Science Focus: Animals including Humans	Year Group: 3	Spring Term

Key Knowledge:

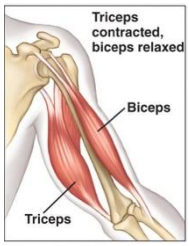
Overview

- The human **skeleton** is designed to **protect** our organs, **support** our movements and provide shape to our bodies.
- There are three types of **skeleton** – an endoskeleton,

exoskeleton and a hydrostatic skeleton.

- All animals need water, air and food to survive.
- Vertebrates have a backbone and invertebrates do not.
- Vertebrates have an endoskeleton but invertebrates

can have either an exoskeleton or a hydro static skeleton.

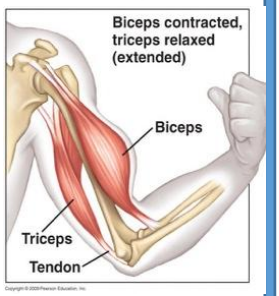


The Human Body

- **Muscles** work in pairs to move the **bones** they are attached by taking in turns to **contract** and **relax**.
- Muscles are connected to the **bones** by **tendons**.
- **Joints** are where **bones** meet and allow our bodies to move.

There are different types of **joint**:

1. Ball and Socket
2. Hinge **joint**
3. A sliding **joints**



Different types of skeletons

- An endoskeleton is on the inside of an animals body.
- An exoskeleton exists on the outside of animals body and **supports** and **protects** animals. These have to be shed and a new **skeleton** is grown.
- A hydrostatic skeleton is made up mainly of water and is used for movement and **support**. These **skeletons** are the most flexible and are surrounded by muscle.

Key Vocabulary:

Bones - The hard parts inside your body which form the skeleton.

Contract - To make smaller by drawing together; shrink or make tighter.

Joints - The junction between two or more bones.

Muscles - Something inside your body, which connect s two bones and you, use when you move.

Organs - A part of your body that has a particular purpose.

Protect - Protecting something means to prevent it from being harmed. Bones protect our organs.

Relax - When a part of your body relaxes, or when you relax it, it becomes less stiff.

Skeleton - The framework of bones in your body.

Support - To hold something up.

Tendons - A strong cord inside an animals or persons body which connects a muscle to a bone.

Possible Experiments:

- Match different animals to their matching **skeletons**.
- Explore what would happen to humans if we did not have **skeletons**.
- Identify which **bones** are used to **support**, protections and movement.
- Show and feel how **muscles** **contract** and **relax**.
- Group animals with and without **skeletons** and compare how they move.

Diagrams and Symbols:

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Key Knowledge:

Overview

- All animals need air, food and water to survive.
- Humans cannot make their own food – we need to eat plants and animals to get our **energy**.
- **Healthy** balanced diets lead to **healthy**, active people.
- To stay **healthy**, humans need to exercise, eat a balanced diet, and be hygienic.

Food Types

There are 5 different food types:

- Fruit and Vegetables
- Bread, rice, potatoes, pasta and other starchy foods.
- Milk and dairy.
- Oils and spreads.
- Meat fish, eggs, beans and other non-dairy sources of protein.

Nutrients

- We need many different nutrients in order to survive.
- Each nutrient has a different role to play.
- Protein helps us grow and helps our body repair itself.
- Carbohydrates give us **energy**.
- Fats give us **energy**.
- Vitamins help keep our bodies **healthy**.
- Minerals also helps to keep our bodies **healthy**.
- Fibre helps us to digest the foods that we have already eaten.
- Water helps to move nutrients in your body and get rid of waste that we do not need.

Possible Experiments:

- Research how different foods make a varied diet & design meals based on this.
- Learn how to and prepare a healthy meal hygienically.
- Compare/contrast the diets of different animals
- Prepare a presentation based on healthy eating.
- Describe what happens if one part is missing from a balanced diet and how some groups of people may compensate for this.

Key Vocabulary:

Balanced Diet - A variety of foods with different nutrients that you regularly eat.

Disease - An illness which affects humans, plants and animals.

Energy - The ability and strength to do physical things – we get this from the foods we eat.

Healthy - Well and not suffering from any illness.

Nutrients - Substances that help plant and animals grow.

Saturated fats - Types of fats that are considered to be less healthy and should only be consumed in small amounts.

Unsaturated fats - Fats that give you energy, vitamins and minerals.

Starchy- Foods that contain a lot of starch and provides energy.

Hygiene - Keeping yourself and your surroundings clean, especially in order to prevent illness or the spread of diseases.

Diagrams and Symbols: