



## Science: Orange Class

### Animals including humans

#### Key Vocabulary

<b>Skeleton</b>	Keeps the body in shape, protects organs and helps movement.
<b>Heart</b>	Muscle that pumps blood around the body.
<b>Joints</b>	Area where two bones meet.
<b>Consumers</b>	Eating food you cannot create yourself..
<b>Muscle</b>	Attached to the bone and are responsible for movement.
<b>Posture</b>	The position in which a person sits or stands.
<b>Nutrients</b>	Substances that help plants and animals grow.
<b>organs</b>	Tissues in the body that perform functions.
<b>Vitamins</b>	Substances found in foods that keep you healthy.
<b>Digest</b>	When food in the stomach is broken down.
<b>tendon</b>	A strong cord in an animal's body that joins a muscle to a bone.

#### Key knowledge

Living things need food to grow and to be strong and healthy. Plants can make their own food but animals cannot. To stay healthy, humans need to exercise, eat a healthy diet and be hygienic. Animals including humans need food, water and air to stay alive.

Type of Food Group	Function	Examples
Carbohydrates	Helps your body work properly	
Protein	Needed for chemical reactions in our body	
Vitamins & Minerals	Helps your body grow and repair itself	
Fats and Oils	Acts as an energy store	
Fibre	Gives you energy	
Water	Cleans our digestive system	



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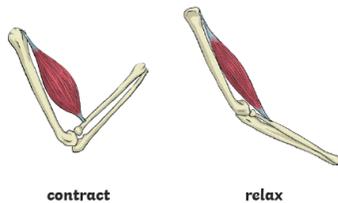
### Animals including humans

#### Key Knowledge

Skeletons do three important jobs:

- protect organs inside the body
- allow movement
- support the body and stop it from falling on the floor.

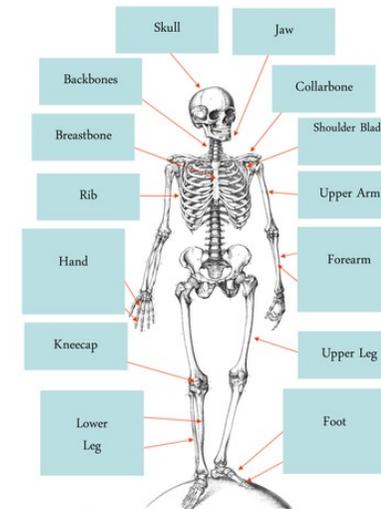
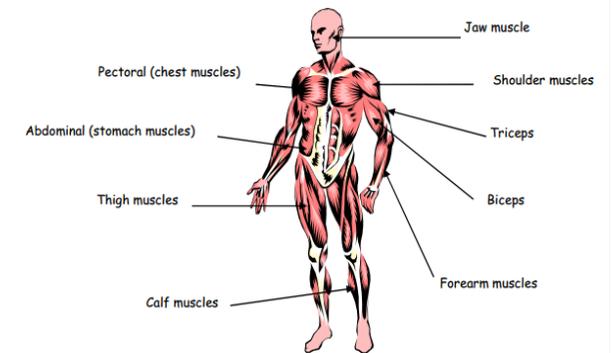
Skeletal muscles work in pairs to move the bones they are attached to by taking turns to contract (get shorter) and relax (get longer).



Muscles contract and relax in response to nerve signals. This is how we move. Muscles stretch without damage and are able to return to their original resting shape and length. Muscles are grouped into skeletal muscle, smooth muscle and cardiac muscle. Skeletal muscles lie directly below the skin, and are responsible for most voluntary movement. Skeletal muscle is made up of bundles of long fibres, which in turn are made up of elongated muscle cells. They are attached to bone by tendons. When they contract, they pull on bones, making them move at joints. They work in pairs, one contracting and one relaxing. The heart is made up of branching fibres and provides involuntary movement in the form of heart beats. All muscles require energy to work. Oxygen and glucose are delivered to the muscle cells by blood vessels. The muscle cells convert this to energy. If muscle cells do not get enough oxygen, they respire anaerobically which leads to the build up of lactic acid. This is why you ache after a workout, and why you get cramps. Muscles get tiny tears, then the body repairs and it gets bigger and stronger. Exposure to higher workloads means more tears and repairs. Muscle wasting comes from disease or lack of activity. Fast twitch muscle

#### Key Knowledge

##### Some of the body's main muscle groups



Some of the bones in the human skeleton.