**Curriculum links for Early Years / Primary teaching sessions**

**Minibeast Safari**

*Overview:* The teaching session focuses on invertebrates (minibeasts) that can be found at Martineau Gardens. Aspects covered include life cycles, identification/classification (depending on age group). Activities include a woodland minibeast hunt and pond dipping.

Early Years Foundation Stage: Exploring/engagement; active learning; thinking critically; personal, social and emotional development; understanding of the world.

Science

* Year 1: Identify and name a variety of common animals; describe and compare the structure of some common animals.
* Year 2: Identify and name a variety of animals in their habitats; basic needs of animals for survival; notice that animals have offspring which grow into adults.
* Year 3: Identify and group animals into vertebrates and invertebrates.
* Year 4: Recognise that living things can be grouped in a variety of ways; explore and use keys.
* Year 5: Describe the differences in life cycles of mammals, amphibians, insects and birds.
* Year 6: Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents; adaptation to suit habitats, which can lead to evolution.
* All year groups: Working scientifically (asking/answering questions, using equipment, gathering data, making observations, carrying out tests, identifying and classifying etc.); exploring and investigating their local environment.

English

* *Spoken language:* Listen and respond appropriately to adults and their peers; ask relevant questions to extend their understanding and knowledge; build their vocabulary; articulate and justify answers and opinions; give well-structured descriptions and explanations, including for expressing feelings; maintain attention and participate actively.
* *Reading:*  Use phonic knowledge and other strategies to decode words (e.g. names of minibeasts, questions during the true or false trail); learn meanings of new words, linked to those they already know; using guides and non-fiction books to identify invertebrates (minibeasts).
* *Writing:* Use phonic strategies and knowledge of letter strings / spelling patterns to spell the names of invertebrates that they find.

Mathematics: Count numbers of legs on invertebrates to help with identification; count in 2s for pairs of legs; count numbers of invertebrates in a particular habitat; follow-up opportunities for data handling, e.g. creating graphs.

Art & design: Observational drawings / labelled diagrams.

**Be a Plant Professor**

*Overview:* The teaching session focuses on requirements for plant growth, parts of plants, pollination (including the role of bees and butterflies as pollinators) and plant life cycles. Activities include labelling a large Velcro plant, acting out plant pollination, observing and identifying plants growing at Martineau Gardens (depending on age group).

Early Years Foundation Stage: Exploring/engagement; active learning; thinking critically; personal, social and emotional development; understanding of the world.

Science

* Year 1: Identify and name a variety of common wild and garden plants; identify and describe the basic structure of common flowering plants, including trees.
* Year 2: Identify and name a variety of plants in their habitats; observe and describe how seeds and bulbs grow into mature plants; plant needs (water, light and a suitable temperature).
* Year 3: Identify and describe the functions of different parts of flowering plants (roots, stem/trunk, leaves, flowers); explore the requirements of plants for life and growth, investigate how water is transported within plants; explore the role of flowers in plant life cycles.
* Year 4: Recognise that living things can be grouped in a variety of ways; use classification keys.
* Year 5: Describe the life processes of reproduction in some plants.
* Year 6: Classify plants into groups according to common observable characteristics; identify how plants are adapted to suit their environment.
* All year groups: Working scientifically (asking/answering questions, using equipment, gathering data, making observations, carrying out tests, identifying and classifying etc.); exploring and investigating their local environment.

English

* *Spoken language:* Listen and respond appropriately to adults and their peers; ask relevant questions to extend their understanding and knowledge; build their vocabulary; articulate and justify answers and opinions; give well-structured descriptions and explanations, including for expressing feelings; maintain attention and participate actively.
* *Reading:*  Use phonic knowledge and other strategies to decode words (e.g. names of plant parts); learn meanings of new words, linked to those they already know; using guides and non-fiction books to identify plants.
* *Writing:* Use phonic strategies and knowledge of letter strings / spelling patterns to spell the names of plants that they find and write labels.

Mathematics: Count leaflets on compound leaves to help with identification; follow-up opportunities for data handling, e.g. creating graphs.

Art & design: Observational drawings / labelled diagrams.

**Habitat Explorers**

*Overview:* The teaching session focuses on the characteristics of living things, definitions of habitats and micro-habitats, interdependence, food chains and the ways that humans can change habitats (both positively and negatively). Activities include completing a habitat map of Martineau Gardens, identifying and classifying animals and plants, and creating habitats in our grounds.

Science

* Year 1: Identify and name a variety of animals that are carnivores, herbivores and omnivores; distinguish between an object and the material from which it is made; describe the simple physical properties of everyday materials; compare and group together a variety of everyday materials on the basis of their simple physical properties.
* Year 2: Explore and compare the differences between things that are living, dead or have never been alive; identify that most living things live in habitats to which they are suited, describe how habitats provide for the basic needs of plants/animals, and how they depend on each other; identify/ name a variety of plants and animals in their habitats, including micro-habitats; describe how animals obtain their food from plants and other animals, using the idea of a simple food chain; identify and compare the suitability of a variety of everyday materials for particular uses; find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
* Year 3: Identify that animals need the right types and amount of nutrition, and that they cannot make their own food – they get nutrition from what they eat.
* Year 4: Recognise that living things can be grouped in a variety of ways; use classification keys to group, identify and name living things; recognise that environments can change and that this can pose dangers to living things; construct/interpret food chains, identifying producers, predators and prey.
* Year 5: Compare and group together everyday materials on the basis of their properties.
* Year 6: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences; give reasons for classifying plants and animals based on specific characteristics; identify how animals and plants are adapted to suit their environment in different ways.
* All year groups: Working scientifically (asking/answering questions, using equipment, gathering data, making observations, carrying out tests, identifying and classifying etc.); exploring and investigating their local environment.

English (Spoken language)*:* Listen and respond appropriately to adults and their peers; ask relevant questions to extend their understanding and knowledge; build their vocabulary; articulate and justify answers and opinions; give well-structured descriptions and explanations, including for expressing feelings; maintain attention and participate actively.

Mathematics: Use positional and directional language; understand the points of the compass.

Design & technology: Using creativity and imagination, pupils design and make products that solve real and relevant problems, considering others’ [i.e. animals’] needs.

Geography

* Key stage 1: Use simple compass directions and locational and directional language to describe the location of features and routes on a map; use plan perspectives to recognize landmarks and basic human and physical features; use and construct basic symbols in a key.
* Key stage 2: Use the eight points of a compass, symbols and keys; use fieldwork to observe, measure, record and present human and physical features in an area, using maps/plans.

**Adaptation, Evolution and Classification (Darwin, Linnaeus & the Tree of Life) [Upper KS2 session]**

*Overview:* This teaching session covers classification, adaptation and evolution, and refers to the work of Charles Darwin, Alfred Russel Wallace and Carl Linnaeus. Pupils look at how animals are classified into groups with similar characteristics and use/create keys for the plants and animals in our woodland habitat. They look at how plants and animals have adapted to live in particular habitats (including an investigation with woodlice) and how this has led to evolution.

Science

* Year 4: Recognise that living things can be grouped in a variety of ways; explore and use classification keys to help group, identify and name a variety of living things.
* Year 6: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences; give reasons for classifying plants and animals based on specific characteristics; recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents; identify how animals and plants are adapted to suit their environment in different ways and that adaptation can lead to evolution.
* All year groups: Working scientifically (asking/answering questions, using equipment, gathering data, making observations, carrying out tests, identifying and classifying etc.); exploring and investigating their local environment.

English (Spoken language)*:* Listen and respond appropriately to adults and their peers; ask relevant questions to extend their understanding and knowledge; build their vocabulary; articulate and justify answers and opinions; give well-structured descriptions and explanations, including for expressing feelings; maintain attention and participate actively.

Mathematics: Measuring animals (woodlice) or plants (leaves) to illustrate variation.

Art & design: Observational drawings / labelled diagrams.

**Pirate Adventure!**

*Overview:* Pupils use geography skills to hunt for treasure around Martineau Gardens, using maps, compasses, following clues and playing team-building games. They can also design and make their own boats to float on the pond, go dipping for “mini monsters of the deep” and make some pirate art.

Early Years Foundation Stage: Exploring/engagement; active learning; thinking critically; personal, social and emotional development; understanding of the world.

Science

* Year 1: Identify and name a variety of common animals; describe and compare the structure of some common animals; distinguish between an object and the material from which it is made; describe the simple physical properties of everyday materials; compare and group together a variety of everyday materials on the basis of their simple physical properties.
* Year 2: Identify and name a variety of animals in their habitats; identify and compare the suitability of a variety of everyday materials for particular uses; find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
* Year 4: Explore and use keys.
* Year 5: Compare and group together everyday materials on the basis of their properties; identify the effects of air resistance, water resistance and friction, that act between moving surfaces.
* All year groups: Working scientifically (asking/answering questions, using equipment, gathering data, making observations, carrying out tests, identifying and classifying etc.); exploring and investigating their local environment.

English (Spoken language)*:* Listen and respond appropriately to adults and their peers; ask relevant questions to extend their understanding and knowledge; build their vocabulary; articulate and justify answers and opinions; give well-structured descriptions and explanations, including for expressing feelings; maintain attention and participate actively.

Mathematics: Use positional and directional language; understand the points of the compass.

Geography

* Key stage 1: Use simple compass directions and locational and directional language to describe the location of features and routes on a map; use plan perspectives to recognize landmarks and basic human and physical features; use and construct basic symbols in a key.
* Key stage 2: Use the eight points of a compass, symbols and keys; use fieldwork to observe, measure, record and present human and physical features in an area, using maps/plans.

Design & technology:

* Key Stage 1: Design purposeful, functional, appealing products for themselves and other users; select from and use a range of tools and equipment to perform practical tasks; select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics; build structures, exploring how they can be made stronger, stiffer and more stable.
* Key Stage 2: Develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups; select from and use a wider range of tools and equipment to perform practical tasks accurately; select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities; evaluate their ideas and products against their own design criteria and consider the views of others to improve their work; apply their understanding of how to strengthen, stiffen and reinforce more complex structures.