

# Ashtree Primary School and Nursery Medium Term Plan for Science

## Year 6 Summer Term – Evolution and Inheritance Unit

### Prior Knowledge – Y6 – Living Things and Their Habitats

- Step 1 - recognise that there is a wide variety of living things, understand why **classification** is important – **classification key, characteristic**
- Step 2 - identify vertebrates and invertebrates, name and describe the five vertebrate groups - **classified, classification key, characteristic**
- Step 3 - understand there are living things that are too small to be seen and these can affect our lives – **Micro-organism, microbe, fungus, bacteria, virus**
- Step 4 - recognise that there are many micro-organisms, some which can cause illness or decay, recognise that there are useful micro-organisms which can be used in food production - **Micro-organism, microbe, fungus, bacteria, virus**
- Step 5 - describe how micro-organisms feed, grow and reproduce like other organisms, describe evidence, from investigations, that **yeast** is living - **Micro-organism, microbe, fungus, bacteria, virus**
- Step 6 - explain how micro-organisms can move from one food source to another or from one animal to another - **Micro-organism, microbe, fungus, bacteria, virus**
- Also see year 4 Living Things and their Habitats**

**Prior Skills – Y6** - recognises the applications of specific scientific ideas, uses and develops keys and other information to identify, classify and describe living things and materials, uses their scientific experiences to explore and generate ideas and raise different types of questions, recognises which secondary sources will be most useful to research their ideas, **reports on findings from enquiries**, using relevant scientific language and conventions, **in a variety of ways, including oral and written presentations**, talks about how and why scientific ideas have developed over time, **identifies scientific evidence that has been used to support or refute ideas**

**Key Vocabulary** **Variety, variation, offspring, species, competition, adapt, adaptation, reproduce, survive, evolve, fossil record, gills, blubber, moulting, long neck, hooves, eyelashes, tails, generation**

### Key Knowledge

- Step 1** - recognise variation in different species (e.g. dogs, horses)  
- **Variety, variation, species**
- Step 2** - recognise that **offspring** have some of the features of their parents
- Step 3** - recognise that animals have to compete for food
- Step 4** - describe how animals avoid **predators** (e.g. speed, camouflage)
- Step 5** - describe how animals and plants are **adapted** to their environments - **evolve, fossil record, gills, blubber, moulting, long neck, hooves, eyelashes, tails, generation**
- Step 6** - explain how being well **adapted** to an **environment** means an organism is more likely to **survive** - **evolve, fossil record, gills, blubber, moulting, long neck, hooves, eyelashes, tails, generation**

### Key Skills

- Step 1 - recognises the applications of specific scientific ideas, uses and develops keys and other information to identify, classify and describe living things and materials,
- Step 2** - recognises the applications of specific scientific ideas, uses and develops keys and other information to identify, classify and describe living things and materials,
- Step 3** - **reports on findings from enquiries**, using relevant scientific language and conventions, **in a variety of ways, including oral and written presentations**,
- Step 4** - uses relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas
- Step 5 - talks about how and why scientific ideas have developed over time, **identifies scientific evidence that has been used to support or refute ideas**
- Step 6 - talks about how and why scientific ideas have developed over time, **identifies scientific evidence that has been used to support or refute ideas**

### **Curriculum Enhancements**

Look at the findings of Charles Darwin e.g. Use models to demonstrate evolution e.g. 'Darwin's finches' bird beak activity

### **Suggested Activities**

Step 2 – Use the Mr Men and Little Miss Characters to create a branching database of what their offspring might look like.

Step 5 - explain that animals which are better adapted to an environment are more likely to survive, reproduce and pass on characteristics to their offspring meaning the animal species will gradually change and evolve (giraffe with the tallest neck could reach more leaves to feed on)

Step 6 - explain why we do not have a complete fossil record

Step 6 - describe the story of the peppered moth and how this provides evidence for natural selection

### **Curriculum links**

Science – Living Things and Their Habitats

### **Possible Misconceptions**

adaptation occurs during an animal's lifetime: giraffes' necks stretch during their lifetime to reach higher leaves and animals living in cold environments grow thick fur during their life

offspring most resemble their parents of the same sex, so that sons look like fathers

all characteristics, including those that are due to actions during the parent's life such as dyed hair or footballing skills, can be inherited

cavemen and dinosaurs were alive at the same time.

### **This will lead to . . .**

In KS3, the children will learn;

Heredity as the process by which genetic information is transmitted from one generation to the next.

A simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin in the development of the DNA model.

The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection.

Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.