

GUARD CELLS

in the day

- guard cells photosynthesise, converting light energy to chemical energy and increase uptake of potassium ions into the cell
- water potential of guard cells lowered and more water enters cell by osmosis
- guard cells become turgid and swollen
- guard cells have thicker cell wall around stomatal pore which causes the guard cell to become curved, opening the stoma
- when there is excessive water loss even during the day, guard cells lose turgidity and become flaccid, causing stoma to close

at night

- the potassium ions accumulated in the guard cell diffuse out
- water potential in guard cell increases and water leaves cell by osmosis
- guard cell becomes flaccid and stoma closes

