

CELLS ONLINE WORKSHEET

TOPIC

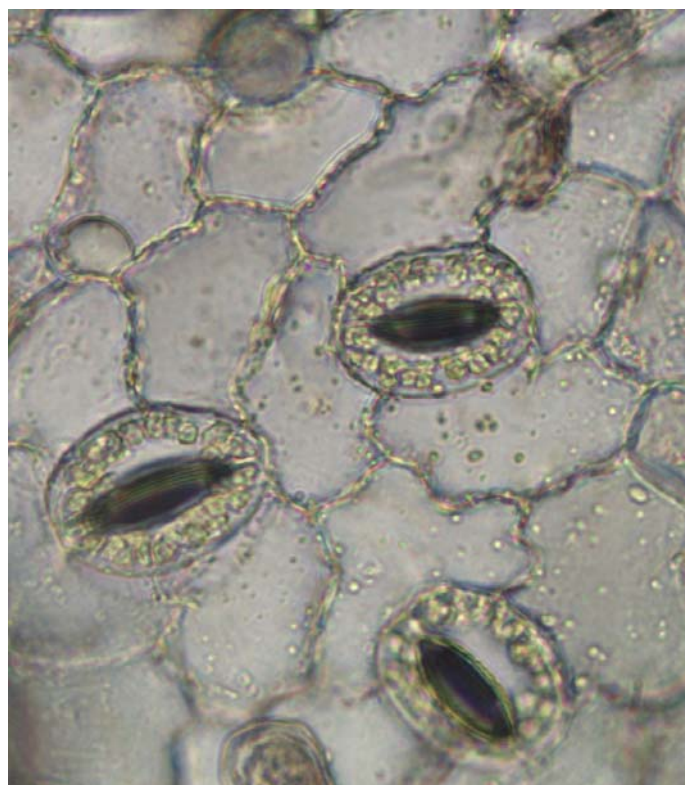
STOMATA

Stomata are structures formed from two guard cells surrounding an opening in the epidermis of leaves and some stems. The guard cells have a thick inelastic cell wall lining the pore or opening. Each stoma open or close depending whether water is moving out or into the two guard cells. The guard cells are surrounded by epidermal cells. Epidermal peels from leaves of *Kalanchoe* (Slide A) and *Geranium* (Slide B) were viewed at 600x magnification.

SLIDE A



SLIDE B



Download this page, place in your notebook and answer the following questions.

- Q1: On the above slides identify and label the following structures: a guard cell, chloroplast, thick inelastic cell wall, cytoplasm, opening or pore, epidermal cell, cell wall of epidermal cell
- Q2: What organelle can you see in the guard cells but not in the epidermal cells?
- Q3. Based upon your answer in Q2 what chemical process takes place in the guard cells that does not take place in the epidermal cells.
- Q4. Suggest why the pore opens when water moves into the guard cells.