

Science Knowledge Organiser

Year 3 Term 1.2 2022-23 ★ Skeletons

Key Vocabulary

Skull - This is the bone inside our head. It protects our brain.

Spine - This is an animal's backbone. It is made up of lots of little bones called vertebrae (so we can move our necks and bend over). In animals, the spine continues into their tail.

Pelvis - This is the large bone where our hips are – the spine joins to the top of the pelvis and our leg bones join on underneath.

Pulse - Your pulse is how many times your heart beats in a minute.

Ribs - These form a cage of bones round your chest. They protect your heart and lungs.

Joints - These are where 2 bones meet. They allow us to bend. Examples of joints are your knees, elbows and knuckles in your fingers.

Prior Learning

Body parts

In Year 1 we learnt to name and label the basic body parts like head, neck, arms, elbow, legs, knees, face, ears, eyes, hair, mouth and teeth.

We also learnt what the words carnivore, omnivore and herbivore mean.

In Year 2 we were able to explain why exercise is important for humans and how it helps to keep us healthy. We sorted foods into groups such as healthy and eat plenty, good for you and eat some, not good for you and eat a little.



Significant person

Wilhelm Conrad Röntgen



X-rays were discovered by accident in 1895 by Wilhelm Conrad Röntgen, a German professor.

Röntgen noticed crystals giving off a fluorescent (a bright) glow when he placed them near a high-voltage cathode-ray tube, even when he shielded them with dark paper. Some type of energy was being produced by the tube, penetrating the paper and causing the crystals to glow.

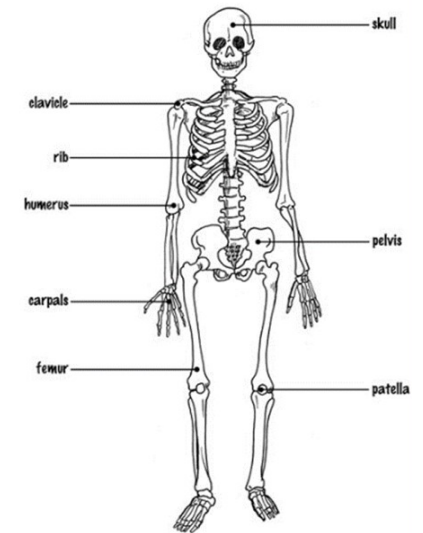
His later experiments showed that this radiation could penetrate soft tissues but not bone, and would produce shadow images on photographic plates which are known as x-rays.

The "X" in X-ray stands for the unknown.



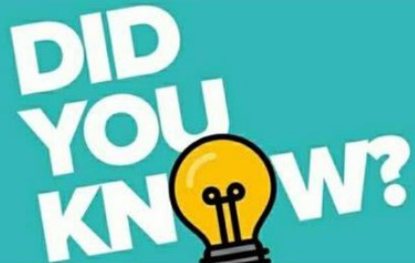
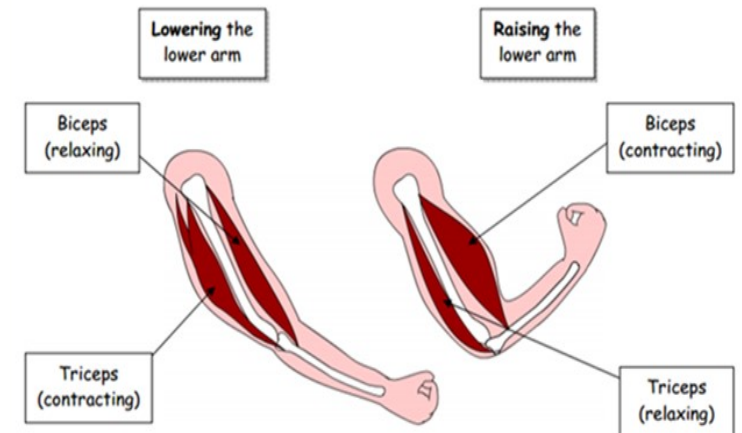
Bones

- Many animals (including humans) have skeletons inside their bodies. A skeleton is made up of lots of different bones.
- Without bones we would be like a jellyfish – not able to stand up, or sit.
- Bones also help to protect our important internal organs, like our heart and lungs.
- Bones are hard and do not bend.
- We have joints (such as our knees and elbows) so that we can bend our legs to walk and use our arms to eat.
- There are many similarities between the skeletons of different animals.



Muscles

- We need muscles so that we can move.
- Muscles are connected to bones and move the bones when they contract (they pull the bones) as bones cannot move by themselves.
- Muscles work in pairs – one can contract to pull the bone in one direction and the other contracts to pull it back again.
- The heart is a muscle that pumps blood and oxygen around our bodies.



The smallest bone in our bodies is in our ear!

The largest muscle in your body is your bottom! It moves your legs and helps you to run and stand up.

The heart is a muscle that works without you thinking about it – even when you're asleep!

Everyone's pulse is different, but the pulse of an average 7 to 8 year old is around 100 beats in a minute.