

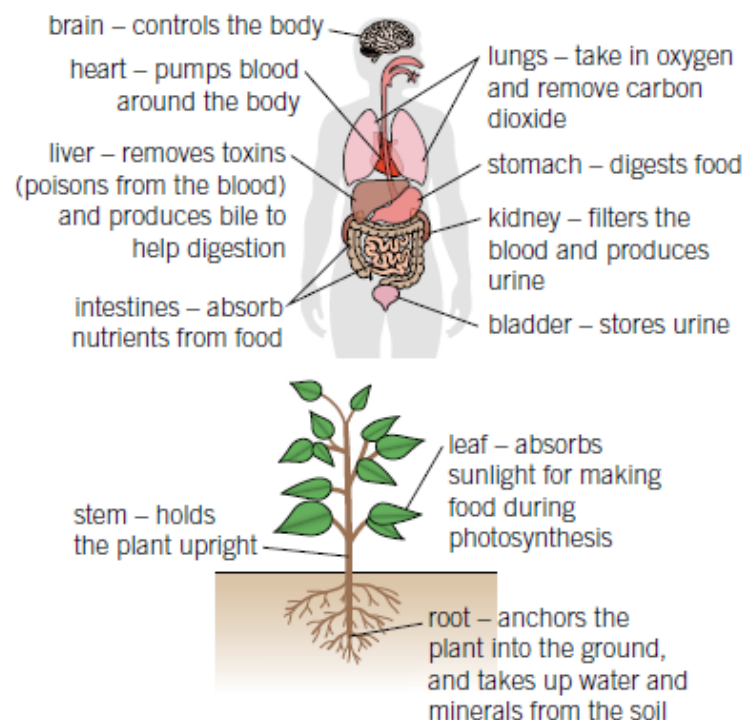
Box 1: Keywords

Word	Definition
alveolus	Structure in the lungs where gas exchange takes place with the blood
Antagonistic muscles	A pair of muscles that work together to control joint movement
cartilage	Strong smooth tissue that covers the end of bones to prevent them rubbing together
Circulatory system	A system of organs that help transport substances around the body in the blood
Digestive system	A system of organs that break down food into smaller molecules and then absorb them
Gas exchange	The transfer of gases between an organism and its environment
Musculoskeletal system	A system of organs and tissues that allow animals to move
organ	Group of tissues working together to perform a function
tissue	Group of similar cells working together to perform a function

Box 2: Key skills

MS Pie chart
WS accuracy, working safely

Box 3: Plant and animal organs



Box 4: Levels of organisation

Cell – the smallest building block of an organism
Tissue- a group of similar cells working together to carry out a function
Organ- a group of tissues working together to carry out a function
Organ system – a group of organs working together to carry out a particular function
Multicellular Organism – A group of systems working together

Box 5: Bones and muscles

All the bones in your body make up your skeleton. The four main functions of the skeleton are to: support the body, protect vital organs, help the body move and to make blood cells in the bone marrow.

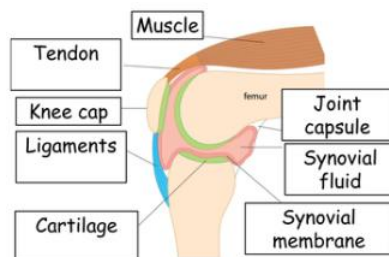
Joints occur between two or more bones and they allow the skeleton to bend

Hinge joint – Backwards and forwards eg knee

Ball and socket – movement in all directions eg hip

Fixed joints – no movement eg skull

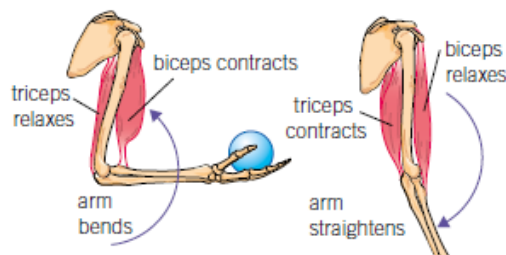
In a joint your bone is protected with cartilage and the two bones are held together by ligaments



Muscles are a type of tissue and there are three types:- Cardiac (heart) muscle, smooth muscle and skeletal muscle.

Muscles are attached to bones by tendons and produce movement by contracting.

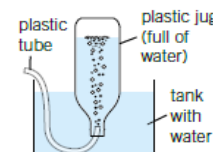
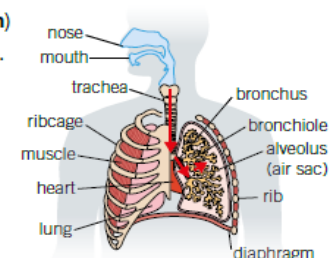
Antagonistic muscles work in pairs when one contracts the others relaxes.



Box 6: respiratory system

The respiratory system is involved in:

- breathing in oxygen (for **respiration**)
- breathing out waste carbon dioxide.



Measuring lung volume

When you breathe out fully into the plastic tube, air from your lungs pushes water out of the bottle.

volume of air in the plastic bottle

=

lung volume

Box 7: Pathway

KS3 – Cells, biological processes, health

KS4 – cells, specialised cells, respiration, respiratory system, plant structure

KS5 – cellular respiration, muscle structure and function

Careers – medical, sports, carer

Box : Cross curricular links