



## Knowledge and Skills Progression –Science

### Place and Space – Habitats    Comparison - Physical things, Phenomena    Change -Living Things



	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place and Space - Habitats	A habitat is a place where living things live. Living things, including plants and animals, live in the local environment. Begin to observe and talk about living things in the local environment.	A habitat is a place where living things live. Local habitats include woodlands, gardens and ponds. Other habitats include hot places, such as deserts, and cold places, such as the Arctic. Observe and describe living things and their habitats within the local environment.	The local environment is a habitat for living things and can change during the seasons. Observe the local environment throughout the year and ask and answer questions about living things and seasonal change.	Local habitats include parks, woodland and gardens. Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains. All living things live in a habitat to which they are suited and it must provide everything they need to survive. Describe a range of local habitats and habitats beyond their locality (beaches, rainforests, deserts, oceans and mountains) and what all habitats provide for the things that live there.	Environments are constantly changing due to natural influences, such as seasons, extreme weather, population changes and availability of food. Living things must adapt to these changes in order to survive. Describe how environments can change due to natural influences and how living things need to be able to adapt to these changes. Assign	Humans can affect habitats in negative ways, such as littering, pollution and land development, or positive ways, such as garden ponds, bird boxes and wildflower areas. Describe how environments can change due to human and natural influences and the impact this can have on living things.	Farming in the UK can be divided into three main types: arable (growing crops), pastoral (raising livestock), mixed (arable and pastoral). Intensive farming in the past has resulted in the loss of habitats. Research and describe different farming practices in the UK and how these can have positive and negative effects on natural habitats.	Living things are classified into groups, according to common observable characteristics and based on similarities and differences. Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.
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Comparison - Physical things	Make simple comparisons between objects and materials, such as bigger and smaller, and softer and	Objects can be compared and grouped according to their shape, colour, material or use. Compare and	Materials can be grouped according to their properties. Compare and group materials in a	Living things are those that are alive. Dead things are those that were once living but are no longer. Some things have	Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north	Electricity is a type of energy. It is used to power many everyday items, such as kettles, computers and televisions.	A life cycle is the series of changes in the life of a living thing and includes these basic stages: birth, growth,	Environmental factors can affect the distribution of living things within a habitat. These factors include light (intensity and

	harder.	group objects and materials according to simple given criteria.	variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable.	never been alive. Compare and group things that are living, dead or have never been alive.	and north, or south and south) repel each other. Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other.	Electricity can also come from batteries. Batteries eventually run out of power and need to be recycled or recharged. Batteries power devices that can be carried around, such as mobile phones and torches. Compare common household equipment and appliances that are and are not powered by electricity.	reproduction and death. Mammals' life cycles include the stages: embryo, juvenile, adolescent and adult. Amphibians' life cycles include the stages: egg, larva (tadpole), adolescent and adult. Some insects' (butterflies, beetles and bees) life cycles include the stages: egg, larva, pupa and adult. Birds' life cycles include the stages: egg, baby, adolescent and adult. Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird.	duration), weather, altitude, soil type and humans, such as when we mow or trample grass. Compare the living things in two contrasting areas of a habitat (top vs bottom of a hill, full sun vs shade, exposed location vs sheltered location or well-trodden path vs unused area).
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<b>Comparison - Phenomena</b>	Shadows are made on sunny days. They can be big or small and can change shape and size. Play with objects or their own body outside to create	A shadow is the same shape as the object that makes it. Shadows change during the day. Make a shadow bigger or smaller using toys, play equipment and a light source.	Shadows are normally the same shape as the object that cast them. Shadows change during the day as the Sun appears to change position in the sky. Shadows	Volume is how loud or quiet a sound is. Pitch is how high or low a sound is. Compare the volume and pitch of sounds made by instruments, their voices or other objects.	Friction is a force between two surfaces as they move over each other. Friction slows down a moving object. Smooth surfaces usually generate less friction than rough surfaces. Compare how	Sounds are louder closer to the sound source and fainter as the distance from the sound source increases. Compare how the volume of a sound changes at different distances from	Friction, air resistance and water resistance are forces that oppose motion and slow down moving objects. These forces can be useful, such as bike brakes and parachutes, but sometimes	A circuit needs a power source, such as a battery or cell, with wires connected to both the positive and negative terminals. Other components include lamps, buzzers or motors, which an

	shadows.		occur where light is blocked by an opaque object. Compare shadows made by different objects and materials.		objects move over surfaces made from different materials.	the source.	we need to minimise their effects, such as streamlining boats and planes to move through water or air more easily, and using lubricants and ball bearings between two surfaces to reduce friction. Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction.	electric current passes through and affects a response, such as lighting a lamp or turning a motor. When a switch is open, it creates a gap and the current cannot travel around the circuit. When a switch is closed, it completes the circuit and allows a current to flow all the way around it. Compare and give reasons for variations in how components in electrical circuits function (brightness of lamps; volume of buzzers and function of on or off switches).
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<b>Change - Living things</b>	Living things change and grow. Say how a living thing has changed over time.	Living things change over time. This includes growth and decay. Explore the natural world around them and give simple descriptions, following observation, of changes.	All living things (plants and animals) change over time as they grow and mature. Describe, following observation, how plants and animals change over time.	Plants grow from seeds and bulbs. Seeds and bulbs need water and warmth to start growing (germinate). As the plant grows bigger, it develops leaves and flowers. Observe and describe how seeds and bulbs change over time as they	Flowers are important in the life cycle of flowering plants. The processes of a plant's life cycle include germination, flower production, pollination, seed formation and seed dispersal. Insects and the wind can transfer pollen from one plant to another	Habitats change over time, either due to natural or human influences. Natural influences include extreme or unseasonable weather. Human influences include habitat destruction or pollution. These changes can pose a risk to animals and	Humans go through characteristic stages as they develop towards old age. These stages include baby, infant, toddler, child, adolescent, young adult, adult and senior citizen. Puberty is the transition between childhood and adulthood.	Scientists compare fossilised remains from the past to living species that exist today to hypothesise how living things have evolved over time. Humans and apes share a common ancestry and evidence for this comes from fossil discoveries and genetic comparison.

				grow into mature plants.	(pollination). Animals, wind, water and explosions can disperse seeds away from the parent plant (seed dispersal). Draw and label the life cycle of a flowering plant.	plants that live in the habitat. Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes.	Describe the changes as humans develop from birth to old age.	Explain that living things have changed over time, using specific examples and evidence.
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