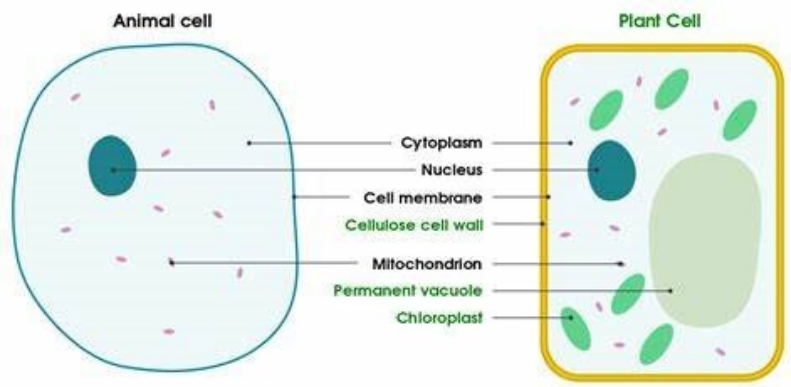
Science
Movement and cells

Year 7
Term 1

Your teacher will tell you which topic you should revise. Read and learn all the information in the topic, ready for a Quiz in lesson

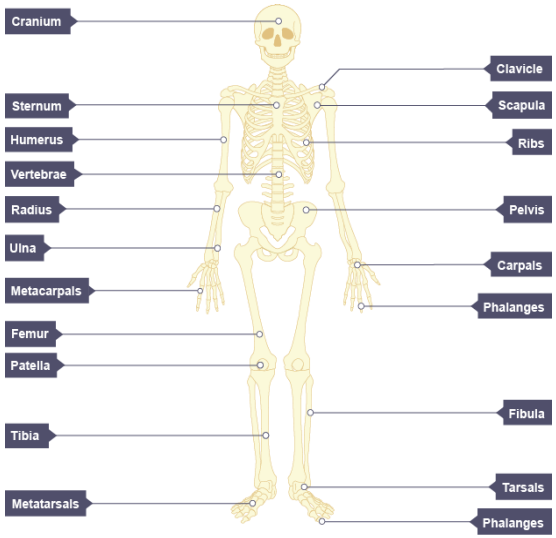
Topic 1: Movement and cells

Topic 1 - Cells



Key Terms	Definition
Cell wall	Made of cellulose, which supports the cell
Cell membrane	Controls movement of substances into and out of the cell
Cytoplasm	Jelly-like substance, where chemical reactions happen
Nucleus	Contains genetic information and controls what happens inside the cell
Vacuole	Contains a liquid called cell sap, which keeps the cell firm
Mitochondria	Where most respiration reactions happen
Chloroplast	Where photosynthesis happens

Movement – the skeleton

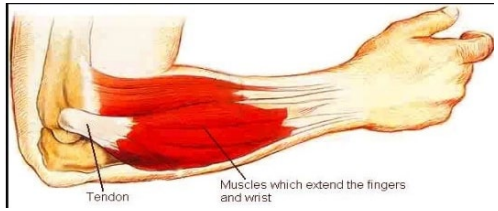


The Human Skeleton provides:

Support –keeps the body upright
Posture –gives the correct shape to our body.
Protection – the bones of the skeleton protect the internal organs and reduce the risk of injury on impact.
Movement – the skeleton allows movement of the body as a whole and its individual parts.
Production of blood cells – certain bones in the skeleton contains bone marrow which produces red blood cells, white blood cells and platelets.
Storage of minerals - the bones store minerals such as calcium and iron.

Muscles and joints

Joints – Bones are linked together by joints which allow different parts of the skeleton to move.



Science
Speed and Gravity

Year 7
Term 1

Your teacher will tell you which topic you should revise. Read and learn all the information in the topic, ready for a Quiz in lesson.

Topic 2: Speed and Forces

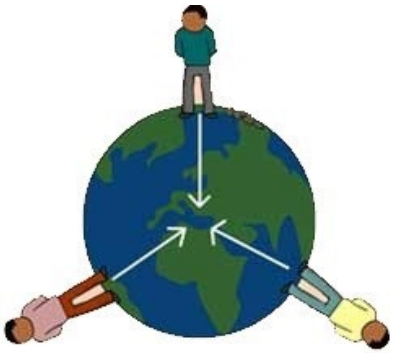
Gravity is a force that attracts objects towards each other. Gravity only becomes noticeable when there is a really massive object like a moon, planet or star. Gravity is what pulls us towards the ground.

Forces at a distance

- A field is a region where an object experiences a force. In a gravitational field, a mass experiences a force.
- Weight is a force and depends on the gravitational field strength.
- Mass is the amount of matter something is made up of.

Weight (N) = Mass (kg) x gravitational field strength (N/kg)

The gravitational force pulls in the direction towards the centre of any object. So we are pulled towards the centre of the Earth.



Speed

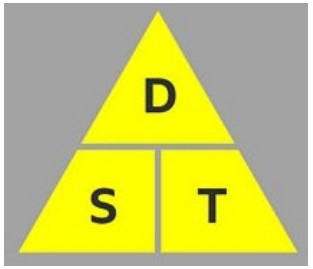
Speed is a measure of how **fast** something or somebody is moving.

How we calculate speed?

Speed = Distance / time

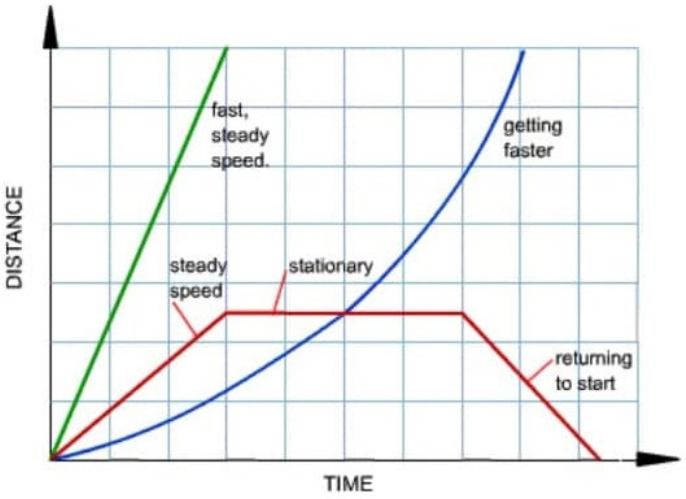
- Distance = **m (metres)**;
- Time = **s (seconds)**;

Speed = **m/s (metres per second)**



Distance – time graph

The speed of an object can be shown using a distance – time graph.



Science
Support and application

Year 7
Term 1

Vocabulary	Wider Research	Apply
Multicellular organism Cell, Tissue, Organ, Organ System Bone, Skeleton, Support, Protect, Bone marrow, Biomechanics, Joint, Cartilage, Ligament, Newtons, Tendon, Antagonistic muscle Weight Mass gravitational field strength balanced unbalanced equilibrium	**Provide definitions for each key words in the vocabulary section** Additional information on speed can be found here: . What is speed? - BBC Bitesize Gravitational forces - Astronomy and space science - KS3 Physics Revision - BBC Bitesize What are cells? - BBC Bitesize The skeleton - Skeletal and muscular systems - KS3 Biology Revision - BBC Bitesize	**Sentence starters:** What is the difference between mass and weight? Australis is known as down-under. Why are people in Australia not upside down? The leg contains muscles called flexors (hamstrings) and extensors (quadriceps) . Describe how these muscles to allow leg movement. Which organs are at risk of damage in a person without ribs? Explain why Speed = Distance divided by time What are the formulas for finding: a) Distance b) Time c) Speed Challenge: Draw a distance –time graph, showing the journey made when: A cyclist on a training ride records the distance she travels away from home. She cycles at a steady speed from her house (start) to a cycling centre. She stops for a few minutes and then cycles back home. Note: You do not need to include any numbers for distance or time