

Key Stage 3 Precise Learning Points



Unit Number	B1
Unit Title	Cells & Organisation
Chapter	Cells

Key Scientific Points

1. Cells are the fundamental unit of living organisms
2. Cells can be observed using a light microscope. Light microscopes magnify the size of the image to be bigger and to be seen in more detail.
3. Animal and plant cells have a nucleus, cytoplasm and a cell membrane. Plant cells also contain a vacuole, a cell wall and chloroplasts.
4. The nucleus controls the cell and contains DNA
5. The cytoplasm is the site of chemical reactions
6. The cell membrane controls what enters and leaves a cell.
7. A vacuole helps with cell rigidity and contains cell sap.
8. The cell wall is made of cellulose and supports the structure of the cell
9. The chloroplast contains chlorophyll and is the site of photosynthesis.
10. Diffusion allows the movement of materials into, out of and between cells.
11. Diffusion is the net movement of particles from an area of high concentration to an area of low concentration.
12. Cells can be specialised. Specialised cells have adaptations to allow them to perform a specific function.

Examples include red blood cell (contains Haemoglobin to carry oxygen), muscle cell (can contract for movement), sperm cell (has a tail to allow it to swim), egg cell (contains food to supply growing embryo), nerve cell (long offshoots (axons) to carry electrical impulses), Leaf cell (lots of chloroplasts to absorb light energy), root hair cell (large surface area to collect water and minerals), xylem (carries water and minerals).