

Catton Grove Primary School - Science

Year 3

Topic: Food and Our bodies

Strand: Biology - Animals including humans

What should I already know?

- the basic parts of the human body
- that animals and humans need food to survive
- that it is important to eat the right types of food

Scientific Core Knowledge

The basic needs of all humans and other animals are food, water, oxygen and shelter. Unlike plants, which make their own food by photosynthesis, animals (including humans) cannot make their own food. Instead, they have to get their food by eating plants or other animals.

The skeleton is a strong, rigid structure inside the body made of bone. Bone is living tissue made from bone cells, collagen and minerals such as calcium phosphate. The bones of our skeleton provide us with a strong structure supporting and protecting the rest of the body.

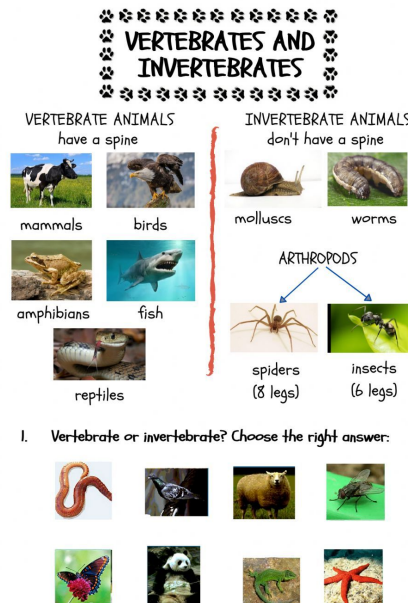
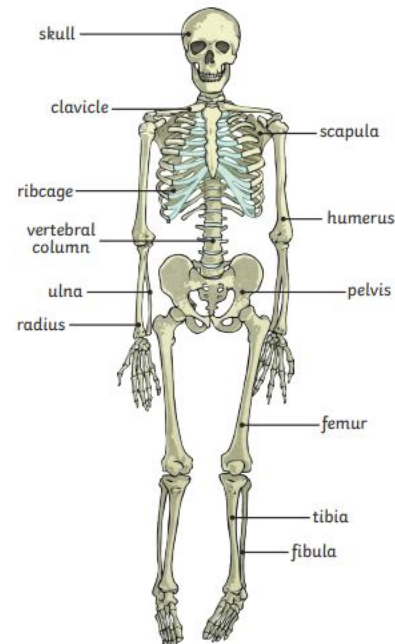
Joints are the places where bones meet. They allow the skeleton to move and allow humans and other animals to grow. There are various types of joint, each allowing different types of movement:

Our Learning Objectives:

- 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.

Scientific Skills:

- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar graphs and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.



Scientific Enquiry

Why do different animals eat different foods?

Why do we need different vitamins in our diet?

What would happen if we didn't have a skeleton?

What are bones made from?

What do bones protect?

What muscles are used when you kick a football? How about when you swim?

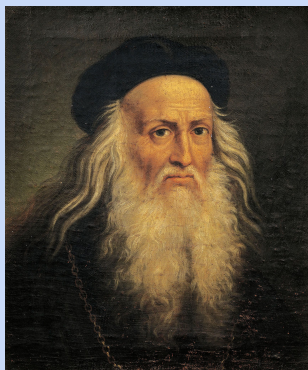
Why is your heart the hardest working muscle in your body?

Scientific Vocabulary:

balanced diet: a diet that has the right amount of nutrients	humerus: the long bone at the top of the arm
biceps: a large muscle at the front of the upper arm	joint: where bones meet; there are different types of joint that can move in different ways to make the body move
carbohydrates: nutrients found in sugary foods such as sweets or starchy foods such as potatoes and pasta; these provide energy	muscle: special organs that can contract and relax
contract: when a muscle gets shorter and pulls	nutrients: useful substances found in foods
relax: when a muscle stops contracting	protein: nutrients found in foods such as fish, used in your body for growth and repair
exoskeleton: a skeleton that some animals have that is outside their bodies like a suit of armour	skeleton: supports and protects the body, allowing movement
fats: nutrients found in foods such as butter; these give you energy and insulate your body	triceps: a large muscle at the back of the upper arm
femur: the long bone at the top of the leg	vertebrate: animal with a spinal column or backbone including mammals, birds, amphibians and fish

Spotlight on a Scientist:

Leonardo Da Vinci was born near Florence in Italy in 1452. He is considered by many to be the father of modern science is drawings of the body including bone and muscular structures are some of the first on human record.



Misconceptions:

- that we only eat food to give us energy: in fact, food does much more, including providing the vitamins and nutrients we need to keep our bodies healthy.
- that all fats are bad for us: we need a certain amount of fat in our diet for many different reasons including building cells, helping nerves carry messages, protecting our organs and heat insulation to keep us warm.
- that bone is not living and cannot grow: in fact, it is made from living cells. That is why bone can heal itself if it is broken or fractured.
- that only arms and legs have muscles.
- that muscles are not found all over the body.
- that muscles can push: in fact, they can only pull, but our bodies can push things because of the way the muscles pull on different bones.