

**SCIENCE CURRICULUM 2022 – 2023**

**YEAR 1 & YEAR 2**

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| **YEAR 1 and 2**  **Curriculum Overview**  **Year A** | | | | | | | |
|  | Topic 1  **Location, Location, Location**  Geography/History | | Topic 2  **Wild and Wonderful Creatures**  **Science** | | | Topic 3  **In the garden**  **Science** | |
| Science  **SEASONS –** ongoing throughout the year – in the appropriate season - Study plant changes/  weather through the seasons. | *\*\*SUBSTANTIVE KNOWLEDGE\*\**  Year 1 ENDPOINTS  I can distinguish between an object and the material from which it is made.  I can identify and name a variety of everyday materials (including wood, plastic, glass, metal, water and rock).  I can describe the simple physical properties of everyday materials.  I can compare and group together a variety of everyday materials. | | *\*\*SUBSTANTIVE KNOWLEDGE\*\**  Year 1 ENDPOINTS  I can identify and name a variety of common animals including fish and amphibians, reptiles, birds and mammals.  I can identify animals that are herbivores, omnivores and carnivores.  I can describe and compare the structure of a variety of common animals.  I can identify, name, draw and label the basic parts of the human body. | | | *\*\*SUBSTANTIVE KNOWLEDGE\*\**  Year 1 ENDPOINTS  I can identify and describe the basic structure of a variety of common flowering plants, including trees.  I can identify and name a variety of common wildflowers and plants, including deciduous and evergreen trees.  I can name and use my five senses, saying which part of the body links to which sense. | |
|  | Year 2 ENDPOINTS  I can talk about the suitability of a variety of materials.  I can find out how materials are changed by squashing, bending, twisting and stretching. | | Year 2 ENDPOINTS  I can explain that animals including humans have offspring which grow into adults.  I can describe the human lifecycle  I can describe the basic needs of animals including humans including humans for survival.  I can compare the differences between things that are living, dead and have never been alive.  I can name a variety of habitats and the plants and animals that live there.  I can talk about habitats and the basic needs of different animals and plants and how they depend on each other.  I can describe a simple food chain. | | | Year 2 ENDPOINTS  I can describe how seeds and bulbs grow into mature plants.  I can plan a suitable experiment to find out  that plants need water, light and a suitable temperature to grow and to stay healthy.  I can record my data to help answer questions.  I can talk about the different jobs of different parts of a plant.  I will explore the school garden and learn about a micro habitat.  I can identify and classify the animals I find in the school garden. | |
|  | Topic 1  **Location, Location, Location**  Geography/History | | Topic 2  **Wild and Wonderful Creatures**  **Science** | | | Topic 3  **In the garden**  **Science** | |
|  | **Y1**  **Pupils should be taught to:**  **-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**.  **Link to the building of the new houses in Tintwistle.** Visit to the site. Which materials are used to build houses? Can we name them all, describe them and say why they are fit for purpose? Can we group/sort these materials according to their properties?  ***Y1 -*** *Were the three little pigs brilliant builders?*  Challenge the children to build a house that will stay standing when the wolf blows on it. Which material will they use and why? Test with the wolf’s breath! (hairdryer) | **Y2**  **Pupils should be taught to:**  **-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.**  Design a house for Mr.Silly using the silliest, most unsuitable materials!  Can we change the shape of materials? Investigate how some materials can be changed by squashing, bending, twisting and stretching. | **Y1**  We will learn all about our bodies and the body parts of other animals. We will look at skeletons- ours and of different dinosaurs! | | **Y2**  The year 2s will look at how they have changed since year 1! We will explore what happens as we grow and look at the human lifecycle. We will find out what animals and we need to survive and distinguish between things that are living, dead and things that have never been alive. | **Y1**  The children will grow their own flowers and vegetables from seed and harvest the food to eat! During the growing process we will look at the structure of common plants. | **Y2**  Children will observe inside seeds and bulbs and describe how they grow into mature plants. They will find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Find seeds in the local env***i***ronment.  (Healthy eating link – Animals including humans)  ***(Link to healthy food)***  ***Identify and name a variety of garden plants.*** |
|  | **Forest School -Seasonal Changes /Wild Weather/Andy Goldsworthy** | | **Animals including humans**  **Wild and Wonderful Creatures** | | | **Living things and their habitats** | |
|  | We will be exploring our school garden, identifying the common wild and garden plants and trees that are growing there. The children will observe the changes across the seasons and record findings in drawings and charts.  During our Forest School sessions, we will set up a weather station, and observe and describe the weather associated with the seasons. | | Y1  Within this unit, we will learn about all kinds of animals, naming them, describing them and grouping them.  We will learn about carnivores, herbivores, omnivores, and group dinosaurs accordingly. | | Y2  Food Chains  Can animals shop at supermarket? How do they get their food? The children will learn how animals get their food from plants and other animals using the idea of simple food chains. | The children will investigate micro-habitats through exploration of the school grounds. We will observe closely and gather and record data about the mini-beasts we find.  **Animals including humans Y1**  The children will learn about their senses, and use them to explore the outside environment | |
| Assessment | \*\*SEE PLAN FOR ASSESSMENT KNOWLEDGE MATRICES FOR Y1 & Y2 + IDENTIFY COMMON MISCONCEPTIONS WITHIN THESE UNITS\*\* | | | | | | |
|  | DISCIPLINARY KNOWLEDGE Y1  Can sort and group animals using similarities and differences  Can use simple charts etc. to identify unknown animals  Can create a drawing of an imaginary animal labelling its key features  Can use secondary resources to find out what animals eat, including talking to experts e.g. pet owners, zookeepers etc.  Can use first-hand close observations to make detailed drawings  Can name body parts correctly when talking about measurements and comparisons e.g. “My arm is x straws long.” “My arm is x straws long and my leg is y straws long. My leg is longer than my arm.” “We both have hands, but his are bigger than mine.” “These people have brown eyes and these have blue.”  Can talk about their findings from investigations using appropriate vocabulary e.g. “My fingers are much better at feeling than my toes” “We found that the crisps all taste the same.”   * **asking questions** * **making predictions** * **setting up tests** * **observing and measuring** * **recording data** * **interpreting and communicating results** * **evaluating** | | | DISCIPLINARY KNOWLEDGE Y2  Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child  Can measure/observe how animals, including humans, grow.  Show what they know about looking after a baby/animal by creating a parenting/pet owners’ guide  Explain how development and health might be affected by differing conditions and needs being met/not met   * **asking questions** * **making predictions** * **setting up tests** * **observing and measuring** * **recording data** * **interpreting and communicating results** * **evaluating** | | | |
|  | Y1 MISCONCEPTIONS  Some children may think:  • plants are flowering plants grown in pots with coloured petals and leaves and a stem  • trees are not plants  • all leaves are green  • all stems are green  • a trunk is not a stem  • blossom is not a flower.  • only four-legged mammals, such as pets, are animals  • humans are not animals  • insects are not animals  • all ‘bugs’ or ‘creepy crawlies’, such as spiders, are part of the insect group  • amphibians and reptiles are the same.  • only fabrics are materials  • only building materials are materials  • only writing materials are materials  • the word ‘rock’ describes an object rather than a material  • ‘solid’ is another word for hard.  • it always snows in winter  • it is always sunny in the summer  • there are only flowers in spring and summer  • it rains most in the winter.  ENRICHMENT ACTIVITIES:   * SCIENCE WEEK (tbc) * FOREST SCHOOL * HI IMPACT (LESSON SUPPORT) * STEM ADVENTURE (Y5 & Y6) * AFTER SCHOOL COOKING CLUB (vuln children paid for) * AFTER SCHOOL FOREST SCHOOL (vuln children paid for) | | | Y2 MISCONCEPTIONS  Some children may think:  • an animal’s habitat is like its ‘home’  • plants and seeds are not alive as they cannot be seen to move  • fire is living • arrows in a food chain mean ‘eats’.  • plants are not alive as they cannot be seen to move  • seeds are not alive  • all plants start out as seeds  • seeds and bulbs need sunlight to germinate.  • all animals that live in the sea are fish  • respiration is breathing  • breathing is respiration.  • only fabrics are materials  • only building materials are materials  • only writing materials are materials  • the word rock describes an object rather than a material  • solid is another word for hard. | | | |