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| **ADVENT TERM****SCIENCE – Year 2 - Medium Term Planning – BIOLOGY: LIVING THINGS AND THEIR HABITATS** |
| **LESSON  1**  | **LESSON  2**  | **LESSON  3**  |
| **LEARNING INTENTION:**To know that things are living, dead or never been alive.Skills:Compare and group things that are living, dead or have never been alive.Aim:Develop scientific knowledge and conceptual understanding through the specific discipline of biology.  | **LEARNING INTENTION:** To know that most living things live in a habitat to which they are suited. Skills: Describe a range of local habitats and what all habitats provide for the things that live there.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. | **LEARNING INTENTION:** To know that plants and animals in a habitat can be identified.Skills:Identify and name a variety of plants and animals in a range of habitats.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. |
| **Key Vocabulary:** living, non-living, dead, movement, respiration, sensitivity, nutrition, excretion, reproduction, growth | **Key Vocabulary:** habitat, air, oxygen, water, soil, temperature, plants, animals, living, non-living, interdependent | **Key Vocabulary:** habitat, invertebrates, backbone, worms, molluscs, crustacean, insect, arachnid, myriapod. |
| **Recap & retrieval:** | **Recall & retrieval:*** Living things carry out the seven life processes.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
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| **Key Knowledge:** **Child:** * Living things carry out the seven life processes.
* Non-living things include things that have lived and are now dead, such as dead plants and animals.
* Things that have never lived, such as rocks and water, do not carry out any life processes.

**Teacher:*** The seven life processes are moving, breathing, using their senses, feeding, getting rid of waste, having offspring and growing.
 | **Key Knowledge:** **Child:** * A habitat is a place where plants and animals live.
* Habitats contain both living and non-living things.
* Habitats provide everything living things need to survive, including food, water, shelter and space.

**Teacher:*** Habitats have non-living parts, such as air, water, soil and temperature, and living parts, including plants and animals
* Each habitat varies in its living and non-living parts, and they are interdependent.
* Local habitats include parks, woodland and gardens.
* Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains.
 | **Key Knowledge:** **Child:*** Unknown plants and animals in a habitat can be identified by observing their physical features.
* Invertebrates are animals without a backbone.

**Teacher:*** Objects, materials and living things can be looked at, compared and grouped according to their features.
* Invertebrates include worms, molluscs, crustaceans, insects, arachnids and myriapods.
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| **ADVENT TERM****SCIENCE – Year 2 - Medium Term Planning – BIOLOGY: LIVING THINGS AND THEIR HABITATS** |
| **LESSON  4**  | **LESSON  5**  | **LESSON  6**  |
| **LEARNING INTENTION:**To know that a microhabitat is a small area which differs from the surrounding habitat.Skills: Identify and name a variety of plants and animals in a range of habitats.Aim:Develop scientific knowledge and conceptual understanding through the specific discipline of biology.   | **LEARNING INTENTION:**To know that animals need food, water, air and shelter to survive.Skills: Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. | **LEARNING INTENTION:**To know that Richard Sidney Richmond Fitter was a naturalist and conservationist.Skills: To recognise the work of Richmond as he made plans for nature reserves, as damaged areas were rebuilt.Aim: Be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. |
| **Key Vocabulary:** Microhabitat, small, larger, habitat, rock pool, pond, hedgerow, logs, stones, variety, light, dark, damp, wet, dry, features | **Key Vocabulary:** Food, water, air, oxygen, shelter, protection, survive, habitat, microhabitat, carnivore, herbivore, omnivore, plants, animals | **Key Vocabulary:** nature reserves, naturalist, environment. conservation, identification, diversity |
| **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
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| **Key Knowledge:** **Child:*** Microhabitats are small habitats within a larger habitat.
* A microhabitat is a habitat for very small creatures.
* Examples of microhabitats are rock pools, ponds, hedgerows and under logs and stones.

**Teacher:*** Microhabitats have different living and non-living parts compared with the larger habitat.
* A microhabitat has its own conditions of temperature and light.
* It has its own characteristic species.
 | **Key Knowledge:** **Child:*** Animals need water, food, air and shelter to survive.
* Their habitat must provide all these things.
* Animals eat food that is found in their habitat.

**Teacher:*** They need food and water for energy and growth.
* They need air to breathe.
* Animals need shelter for protection from weather or dangers.
* They need space to grow and reproduce.
* Herbivores eat plants.
* Carnivores eat animals.
* Omnivores eat plants and animals.
 | **Key Knowledge:** **Child:*** Richard Sidney Richmond Fitter was a naturalist.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Fitter noted how wildlife and plant diversity were being destroyed by human activities.

**Teacher:*** He was born on March 1st 1913 in London and died on September 3rd 2005 in Cambridge aged 92.
* He was a pioneer in nature conservation in England and around the world.
* The reason for this success was his unique way of organising birds: instead of using scientific classifications, he organised them by habitat and size, which was much easier for readers to understand.
* When Fitter moved on to write guides to wild plants, he took a similar user-friendly approach, arranging flowers by colour instead of species.
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| **ADVENT TERM****SCIENCE – Year 2 - Medium Term Planning – BIOLOGY: LIVING THINGS AND THEIR HABITATS** |
| **LESSON  7** | **LESSON  8**  | **LESSON  9**  |
| **LEARNING INTENTION:**To know that a wormery is a way of recycling kitchen waste to make compost.Skills: Explain how animals, including humans, need water, food, air and shelter to survive. Aim: Be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. | **LEARNING INTENTION:** To know that living things depend on one another for food.Skills: Interpret and construct simple food chains to describe how living things depend on each other as a source of food.Aim: Develop scientific knowledge and conceptual understanding through the specific discipline of biology. | **LEARNING INTENTION:** To know that prey animals have different ways to avoid capture by predators.Skills: Observe living things, sorting and grouping them based on their features and explaining their reasoning.Aim: Develop scientific knowledge and conceptual understanding through the specific discipline of biology. |
| **Key Vocabulary:** microhabitat, food, water, worms, wormery, organic, waste, convert, compost | **Key Vocabulary:** Food chain, producer, consumer, predator**,** prey,plant, animal, depend, food. | **Key Vocabulary:** Predator, prey, camouflage, adaptation, attack, protection,  |
| **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.
* Food chains show how living things depend on one another for food.
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| **Key Knowledge:** **Child:*** A wormery is a container in which composting worms live.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.

**Teacher:*** The main considerations are that a wormery should have a lid that protects it from the elements and from pests, there should be good drainage, and if possible a good degree of ventilation.
* A wormery can be kept indoors or outdoors, but ideally in a shady spot as the heat and drying effect of the sun can be very injurious to the worms.
 | **Key Knowledge:** **Child:*** Food chains show how living things depend on one another for food.
* A food chain always starts with a producer, followed by consumer(s) and ends with a predator.
* Arrows in a food chain mean 'is eaten by.'
* Plants are eaten by animals, some of which are eaten by other animals.
* Predators are animals that eat other animals.
* Prey are animals that are eaten.

**Teacher:*** A food chain shows how energy from food is transferred from plants to animals in a habitat.
* Plants always start a food chain because they are producers that make their own food using sunlight.
* Energy from food is transferred from plants to animals, and between animals, within a habitat.
 | **Key Knowledge:** **Child:*** Animals use different methods to avoid capture.
* Some animals use speed to outrun predators.
* Some animals have body parts that can be used as weapons.
* Some animals use camouflage to blend into their surroundings and hide from predators.

**Teacher:*** Some prey animals use mimicry to look like other, more dangerous animals.
* Some animals use bright colours to warn predators that they are poisonous.
* Some animals use body parts to shield themselves from attack.
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| **ADVENT TERM****SCIENCE – Year 2 - Medium Term Planning – BIOLOGY: ANIMALS, INCLUDING HUMANS** |
| **LESSON  10** | **LESSON  11**  | **LESSON  12** |
| **LEARNING INTENTION:** To know that plants have adaptations that protect them from being eaten by animals.Skills: Observe living things, sorting and grouping them based on their features and explaining their reasoning.Aim: Develop scientific knowledge and conceptual understanding through the specific discipline of biology. | **LEARNING INTENTION:** To know that all habitats provide the support all things that live there to survive.Skills: 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.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. | **LEARNING INTENTION:** To know that a bug hotel can be made to provide shelter for wildlife.Skills: Explain how animals, including humans, need water, food, air and shelter to survive. Aim:  Be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.  |
| **Key Vocabulary:** plant, adapt, adaptation, protect, protection, predator, spine, thorn, hair, sting, chemicals, camouflage | **Key Vocabulary:** habitat, food source, water source, adaptation, food chain, similarities, differences, prey, predator, plant, animal, shelter | **Key Vocabulary:** invertebrates, insects, microhabitat, habitat, shelter, natural, wildlife, biodiversity, damp, dry, spaces |
| **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.
* Food chains show how living things depend on one another for food.
* Animals use different methods to avoid capture.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.
* Food chains show how living things depend on one another for food.
* Animals use different methods to avoid capture.
* Plants have adaptations that protect them from being eaten by animals.
 | **Recall & retrieval:*** Living things carry out the seven life processes.
* Habitats provide everything living things need to survive, including food, water, shelter and space.
* Unknown plants and animals in a habitat can be identified by observing their physical features.
* Microhabitats are small habitats within a larger habitat.
* Animals need water, food, air and shelter to survive.
* Fitter wrote books that were easy for a reader to use to identify birds and wild plants.
* Worms convert organic material such as fruit and vegetable scraps, garden greens, or animal manure into valuable compost.
* Food chains show how living things depend on one another for food.
* Animals use different methods to avoid capture.
* Plants have adaptations that protect them from being eaten by animals.
* Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains.
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| **Key Knowledge:** **Child:*** Plants have adaptations that protect them from being eaten by animals.
* Plants use spines, thorns, camouflage and stings to protect them from being eaten.
* Some produce poisonous chemicals.

**Teacher:*** Some plants grow sharp spines.
* Some plants have thorns on their stems.
* Some plants have hairs covering their stems and leaves to stop insects from eating them.
* Some plants have prickly leaves.
* Some have stings.
* Other plants camouflage themselves so animals do not see them as food.
* Other plants provide homes for other animals that provide protection from predators.
 | **Key Knowledge:** **Child:*** Local habitats include parks, woodland and gardens.
* Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains.

**Teacher:*** All living things live in a habitat to which they are suited and it must provide everything they need to survive.
 | **Key Knowledge:** **Child:*** The best bug hotels have lots of small spaces in different shapes and sizes.
* They are made from different materials.
* Some parts should be nice and dry inside, and other parts a bit damp.

**Teacher:*** Bug hotels are generally made from reclaimed materials or natural objects.
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| **Assessment**  Cumulative Quiz. Retrieval Practice. |