

# Ashtree Primary School and Nursery Medium Term Plan for Science

## Year 3 Autumn Term – Animals including Humans Unit – The Skeleton

### Prior Knowledge – Y2

Step 1 - explain differences between living and non-living things in terms of characteristics such as movement and growth - **dead, alive, living, non-living, keys, breathe, grow, eat, have babies, move, sense, go to the toilet**

Step 2 - use their observations to point out differences between animals, plants and non-living things, recognise similarities and differences between plants and animals - **dead, alive, living, non-living, keys, breathe, grow, eat, have babies, move, sense, go to the toilet**

Step 3 - recognise that different plants live in the local environment, identify some local **habitats**, describe the simple features of habitats

Step 4 - name a few of the organisms that live in a particular habitat, suggest reasons why different plants and animals are found in the different environments

Step 5 - recognise a **microhabitat** as a small habitat (e.g. leaf litter, woodlice under stones), describe some microhabitats

Step 6 - recognise that plants provide food for humans and other animals within an environment, construct a simple **food chain** (e.g. grass, cow, human)

**Prior Skills – Y2** - uses simple observable features to compare up to 3 objects, materials, or living things, **gathers and records simple data to help in answering questions e.g tables identifies and classifies** (decides how to sort and group objects), **can ask questions and recognises that they can be answered in different ways**, talks about their findings with increasing confidence, using everyday terms, text scaffolds or simple scientific language, **observes closely** (including changes over time), **using equipment, uses their observations and ideas to suggest answers to questions**, with help, records their findings in a range of ways, e.g. tables, diagrams, pictograms, sorting circles, bar charts and templates

**Key Vocabulary** Balanced diet, carbohydrates, protein, fats, fibre, fruit and vegetables, bones, muscles, femur, ribs, spine, tibia, shoulder blade, hollow, relax and contract, protect, support, internal skeleton, exoskeleton

### Key Knowledge

**Step 1** - identify some foods needed for a **healthy and varied (balanced) diet**  
name the components of a healthy and varied diet - **carbohydrates, protein, fats, fibre, fruit and vegetables**

describe how their diet is balanced

- *describe an adequate and varied diet for humans, recognising that there are many ways of achieving this*

**Step 2** - know they have **bones and muscles** in their body -  
state that they and other animals have skeletons

**Step 3** - identify animals that **do not** have **an internal skeleton (invertebrates)**  
group animals with and without an internal skeleton

**Step 4** - describe some observable characteristics of bones  
• recognise that their skeletons grow as they grow

**Step 5** - describe the main functions of their skeletons

- state that movement depends on both **skeleton** and muscles

**Step 6** state that when one muscle **contracts another relaxes**

### Key Skills

**Step 1** - asks relevant questions and uses, with support, different types of scientific enquiries to answer them

**Step 2** - beginning to make systematic and careful observation

**Step 3** - uses observable criteria to group, sort and classify in different ways

**Step 4** - beginning to make systematic and careful observation

**Step 5** - uses relevant scientific language to discuss their ideas and communicate their findings using speaking frames and vocabulary lists to support.

**Step 6** - reports on findings from enquiries, in simple scientific language, using oral and written explanations.

### Curriculum Enhancements

- *Have the skeleton in the classroom.*
- *Have x rays available for the children to look at on the windows.*
- *Keep a food diary to explore diets within the class.*



### Suggested Activities

- S1 - describe the role of different food groups  
compare and contrast diets of animals including pets
- S2 – Can the children identify any of the main bones of the human body? Describe the differences between the skeletons of different animals. Can they identify the animal from its skeleton?
- S3 - describe some advantages of having an internal skeleton over no skeleton or an exoskeleton
- S4 – Discuss what happens to our skeleton as we grow from a child to an adult. Compare to animals with an **exoskeleton**. What are the properties of bone – hard etc. How do bones change as we get older?
- S5 – Identify the main functions of a skeleton are for protection, movement and support.
- S6 – Make a model of the biceps and triceps to show the contraction and extension of these muscles when the arm is bent – using cardboard hinge and rubber bands.

### Possible Misconceptions

certain whole food groups like fats are 'bad' for you  
certain specific foods, like cheese are also 'bad' for you  
diet and fruit drinks are 'good' for you  
snakes are similar to worms, so they must also be invertebrates  
invertebrates have no form of skeleton.

### This will lead to . . . Y4 – Teeth and the Digestive System

- **Step 1** – identify a wider range of body parts, including some internal organs (**large intestine, small intestine, brain, lungs, heart, stomach, oesophagus**)
- **Step 2** - locate and name the different organs in the **digestive system**
- **Step 3** - describe the role of each organ in the digestive system
- **Step 4** - state that animals have different **diets** and may have different kinds of teeth and describe the role of each type of teeth in **digestion**
- **Step 5** - recognise they need to take care of their teeth and name the different types of teeth – **incisor, molar, canine**
- **Step 6** - explain how they should look after their teeth and recognise why they need to do so