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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. |
| **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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| **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. |
| **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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| **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. |
| **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. |
| **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. |
| **Assessment**   Cumulative Quiz. Retrieval Practice. | | |