<table>
<tr><td>KS1.CA.T1</td><td colspan="3">Area of study: Living things and their habitats

Unit aims / outcome:

• explore and compare the differences between things that are living, dead, and things that have never been alive
• 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
• identify and name a variety of plants and animals in their habitats, including microhabitats
• 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</td></tr>
<tr><td colspan="4">Scientific concepts to organise knowledge:
Biology- the study of living organisms
Working Scientifically- disciplinary knowledge required to think and work as a scientist.</td></tr>
<tr><td colspan="4">Key strands of learning:</td></tr>
<tr><td colspan="2">Hierarchical Strands: (see progression)</td><td colspan="2">Cumulative Strands:
Environment
Habitats
Food chains
(key features throughout NC)</td></tr>
<tr><td>Learning in Reception:

To know some important processes and changes in the natural world around them, including the seasons and changes in their personal environment.

To know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

To explore the natural world around them, making observations and drawing pictures of animals and plants.</td><td>Tier 2

<u>New</u>
Living
Dead
Never been alive
Habitat
Ocean
Desert
Woodland
Rainforest

<u>Review –</u>
Healthy
Food
Plants
Animals</td><td colspan="2">Tier 3

<u>New</u>
Microhabitat
Food chain
Food sources
characteristics
obtain</td></tr>
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NC objective:	Vocabulary and crucial knowledge:
• explore and compare the differences between things that are living, dead, and things that have never been alive • 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 • identify and name a variety of plants and animals in their habitats, including microhabitats • 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	Context of study: During this unit the children will understand what a living thing is and that one of the characteristics they have is that they breathe. They will learn the differences between things that are alive, dead and have never been alive and why. Children will revisit living things and how they can be grouped in different ways in (LKS2.CB.T1). Habitats are looked at further within the Animals including Humans Unit when describing the basic needs of animals to survive where they will explore that habitats provide the shelter, food and water needed for survival (KS1.CB.T2). Knowledge of food chains is developed further in (KS1.CB.T1) when children look at identifying animals and understanding whether they are carnivores, herbivores and omnivores. Knowledge of living things, habitats and food chains that are developed in this unit will later inform studies within Plants (KS1.CA.T3) and Animals including Humans (LKS2.CA.T2) units as well as Rocks when thinking that things that have lived are trapped within rocks e.g. fossils in LKS2. **Learning within this unit will also include:** Crucial Knowledge: To know a living thing breathes. To know that plants produce oxygen. To know that animals and humans breathe using oxygen. To understand the differences between things that are living, dead and have never been alive (cat, dead leaves, table). To understand something is dead if it has once lived but is now not alive. To understand that something has never been alive if it has never once been able to breathe. Habitats To know that a habitat is an environment where an animal or plant lives. To understand that habitats are suited to different plants and animals. To compare woodland, grassland, rainforest, oceans, deserts and seashores as different types of habitats. To know that habitats provide living things with their basic needs: food, water, shelter. To understand that some food from these habitats can be plants as some animals depend on plants for survival. To know that a **scorpion (this might change to link to another topic)** lives in the desert because it needs less water but a whale lives in the ocean because it can breathe underwater (examples) To know that a **cactus (this might change to link to another topic)** lives in the desert because it likes dry conditions. To know that a daisy lives in a grassland as they like moist soils.

	To know that a microhabitat is a small habitat for small animals. To know that under a stone, in a tree, in short grass or inside a log are all microhabitats To know that woodlice live under logs because they like dark environments. Food Chains To know that a food chain is a series of living things that are dependent on each other as a source of food. To understand that plants start a simple food chain and why. To know different sources of food. To know that animals follow plants in the food chain, for example grass, cow, human). Working Scientifically: Identify, sort and classify: To sort and classify objects/things based on if they are living, dead or have never been alive and justify why. To sort and classify plants and animals in to habitats that are suitable and provide them with their basic needs. To identify where an animal fits in the food chain. How will I be a scientist? • Observe: local habitats and find microhabitats and consider what animals need that makes this habitat appropriate for them. • Ask questions: about different habitats and research animals that live in each one before sorting them. • Record and predict: the knowledge about microhabitats and predict what other animals might be found there and contrast this with animals you wouldn't find in that habitat due to the conditions. Key scientists of study: (other trust schools will have these mapped out if we are struggling)

KS1.CA.T1.2	Area of study: Materials Unit aims / outcome: • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials

	• compare and group together a variety of everyday materials on the basis of their simple physical properties. • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Geographical concepts to organise knowledge:
Chemistry- is the study of the makeup of all things and how they behave.
Working Scientifically- disciplinary knowledge required to think and work as a scientist.

Key strands of learning:

Hierarchical Strands: (see progression)	Cumulative Strands:
States of Matter (Build year on year)	Materials Suitability (key features throughout NC)

Learning in Reception:	Tier 2	Tier 3
To know some important processes and changes in the natural world around them, including the seasons and changes in their personal environments. Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.	**New** Materials Objects Wood Metal Plastic Glass Brick Rock Paper Cardboard Hard Soft Shiny Dull Rough Smooth **Review –** Bending Squashing Twisting stretching	**New** properties suitability waterproof absorbent opaque transparent

NC objective:	Vocabulary and crucial knowledge:
• distinguish between an object and the material from which it is made	Context of study: During this unit the children will understand what an object is what a material is. They will learn the different properties of materials and how this makes them suitable for different uses and why. Children will revisit materials when thinking about States of Matter and what solids and liquids particularly are made from (LKS2.CA.T2(A)).

• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties. • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Materials are looked at further within States of Matter Unit when observing how some materials change state based on whether they are heated or cooled (LKS2.CA.T2(A)). Knowledge of identifying, sorting and classifying is developed further in (LKS2.CB.T1) when children look comparing and grouping different kinds of rocks based on their properties. Knowledge of materials that are developed in this unit will later inform studies within Rocks and States of Matter units in LKS2. <u>Crucial Knowledge:</u> <u>Materials</u> To know that an object is a thing that can be seen or touched. To know that a material is what an object is made of. To understand that wood, plastic, glass, metal, water and rock are different types of materials. To understand that different materials can have different properties, for example plastic can be smooth whereas rock can be rough. To compare and understand that different materials can be grouped together based on their properties, for example both metal and plastic are waterproof but wood is not. <u>Suitability</u> To know that suitability means being fit or right for a use. To know that some materials are more suitable than others for specific uses. To know that bending, squashing, twisting and stretching are ways to change a material. To understand why certain materials will change shape depending on their properties. To understand wood is hard so good for building furniture and structures. To understand that plastic is a good material for toys because it is hard wearing so children do not break it as easily. To understand that some objects can be made from multiple materials depending on the use- spoons, wooden (cooking heat) plastic (less likely to break, metal (hard wearing, doesn't bend). To understand glass is good for windows as it is transparent. <u>Working Scientifically:</u> <u>Identify, sort and classify</u> To sort and classify objects and materials based on their properties, for example hard/soft, shiny/dull, rough/smooth, waterproof/not waterproof, absorbent/not absorbent, opaque/transparent and justify why. How will I be a scientist? • Ask questions: about the materials being sorted.

	• Observe: sort materials into groups based on what they are made out of or material properties. <u>Fair Test</u> To work scientifically by performing simple tests to explore questions, (for example what is the best material for an umbrella or for curtains) How will I be a scientist? • Set up: test the materials for an investigation and then group the materials based on the findings. <u>Identify, sort and classify</u> To sort and classify objects and materials depending on if they can be changed by squashing, bending, twisting and stretching. How will I be a scientist? • Observe: how the different materials change through squashing, bending, twisting and stretching and then group them and classify their properties. • Record: the findings of which materials change. • Report: the findings explaining why that material would be chosen because of how it changes. <u>Fair Test</u> To work scientifically by performing simple tests to explore the suitability of a variety of everyday materials for particular uses. • Ask questions: ask about which materials would be suitable for the specific question and select sensible materials to test. • Set up: my enquiry to test which materials would be suitable for the job. • Record: record data in a simple chart or graph. • Report: explain what they have found out and use findings to think about other materials and the suitability for different objects. <u>Key scientists of study:</u> Pupils to study the work of John Dunlop and John MacAdam