried food. It is important to eat the right amounts of different types of food.
	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Observing closely, using simple equipment.	Germs can make you unwell. Germs are spread easily from unwashed hands. You should wash your hands, sneeze into a tissue and have regular baths or showers.
	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Observing closely, using simple equipment.	You should brush your teeth twice a day with water, a toothbrush and toothpaste. Plaque can build up on your teeth and can damage your teeth and gums.
Materials	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Identifying and classifying.	Objects can be made from different materials. Some materials are natural such as sand, wood and wool. Some are man-made such as plastic and brick. Some materials are recyclable and can be used again.
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Performing simple tests.	Paper and cardboard are made from wood. Wood, paper and cardboard come from trees. There are different strengths of wood, paper and cardboard. Wood, paper and cardboard can all be recycled and used again.
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (non-statutory).	Rocks are a natural material. Bricks are a man-made material. Rocks and bricks can be used to build houses, buildings and roads.
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Asking simple questions and recognising that they can be answered in different ways.	Glass is hard and brittle. Plastic can be flexible or hard. Some plastic can be recycled. All glass is recyclable.
	Identify and compare the suitability of a variety of everyday materials, including	Use simple features to compare objects, materials and living things and, with help,	Metal comes in many forms and colours. Some metals are flexible and can easily change shape.

	wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	decide how to sort and group them (non-statutory).	Some metals cannot change shape easily. Metal can be used to make many different objects.
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Observing closely, using simple equipment.	Fabrics can be natural. Fabrics can be man-made. Fabrics have different uses.
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Using their observations and ideas to suggest answers to questions.	Materials have particular uses. Some objects can be made from different materials. Some materials are suitable for an object. Some materials are unsuitable for an object.
	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Performing simple tests.	Some materials can change shape and some cannot. Some materials can be bent. Some materials can twist. Some materials can be squashed. Some materials can be stretched.
Sustainability	N/A	Explore the world around them and raise their own questions (non-statutory).	Plastic can be helpful. Plastic can be harmful for humans and other animals. Some plastic can be recycled. Some plastic cannot be recycled.
	N/A	Using their observations and ideas to suggest answers to questions.	Plastic is helpful and harmful. There are ways to reduce your plastic waste.

Plants (Light & Dark)	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Observing closely, using simple equipment	A plant is a living thing. There are many different types of plants. Many plants have flowers or fruit. Parts of some plants can be eaten.
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Observing closely, using simple equipment.	Trees have roots, a trunk, branches and leaves. Many trees have blossom or fruit. Flowering plants have roots, a stem, leaves and petals.
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Asking simple questions and recognising that they can be answered in different ways.	Plants need water to grow and stay healthy. Plants need light to grow and stay healthy. If plants do not have water and light, they may become weak and not grow properly.
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Asking simple questions and recognising that they can be answered in different ways.	N/A
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Performing simple tests.	N/A
Living Things & Their Habitats	Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.	Gathering and recording data to help in answering questions.	A habitat is where a plant or animal lives. A habitat provides everything a plant or animal needs to survive. All animals and plants have a habitat. There are different habitats in my local area.
	Identify and name a variety of plants and animals in their habitats, including microhabitats.	Using their observations and ideas to suggest answers to questions.	A habitat is where a plant or animal lives. A habitat provides everything a plant or animal needs to survive. Polar animals can survive in extremely cold weather. Some polar animals are carnivores. Some polar animals are herbivores.
	Identify and name a variety of plants and animals in their habitats, including microhabitats.	Using their observations and ideas to suggest answers to questions.	A habitat is where a plant or animal lives. A habitat provides everything a plant or animal needs to survive. Desert animals can survive in extremely hot weather. Some plants can survive for a long time without water.
	Identify and name a variety of plants and animals in their habitats, including microhabitats.	Identifying and classifying.	A habitat is where a plant or animal lives. A habitat provides everything a plant and animal needs to survive. Ocean animals include fish, mammals and reptiles. Some animals eat plants and others use plants for shelter or to hide from other animals.
	Identify and name a variety of plants and animals in their habitats, including microhabitats.	Identifying and classifying.	A habitat provides everything a plant or animal needs to survive. Animals and plants live in woodland habitats. In woodlands, some animals eat plants and others use plants for shelter.
	Identify and name a variety of plants and animals in their habitats, including microhabitats.	Observing closely, using simple equipment.	A habitat is where a plant or animal lives. A microhabitat is a very small habitat. Insects, snails, worms and spiders all live and survive in microhabitats.
	Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.	Gathering and recording data to help in answering questions.	An animal's habitat provides the food it needs to survive. Some animals are carnivores. Some animals are herbivores. Some animals are omnivores.
	Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	Gathering and recording data to help in answering questions.	A food chain shows how different living things rely on each other. A food chain normally starts with plants. Some animals eat other living things for energy.
	Explore and compare the differences between things that are living, dead, and things that have never been alive.	Identifying and classifying.	Animals, plants and humans are living things. Living things need certain things to survive, such as water, food, shelter and air. Living things can die. When something is dead, it was once living. Some things were never alive, such as rocks, water or toys.

Plants (Light & Dark)	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Gathering and recording data to help in answering questions.	Plants need water to grow and stay healthy. Plants need light to grow and stay healthy. If plants do not have water and light, they may become weak and will not grow properly.
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Plants (bulbs & seeds)	Observe and describe how seeds and bulbs grow into mature plants.	Observing closely, using simple equipment.	Many plants grow from bulbs or seeds. Bulbs and seeds come in different shapes and sizes. Seeds can be found inside the fruit or on the outside of the fruit. Bulbs store food for plants to use when they grow again.
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Record and communicate their findings in a range of ways and begin to use simple scientific language (non-statutory).	Plants need water, light and a suitable temperature to grow. Plants will not be healthy if the conditions are not right.
	Observe and describe how seeds and bulbs grow into mature plants.	Asking simple questions and recognising that they can be answered in different ways.	N/A
	Observe and describe how seeds and bulbs grow into mature plants.	Performing simple tests.	N/A
Growing Up	Notice that animals, including humans, have offspring which grow into adults.	Identifying and classifying.	Most mammals give birth to live young. These are their offspring. Reptiles, amphibians and birds and most insects lay eggs. These are their offspring. The offspring of many animals have a different name to the adult.
	Notice that animals, including humans, have offspring which grow into adults.	Asking simple questions and recognising that they can be answered in different ways.	Humans are mammals. Humans give birth to live young. Humans follow these stages of the life cycle – baby, child, teenager and adult. The body changes and grows throughout the life cycle.
	Notice that animals, including humans, have offspring which grow into adults.	Record and communicate their findings in a range of ways and begin to use simple scientific language (non-statutory).	A mammal is an animal with fur or hair on its body, which gives birth to live young and feeds its young on milk. Different mammals have different life cycles. Most mammals grow up quicker than humans and become adults sooner.
	Notice that animals, including humans, have offspring which grow into adults.	Identifying and classifying.	Frogs are amphibians. This means that they can live on land and in water. Frogs lay eggs. A frog's life cycle is eggs (frogspawn), tadpole, young frog (froglet) and adult frog.
	Notice that animals, including humans, have offspring which grow into adults.	Observing closely, using simple equipment.	Butterflies lay eggs (usually on a leaf), which hatch into caterpillars. Once a caterpillar has grown, it will change into a pupa and form a hard case to protect itself. The pupa will change into a butterfly. Once the butterfly is fully formed, it will hatch from its casing. Once the butterfly has hatched, it is ready to fly and start the life cycle again.
	Notice that animals, including humans, have offspring which grow into adults.	Using their observations and ideas to suggest answers to questions.	Most animal life cycles share similarities. Most mammals grow up much quicker than humans and become adults much sooner. Some animals give birth to live young, and some lay eggs.
Plants (bulbs & seeds)	Observe and describe how seeds and bulbs grow into mature plants.	Observing closely, using simple equipment.	Plants need water, light and a suitable temperature to grow and stay healthy. Some plants grow from bulbs. Some plants grow from seeds.
Growing Up	Notice that animals, including humans, have offspring which grow into adults.	Observing closely, using simple equipment.	Butterflies lay eggs (usually on a leaf), which hatch into caterpillars. Once a caterpillar has grown, it will form a hard case to protect it. At this stage, it is a pupa. The pupa changes into a butterfly inside its hard case. Once the butterfly is fully formed, it will hatch from its casing. Once the adult butterfly has hatched, it is ready to fly and start the life cycle again.