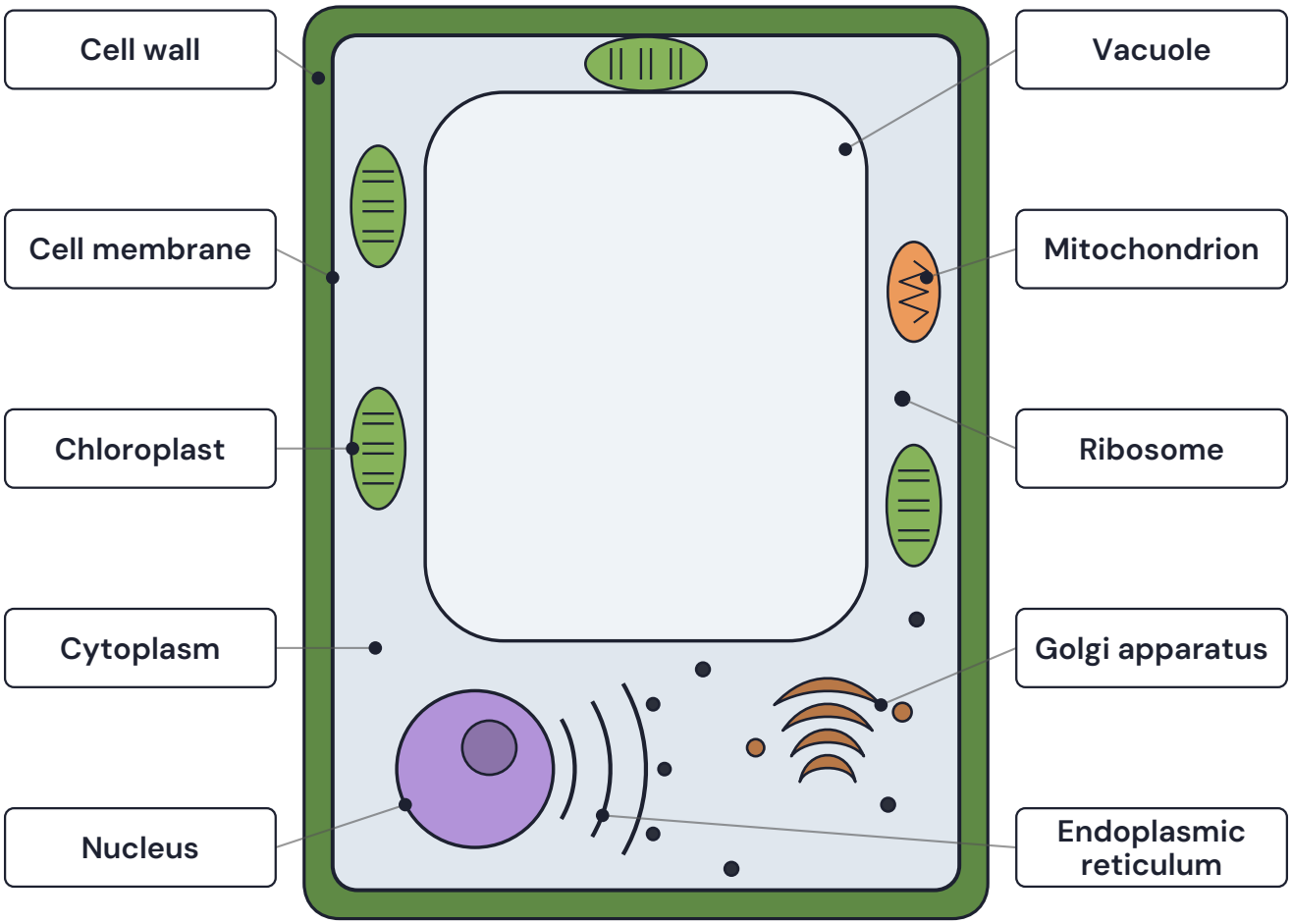
Parts of a plant cell

A cell from a leaf, cut open to show the parts inside it.



Cell wall
A stiff layer outside the cell membrane, made of cellulose. It helps the plant keep its shape.

Cell membrane
The thin layer inside the wall. It lets materials in and out of the cell.

Chloroplast
In leaf and stem cells. Its green chlorophyll captures sunlight to make sugar.

Cytoplasm
The jelly-like fluid that fills the cell. The other parts float in it.

Nucleus
The command center. It holds the DNA, inside a membrane of its own.

Vacuole
A large sac that stores water and nutrients. It can fill most of the cell.

Mitochondrion
Turns the energy in food into a form the cell can use.

Ribosome
A tiny part that makes proteins. Some float free; some sit on the endoplasmic reticulum.

Golgi apparatus
Packages molecules from the endoplasmic reticulum to be sent out of the cell.

Endoplasmic reticulum
Helps process the molecules the cell makes and carries them where they need to go.

An animal cell has no cell wall and no chloroplasts, and its vacuoles are small.

From MedlinePlus Genetics, the National Human Genome Research Institute and NC State Extension. Not to scale.