

Y3- Animals including Humans

Key Question: How do the systems inside our body work to make a healthy human?

Overview of learning

During this unit of work, children will learn about the structure of the human skeleton and how the muscles also work alongside the skeleton to support and protect the human body. They will then look at how skeletons differ in different animals. Finally, children will look at nutrition and the importance of eating a healthy diet.

Knowledge and understanding objectives

Pupils should be taught to:

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Key vocabulary to explain

- **nutrition** – food or nourishment
- **skeleton** – the framework of bones that supports the body of an animal
- **muscles** – a bundle of tissue in the body of an animal that can contract enabling movement
- **healthy** – good for your health
- **unhealthy**- not good for your health
- **diet**- the food that an animal eats
- **bones**- a solid part of a skeleton
- **vertebrate** – an animal with a backbone (spine)
- **invertebrate** - an animal without a backbone (spine)

Misconceptions

Children may have misconceptions about the bones in our body and where they are. They may think we have fewer bones and that the bones do not cover our whole body. Children may also think that animals have the same skeleton as humans. Children may have misconceptions about muscles. Some children think that only males have muscles but children need to understand that all humans have muscles in order to move. Children may have misconceptions about the word diet. We need to explain that a diet just means what an animal eats e.g. a shark's diet is smaller fish. Some children may have heard this term used when people want to lose weight.











Previous and Future Learning

Year 1 – Children looked at how to group animals including based on their diet.
Year 2 – Children studied animals and their offspring and the basic needs that animals need to survive.
Animals and humans are studied in each year group.
Year 4 – Children will recap grouping animals in different ways based on their features, nutrition and skeleton. They will also create classification keys based on their study.
Year 5 – Children will explore how humans change over time.
Year 6 – Children will learn about the impact exercise, diet, drugs and lifestyle have on the human body as well as learning about how water and nutrients are transported around the body.
KS3 – Children will study the skeleton and muscles in more depth including biomechanics where they will investigate the interaction between the muscles and bones. They will also study nutrition in more depth looking at the requirements for a healthy diet, calculations for energy requirements and the consequences of imbalances.

Working scientifically

Enquiry Types	Working scientifically skills
<ul style="list-style-type: none"> • I can identify and classify parts of the skeletal system. • Identify bones in the body and the hand. • I can identify and classify animals into vertebrate and invertebrates. • I can identify and classify foods. • Research the bones in the skeletal system. • I can use secondary sources to find out about muscles. • I can research the nutritional values of foods by reading data. • I can look for patterns in how each part of the hand moves and make adjustments. • I can look for patterns and compare nutritional values. 	<ul style="list-style-type: none"> • Locate and label the bones in the body • Record using labelled drawings and scientific language. • I can record my results in a table. • I can record my results in a bar chart. • I can answer questions about the uses of our bones. • I can evaluate my design and suggest improvements. • I can evaluate my learning using scientific language • I can make careful observations to sort animals into groups. • I can make predictions from questions raised. • I can use scientific language to discuss ideas.

Unit Overview

Session 1	Session 2	Session 3	Session 4	Session 5
Key question: How does our skeleton help us?	Key question: Do our bones affect what we can do?	Key question: What do our muscles do?	Key question: Do all animals have the same skeleton?	Key question: What types of nutrition do we need?
Learning objective: I can identify that humans have bones for support, protection and movement	Learning objective: I can set up a simple practical enquiry. I can communicate my results.	Learning objective: I can identify that humans have muscles for support, protection and movement.	Learning objective: I can identify that humans have muscles for support, protection and movement.	Learning objective: I understand that animals, including humans, need the right type of nutrition.
Success criteria: By the end of this lesson, children will be able to identify the names of some of the bones in the human body and understand that we need bones for support, protection & movement.	Success criteria: By the end of this lesson, children will be able to investigate a chosen question by planning out what they will do, gathering data and presenting their results.	Success criteria: By the end of this lesson, children will be able to identify how humans use muscles and understand that we need muscles for support, protection and movement.	Success criteria: By the end of this lesson, children will be able to identify differences in the skeleton of different animals. They will also be able to group animals based on whether they have a backbone.	Success criteria: By the end of this lesson, children will be able to identify the 5 main food types that humans need in order to have a healthy balanced diet.
Cumulative Quiz: Q1 – Q3	Cumulative Quiz: Q4 – Q6	Cumulative Quiz: Q7 – Q9	Cumulative Quiz: Q10 – Q12	Cumulative Quiz: Q13 – Q15
Enquiry type: I can research the bones in the skeletal system. 	Enquiry type: Do people with longer legs jump further? Do people with longer arms throw further? 	Enquiry type: I can use secondary sources to find out about how muscles work 	Enquiry type: I can identify and classify animals into vertebrate and invertebrates. 	Enquiry type: I can identify and classify different food groups. 
Working scientifically skills  I can locate and label the bones in the body accurately.	Working scientifically skills: I can show my results using a table. 	Working scientifically skills: I can use scientific language to discuss ideas and communicate learning using a model 	Working scientifically skills: I can make careful observations to sort animals into group. 	Working scientifically skills: I can explain what I have found out by applying my scientific knowledge. 
Enable and Extend ideas across the unit.			Assessment	
Children could: <ul style="list-style-type: none"> investigate their own questions based on the investigation in Lesson 2 make up a song/poem/rap to help them remember the names of the bones make a model to show how the muscles work design a healthy packed lunch/meal that has each food type research other animals that have similar/different skeletons than humans Research the use of muscles in other animals 			<ul style="list-style-type: none"> A pre-unit assessment task should be given before the unit to see where gaps are and what the children know, (e.g. Grammasaurus, Plan, Plymouth Science, Concept cartoons, Explorify, TAPs). The knowledge organiser can be used to support children and should be displayed on science working wall. There is a cumulative quiz with questions that can be used to assess children throughout the topic. The quiz questions will link directly to each objective. They can also be used at the end of each session to give immediate feedback to inform future planning and give the opportunity to identify children who do not understand. Working scientifically and enquiry types will be assessed using class RAG rated sheet and will correspond with those set out in the lesson. 	

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| | <ul style="list-style-type: none">• A post-unit assessment task can be used to assess the knowledge and understanding objectives taught throughout the unit, (e.g. Grammasaurus, Plan, Plymouth Science, Concept cartoons, Explorify, TAPs). This can be done independently or in small groups with a teacher. |
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