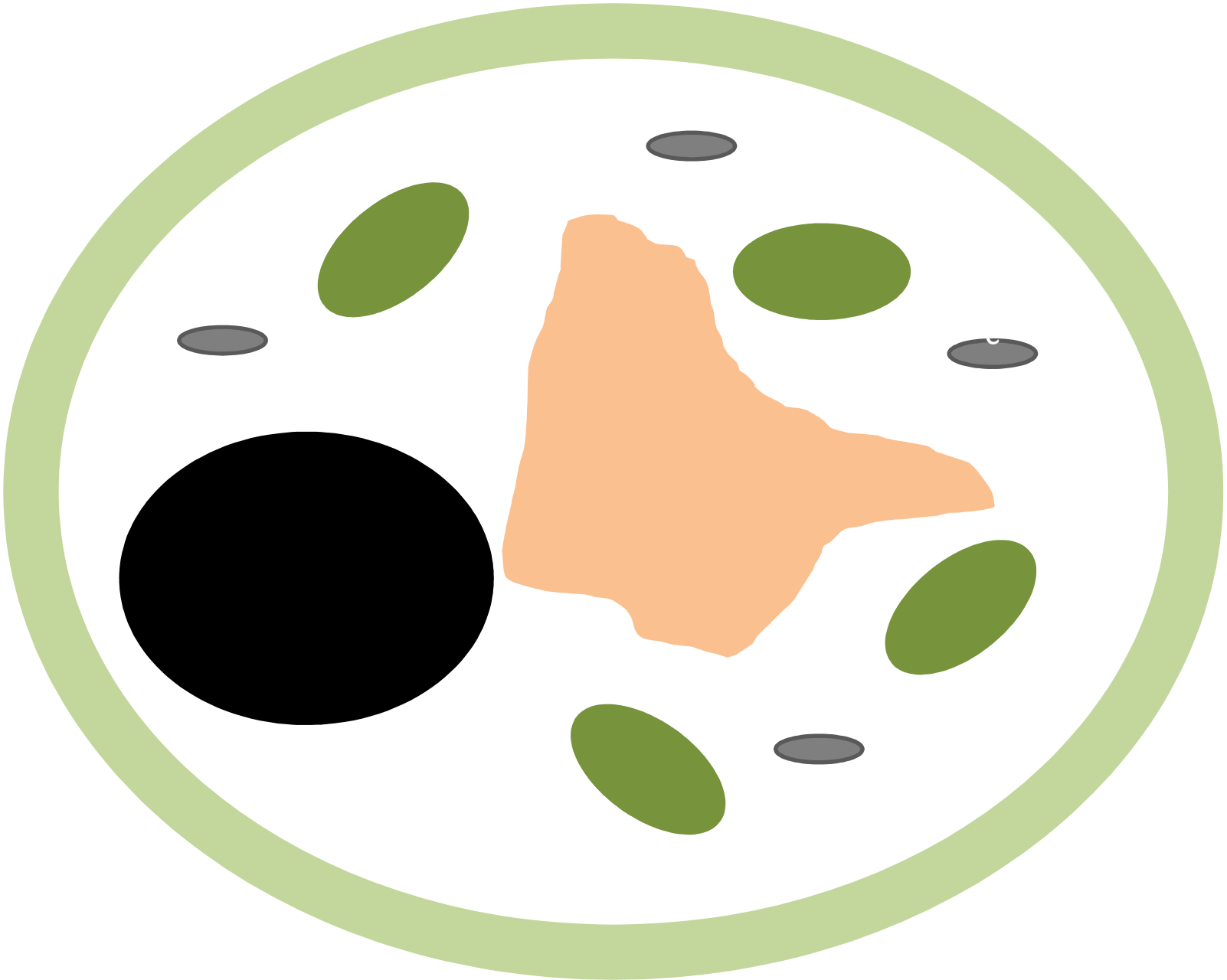
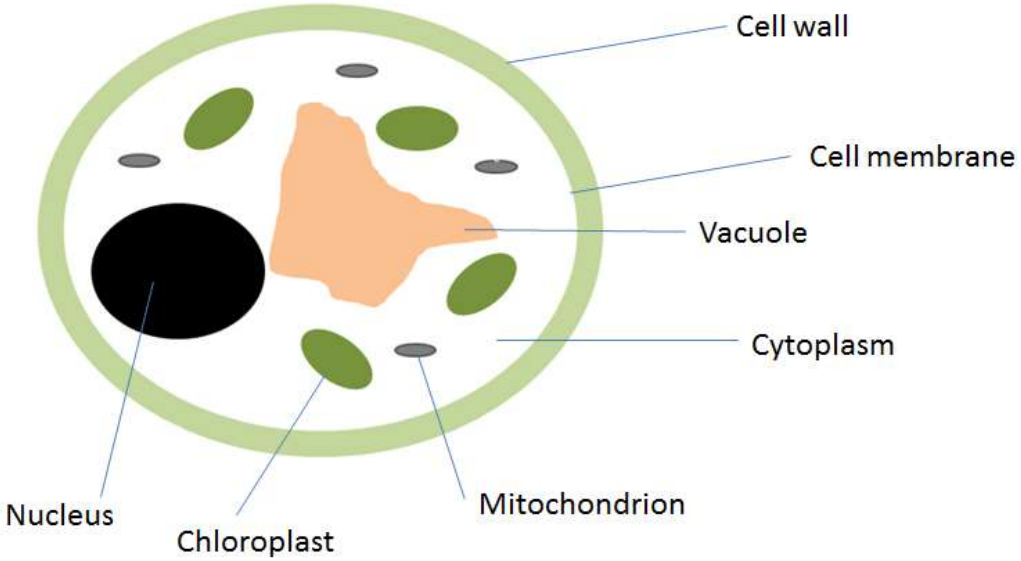
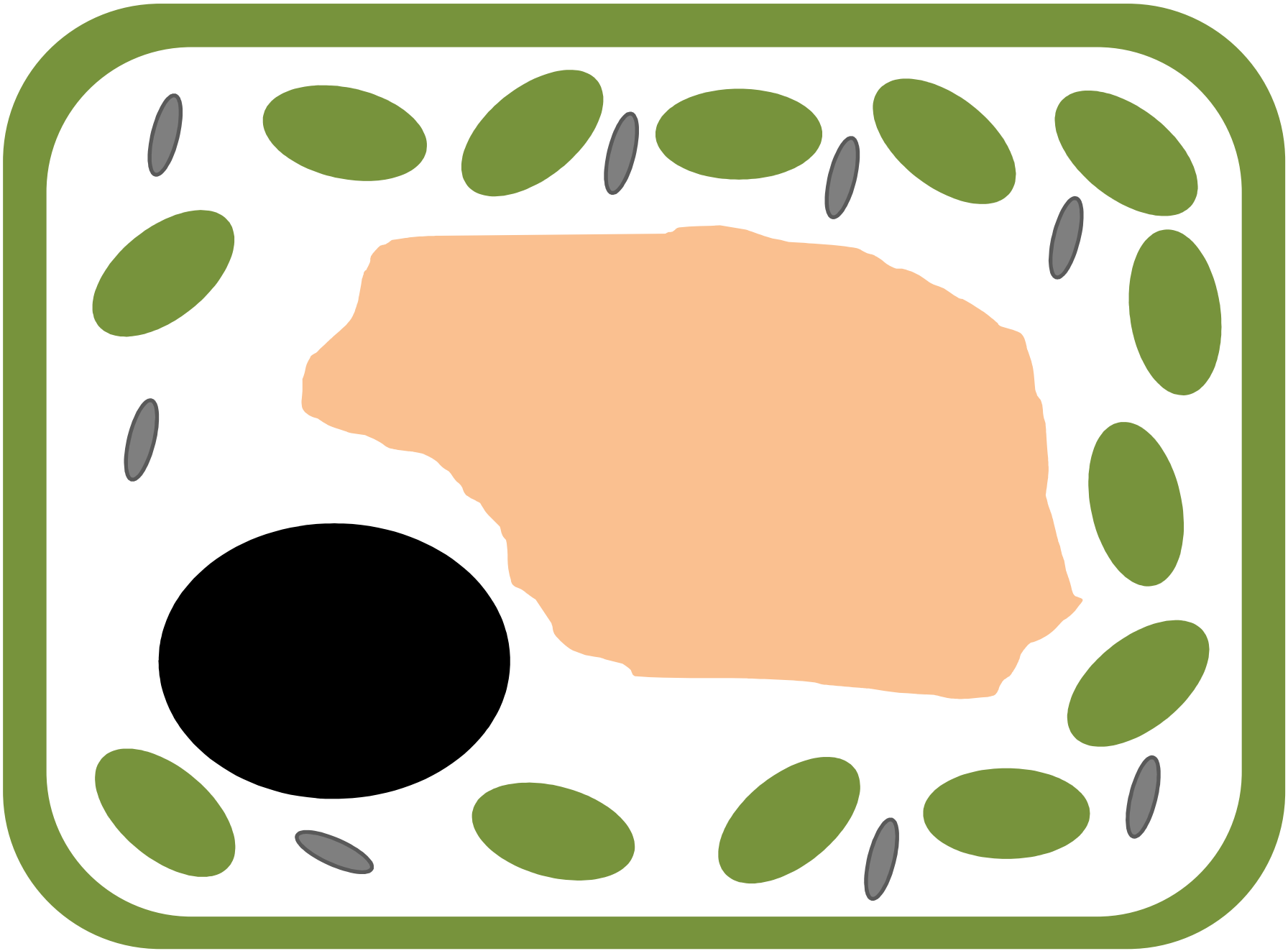


Spongy mesophyll cells

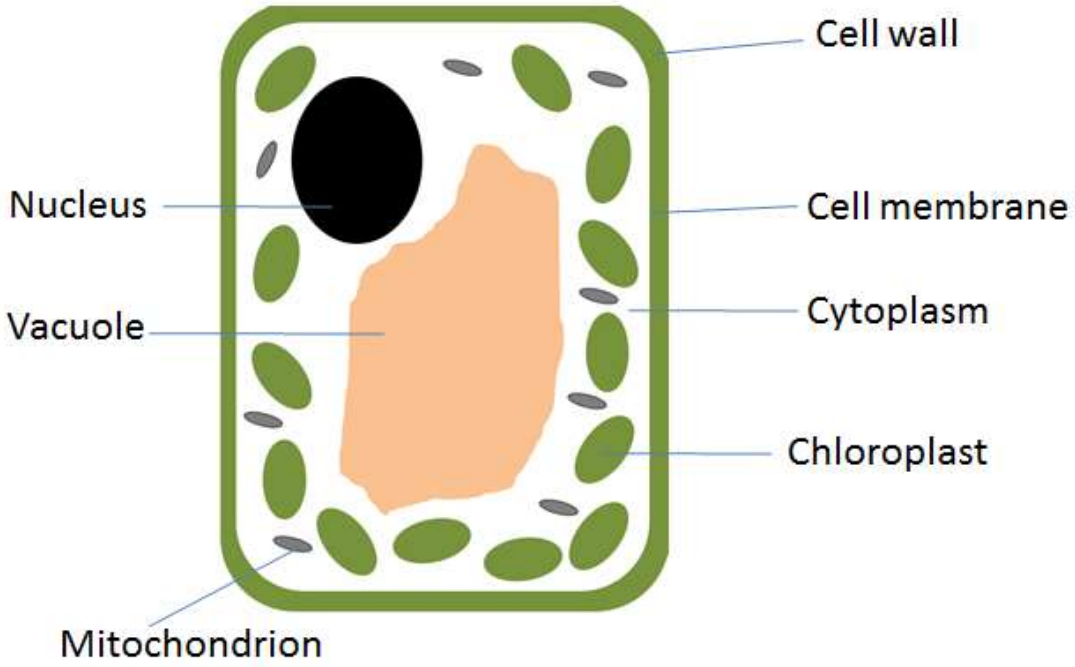


- How do you know that these cells are plant cells?
- How do you know that these cells can carry out photosynthesis?

- This layer of cells has lots of air spaces (that's why it is called 'spongy')
- It allows carbon dioxide to reach the cells
- Carbon dioxide is needed for photosynthesis
- Oxygen can pass through the air spaces to leave the leaf
- They have less chloroplasts than palisade cells

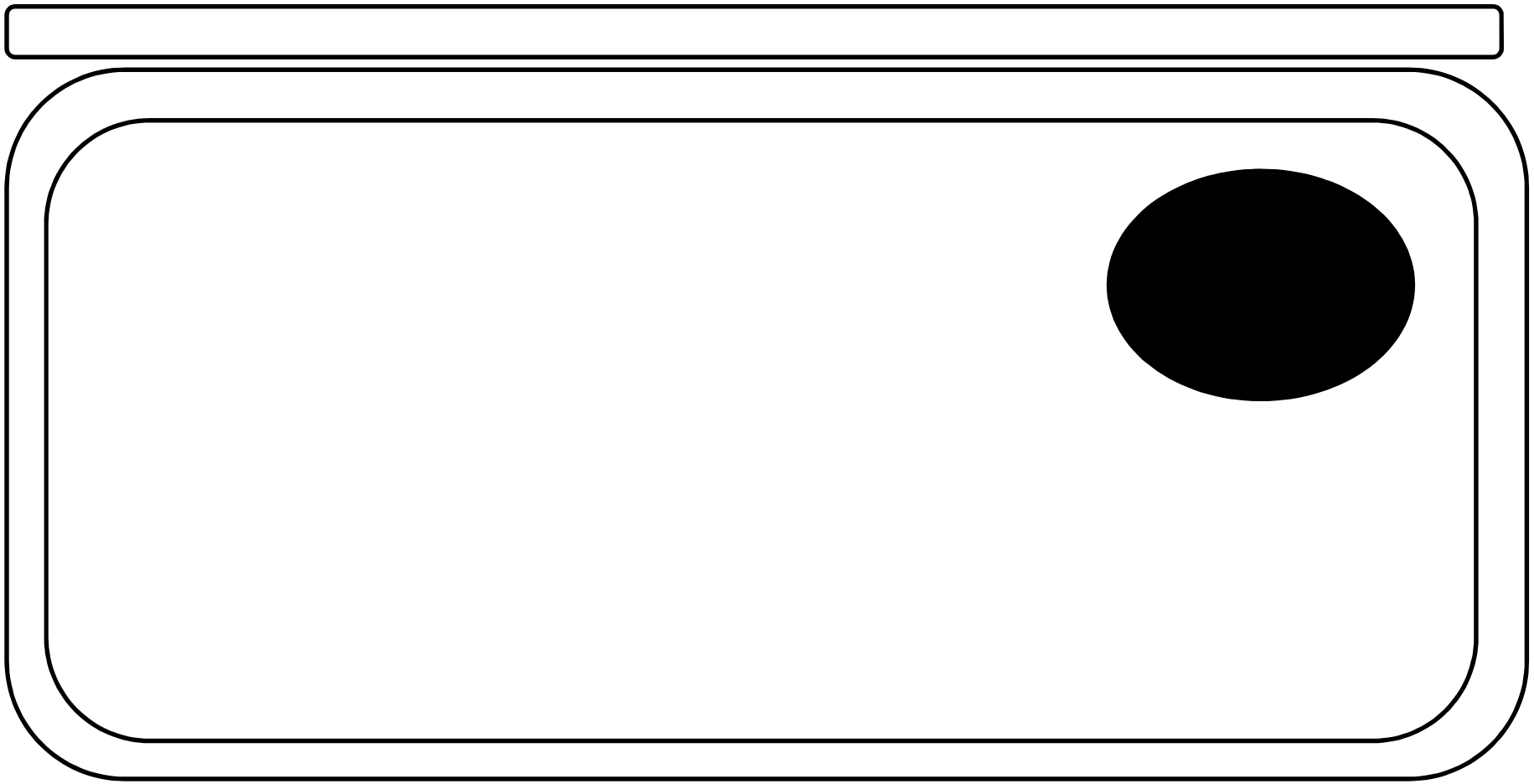


Palisade cells

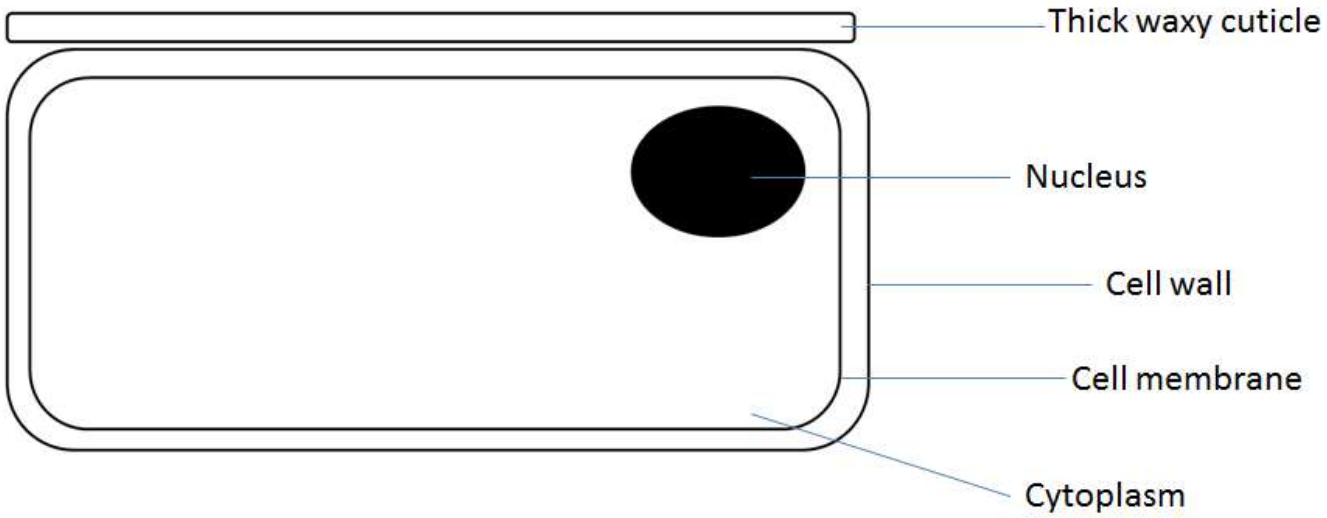


- How do you know that these cells are plant cells?
- How do you know that these cells can carry out photosynthesis?

- They are found at the top of the leaf
- They are packed full of chloroplasts
- Their main function is photosynthesis

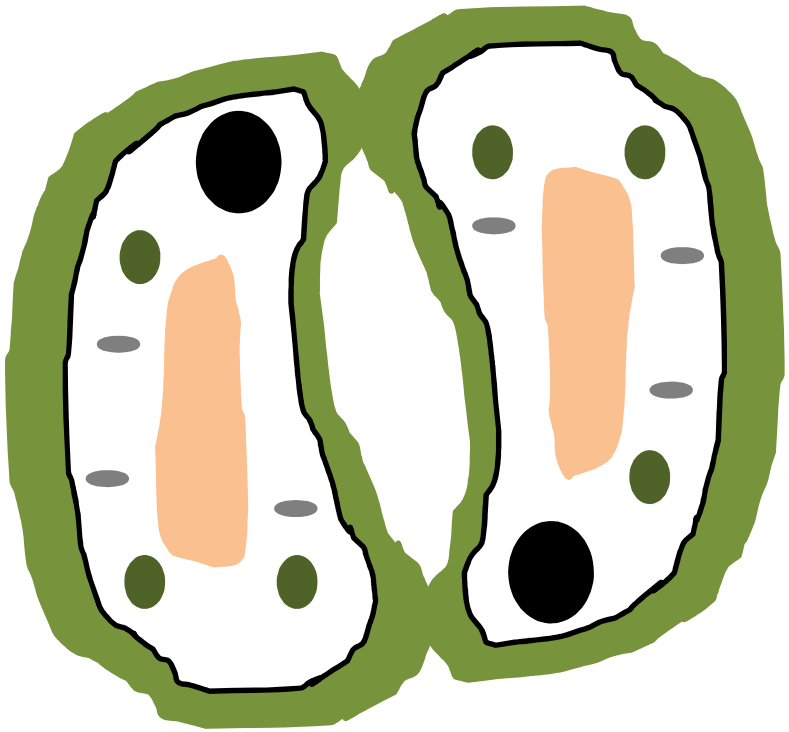


Epidermal cells

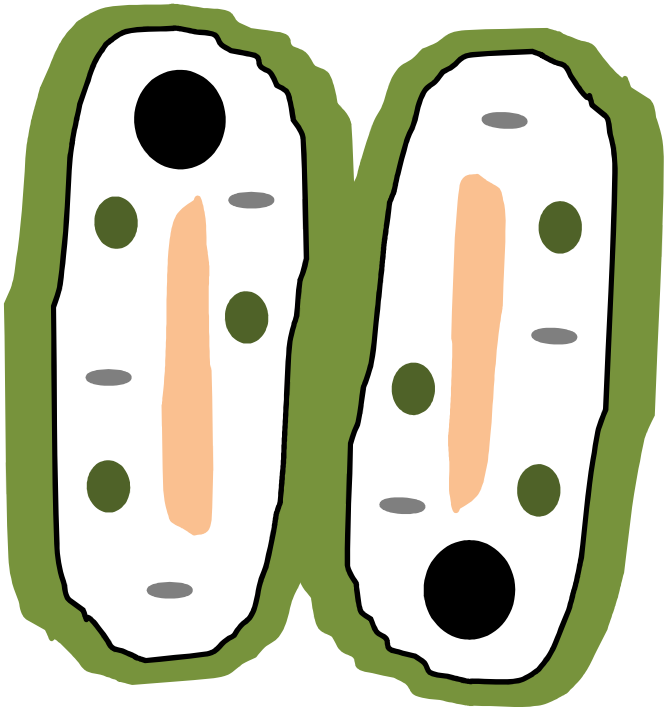


- Outermost layer
- Occurs at the top and bottom of the leaf
- Waxy cuticle to prevent water loss
- Waxy cuticle is transparent to let light pass through

- How is this plant cell different to the typical plant cell that you have learnt about?
- Why is it important that the waxy cuticle is transparent?

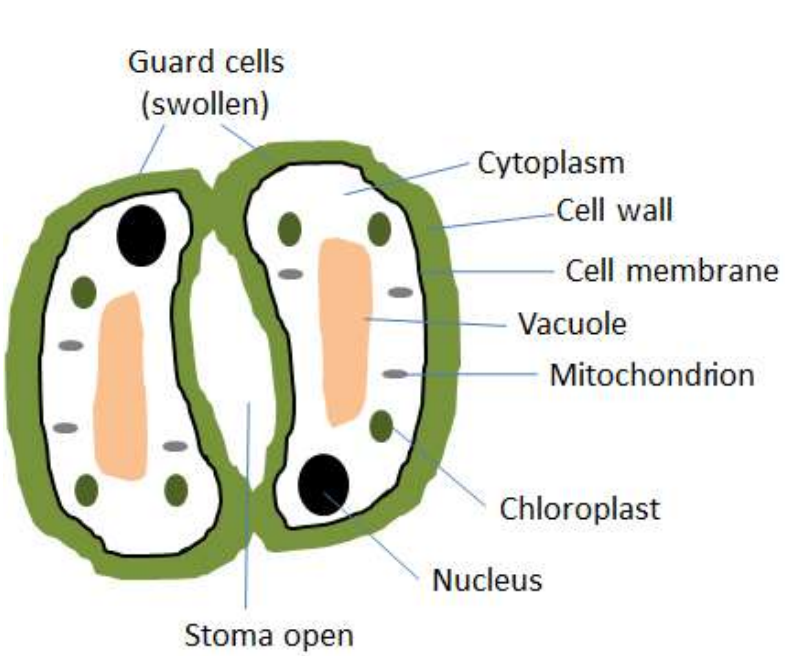


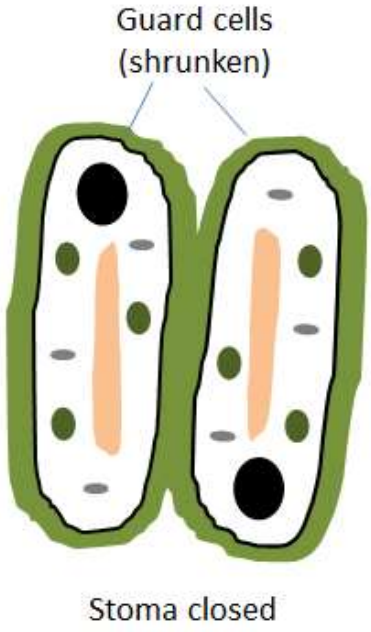
OPEN



CLOSED

Guard cells

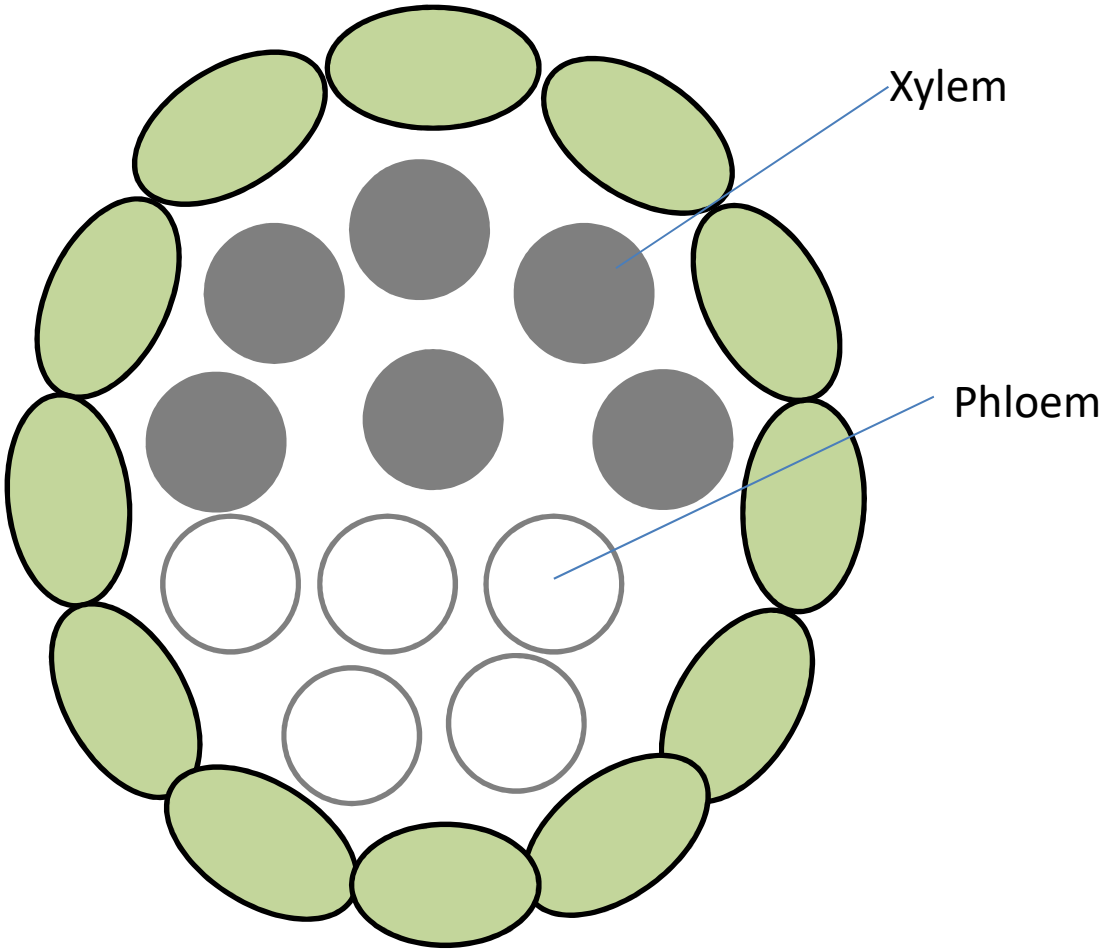




- How do you know these cells are plant cells?
- What do you think the cells change to control the opening and closing of the stomata?

- Specialised cells in the epidermis of leaves
- They are used to control gas exchange
- They are found in pairs
- The gap between them forms a pore called the stomata
- Carbon dioxide, oxygen and water vapour can enter/leave the leaf through the stomata
- The stomata can be closed to prevent water loss.

Vascular bundle (vein)



- Part of the transport system in plants.
- Xylem carries water
- Phloem carries food (sugars)
- Xylem vessels are hollow

- Why does the plant need water?
- Where does the sugar come from?