

- vocabulary**
- skeleton
 - endoskeleton
 - exoskeleton
 - hydrostatic skeleton
 - vertebrate
 - invertebrate
 - muscle
 - contract
 - relax

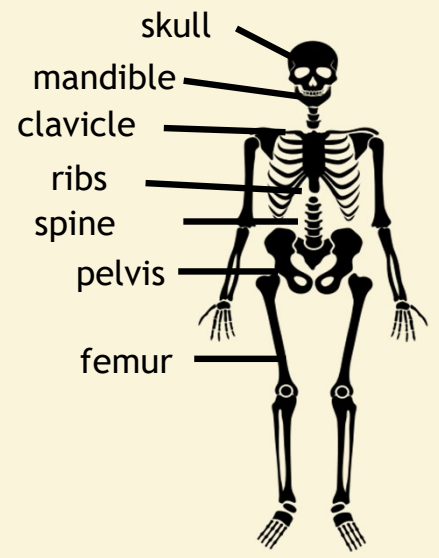


Skeletons are made of bone that grow as we grow.

Functions:

- protect our organs
- support our bodies and give us stability
- allow our bodies to move

- The **skull** protects the brain
- The **mandible** helps us chew
- The **clavicle** keeps arms at a distance from the body to move freely
- The **ribs** protect the heart and lungs
- The **spine** enables us to stand, bend and twist.
- The **pelvis** supports the weight of our upper body
- The **femur** is the longest, strongest bone in body and helps support our weight.



three types of skeleton

Endoskeleton= endo (internal) + skeleton (framework of bone/rigid material)
Skeleton on the inside (human)

Exoskeleton =
 exo (external) + skeleton (framework of bone/rigid material)
Skeleton on the outside (woodlouse)

Hydrostatic skeleton
 hydro (water) + skeleton (framework of bone/rigid material) **Water fills cavity to make the creature rigid (like having a skeleton) and helps movement**

- Essential nutrients**
- 1) Water
 - 2) Fibre
 - 3) Fats
 - 4) Carbohydrates
 - 5) Proteins
 - 6) Vitamins
 - 7) Minerals

Joints - where two bones meet



ball & socket
full movement



hinge joint
forwards and backwards



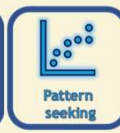
ball & socket
slide over each other

Muscles help our bodies to move

Smooth muscle - moves our internal organs. We don't have to think about moving them. They are found in organs of the digestive system like intestines

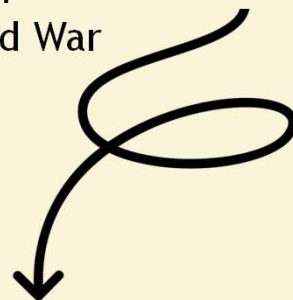
Cardiac muscle - moves our heart. We don't have to think about moving it. It pumps blood around our body

Skeletal muscle - moves our bones. They are attached with tendons. We control the movements to help us walk, run, write etc.



Focus on... a scientist Marie Curie

Elsie Widdowson (1906-2000) was born at a time when people didn't know much about the content of their food. She wrote a book called 'The Composition of Foods' which explained the nutritional value of many foods. With her partner, Robert McCance, she was able to work out a sufficient diet that people could survive on during the rationing of World War 2.



Find out more about her fascinating life [here](#) and [here](#)



Focus on... equipment magnifying glass

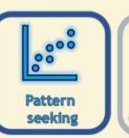


convex lens

- First invented by UK scholar Roger Bacon in 1268.
- .
- Enlarges objects observed through it.
- Simplest form of microscope: a handle and a convex (curved outward) piece of glass
- Used in spectacles, cameras.

Who uses it?

Cartographers (map readers), doctors, jewellers use this piece of equipment everyday.



Previous learning

- EY - Know the names of animals and insects around them
- EY - Begin to explore the word 'healthy' in relation to food and exercise

Current learning

- Understand what a skeleton is, what it is made of and naming major bones in the body.
- Endo, exo and hydro skeletons
- What is a muscle and how does it work? Make a muscle
- Investigate bones and muscles involved in different movements
- Understand how nutrition helps in the development of healthy bones and muscles and potential nutritional impacts

Future learning

- Y3: deeper look a muscles and bones
- Y3: specific nutrients for healthy musculature and bone development
- Y4: food chains within ecosystems
- Y5: animal life cycles

Independent learning at home

<https://www.bbc.co.uk/teach/class-clips-video/science-ks2-how-do-muscles-and-bones-work/zfgtscw>

<https://www.bbc.co.uk/bitesize/topics/z9339j6>

<https://tinybop.com/assets/posts/young-explorers-jot-away-activities-for-the-human-body/tinybop-EL1-skeletal-activity.pdf>

- Vocabulary

<u>Set</u>	<u>Set</u>	<u>Set</u>	<u>Set</u>	<u>Set</u>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>

Learning together at home

- Make a skeleton: use pasta, cotton buds, straws or whatever you have at home to recreate a human skeleton.
- Can you create an exoskeleton and watch your animal molt?
- Blow up a small balloon about the size of a tennis ball and cover in paper mâché. Allow to dry for 48 hours, then remove the balloon. Now recreate the internal organs by placing a uninflated balloon inside! Make your internal organs grow by blowing up the balloon. Keep growing until your exoskeleton cracks and you molt.
- Make a muscle model (there is a step by step guide on the following [link](#))
- Make meals at home that are good for your muscles and bones, try new foods that are rich in all the nutrients we need for healthy minds and bodies.
- Place all the vocabulary words around your house on sticky notes, have a game with your grown up, how many can you collect and explain in 1 minute.
- [Create an x-ray of your bones](#)

