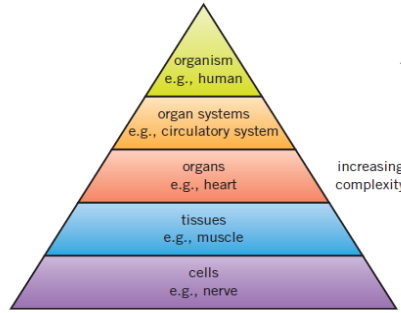


Levels of organisation

1 All organisms have a level of organisation, starting at the smallest moving to the largest. As the level increases, so does the

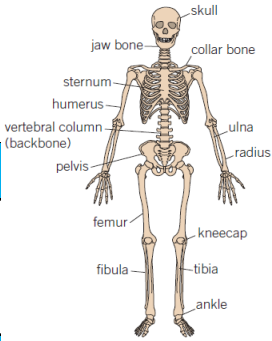


Organs

1 Groups of tissues that have the same function. Some examples: Respiratory system, circulatory system, reproductive system, nervous system, excretory system, skeletal system, digestive system

Skeleton

1	Bones	Made up of 206 bones. They have a blood supply and are a living tissue.
2	Organ system	It is part of the muscular-skeletal system and has 4 main functions (see below)
3	Support	Keeps you upright and hold organs in place
4	Protect	Eg: skull protects the brain
5	Movement	Works with muscles and tendons to allow movement
6	Making blood cells	Bone marrow produces red and white blood cells



Movement (joints)

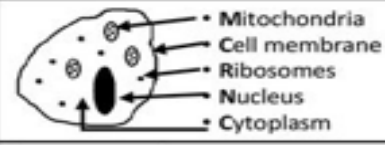
1	Ligaments	Connect bone to bone
2	Cartilage	Coats the end of bones as a protection
3	Tendons	Connects bone to muscle
4	Joints	Occur between bones and allow movement. 3 main types:
5	Hinge	Back and forward movement eg: knees
6	Ball & socket	Movement in all directions eg: hips
7	Fixed	Do not allow movement eg: skull

Key Vocabulary

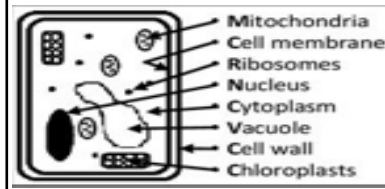
1	Nucleus	Controls cell activities, contains DNA
2	Cytoplasm	Where chemical reactions take place
3	Cell membrane	Controls what enters and leaves the cell
4	Cell wall	Made from cellulose fibres. Strengthens the cell and supports the plant.
5	Mitochondria	Where aerobic respiration takes place
6	Ribosomes	Make proteins by protein synthesis
7	Chloroplasts	Where photosynthesis occurs. Contains chlorophyll to absorb light
8	Chlorophyll	Green pigment used for photosynthesis found in chloroplasts
9	Vacuole	Contains cell sap
10	Magnification	How much bigger an image appears than the real object
11	Resolution	Ability to distinguish between two very small and closely spaced objects
12	Organelle	Small structures inside animal and plant cells eg: nucleus
13	Microscope	A piece of equipment that magnifies (enlarges) specimens eg: animal cells so they can be observed
14	Cell	The smallest structural and functional unit of an organism,
15	Tissue	Made from a group of cells with a similar structure and function, which all work together to do a particular job.
16	Organ	Made from a group of different tissues, which all work together to do a particular job.
17	Organ system	Made from a group of different organs, which all work together to do a particular job.
18	Organism	Any living thing that has an organized structure, can react to stimuli, reproduce, grow and adapt

Cells

1 Typical animal cell



2 Typical plant cell



Diffusion and adaptations

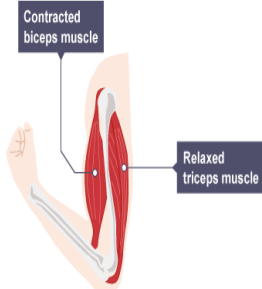
1 The movement of particles from a HIGH concentration to a LOW concentration down a concentration gradient (gases or liquids). No energy required.



2	In animals	Lungs (alveoli) - absorb O ₂ and give out CO ₂
3	In plants	Root hair cells- absorb water from the soil

Movement (Muscles)

1 Muscles
A type of tissue Which allows movement. They transfer force to bones by Pulling on tendons.



2 Antagonistic muscles
Muscles that work together to perform a function eg: movement however work in opposite directions (as one contracts, the other relaxes) Eg: Biceps and triceps

Unicellular organisms

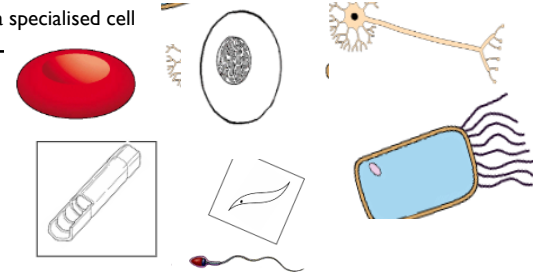
1 **Amoeba**- No fixed shape. Live in fresh/salt water, wet soils and in humans

2 **Euglena**- Live in fresh water. Have chloroplasts for photosynthesis

Specialised cells

1 Differentiation- When a cell becomes a specialised cell

2 Animal cells
Sperm
Egg
Red blood cell
Nerve
White blood cell
Ciliated epithelial cell
Muscle



3 Plant cells
Root hair
Palisade mesophyll cell

