

Cells

Part	Function
cytoplasm	This transparent, jelly-like substance forms the bulk of the cell. It allows the small structures that are present in it to move about. It is also the place where many cellular activities take place.
cell membrane	This thin layer of proteins and fats holds the cytoplasm together. It is semi-permeable , i.e. it allows some substances to pass through it but blocks the others.
nucleus	The nucleus controls all the activities of the cell. It contains DNA (deoxyribonucleic acid) which carries genetic information that has been passed down from previous generations. It also controls the structure and purpose of the cell itself.
cell wall*	Made up of a thick, stiff material known as cellulose, the cell wall supports the cell and gives it a regular shape. The cell wall is semi-permeable, so it allows small substances to enter and leave freely.
chloroplasts*	This structure contains the green pigment, chlorophyll. It enables the plant to photosynthesise and make food.
vacuole#	They are essentially air spaces within the cytoplasm of the cell, containing cell sap. In a plant cell, there is one large central vacuole in the middle containing cell sap. In an animal cell, the vacuoles are small and numerous.

* only present in plant cells

Not required in syllabus

There are similarities and differences between a plant cell and an animal cell.

Characteristics	Animal cell	Plant cell
Similarities	<ul style="list-style-type: none"> Both have cytoplasm, a cell membrane, a nucleus and vacuole(s). 	
Differences	<ul style="list-style-type: none"> No cellulose cell wall, so the animal cell has an irregular shape No chloroplasts, so the animal cell cannot make its own food 	<ul style="list-style-type: none"> Has a cellulose cell wall to support the plant cell and give it its regular shape Has chloroplasts which contain chlorophyll, enabling the green plant to make food during photosynthesis



Alert Most cells contain a nucleus. Without the nucleus, the cell will die.

However, the red blood cell is an exception. It has no nucleus, yet it is able to survive.