Science – Year 3
Animals Including Humans: Skeleton and Muscles

(Previous knowledge – refer to Knowledge Organiser Year 2 - Humans)

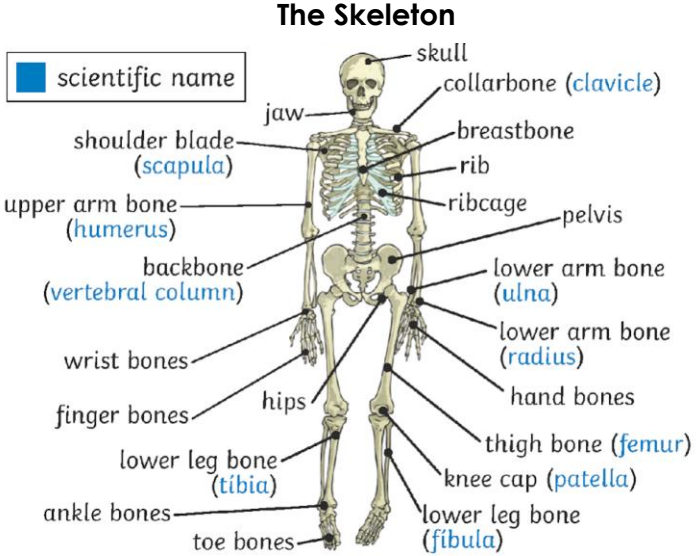
Vocabulary		
Tier 1	Tier 2	Tier 3
Skeleton	Vertebrate	Exoskeleton
Muscle	Invertebrate	Hydrostatic skeleton
Bones	Relax	Endoskeleton
Joints	Contract	Voluntary muscles
Movement	Organs	Involuntary muscles
Protect	Cartilage	Ball and socket joint

Useful Resources

- Model skeleton.
- Animal cards to sort into the different skeleton types.
- Video clips to show the movement of different joints and muscles.

Key Scientists:

Wilhelm Rontgen (1845-1923) – was a German physicist Who discovered X-rays in 1895. He was awarded Many honours and won the Nobel Prize for physics in 1901.



Animals with an Endoskeleton	Animals with an Exoskeleton	Hydrostatic Animals
		

Key Questions/Facts

What is a skeleton?

- Skeletons are structures of bones. They do three important jobs:
  - Protect organs inside the body
  - Allow movement
  - Support the body and stop it from falling

What are the different types of skeleton?

- An endoskeleton grows inside the body.
- An exoskeleton is one the outside of a creature's body.
- Animals with a hydrostatic skeleton do not have any bones. Instead, their body is filled with fluid.

What is a joint?

- Two bones meet at a joint, where the bones are held together with a tough band of bendy tissue called a ligament.

What is cartilage?

- Cartilage is a rubbery padding which covers the ends of bones so that they can move across one another at joints.

What are muscles and how do they work?

- The bones in the skeleton are pulled by muscles so that the body can move.
- Voluntary muscles are the ones that a person chooses to move, such as kicking a ball.
- Involuntary muscles are the muscles that work without you thinking about it, such as those in the heart.