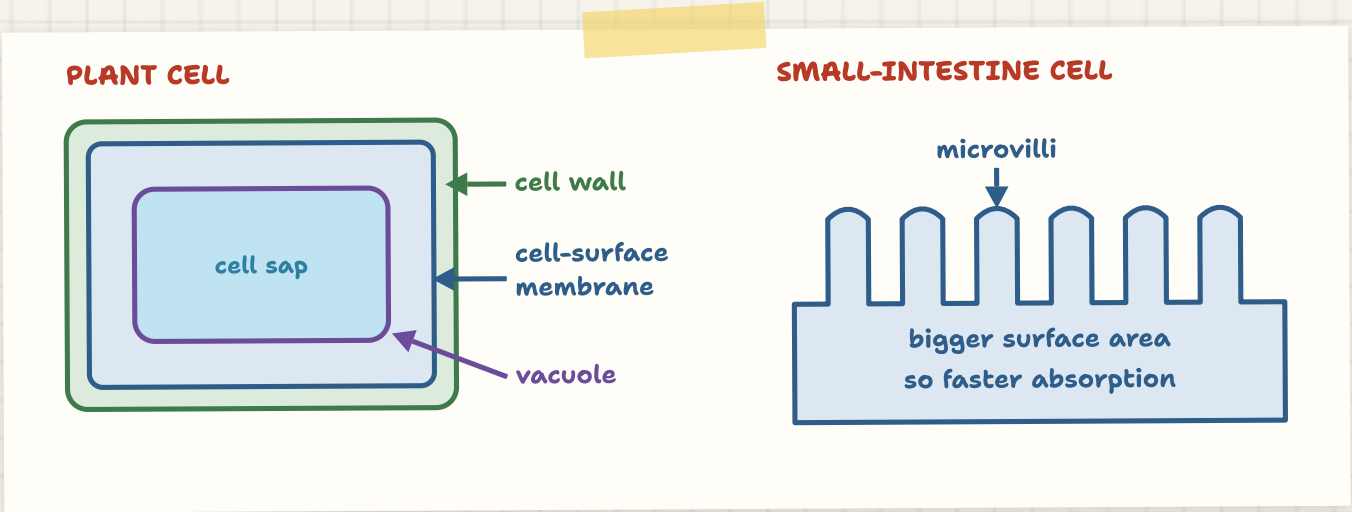
Cell Wall, Vacuole and Specialised Cells

Cell wall, vacuole and microvilli: each feature has a function and a reason it works.



Key terms

cell-surface membrane	a thin layer around the cell that controls what enters and leaves; it is partially permeable.
cell wall	a rigid, strong layer outside the membrane (cellulose in plants) that gives shape and stops the cell bursting when water enters by osmosis.
vacuole	a large plant organelle with its own membrane, the tonoplast, containing cell sap; when full it makes the cell turgid.
specialised cell	a cell adapted for one job; similar cells group into a tissue, tissues form an organ, organs form an organ system.
microvilli	finger-like projections of the cell-surface membrane that increase its surface area.
adaptation	a feature, then its function, then the reason it works.

I can...

- [ ] Structure and function of cell-surface membrane
- [ ] Cell wall in plants, algae and fungi
- [ ] Cell vacuole in plants
- [ ] Specialised cells organised into tissues, organs and systems
- [ ] Apply knowledge of features to explain adaptations of eukaryotic cells

EXAM TRAP

The cell wall is not the cell-surface membrane: the wall is outside, the membrane is inside. And never stop at the feature: add the result, bigger surface area, so more absorption.

4 marks: what earns them

1. Cell wall (made of cellulose) is rigid / strong, so it supports the cell OR stops it bursting when water enters by osmosis (either one suffices)
   Not: protects the cell (alone) / the wall controls what enters and leaves
2. Vacuole contains cell sap and, when full of water, makes the cell turgid, which supports the plant
   Not: stores stuff (alone) / stores water with no consequence
3. Microvilli are folds / projections of the cell-surface membrane that increase its surface area
   Not: microvilli increase the surface area of the cell wall / make the cell bigger
4. So more digested food molecules can be absorbed / absorption is faster
   Not: helps absorption with no reference to surface area

Remember

Cell, tissue, organ, system.
Adaptation: feature, function, reason.
Wall outside, membrane inside.

Independent revision resource, not endorsed by AQA. Practice question is original.
© 2026 Medservatory, a project of ADMR Solutions Ltd. Free to print and share for personal study.