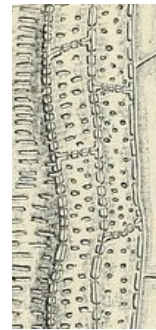


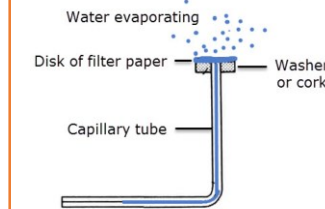
Transport in the xylem

- Why can't plants avoid doing transpiration? (What has to happen in leaves?)  
\_\_\_\_\_
- What are the two properties of water which help transpiration?  
○ \_\_\_\_\_  
○ \_\_\_\_\_
- What does active transport in root hair cells do that promotes inward osmosis of water from the soil into root cells?  
\_\_\_\_\_

Draw a labelled diagram of the structure of a 'primary xylem' cell.



Describe how to use the apparatus below to test the rate of transpiration at different temperatures.



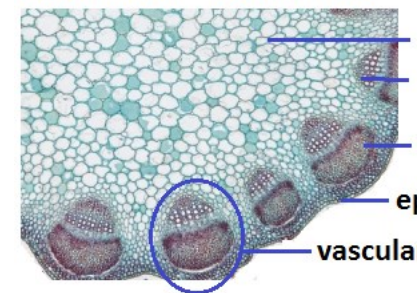
Transport in the phloem

Explain why each of the following is important in the translocation of organic compounds like sucrose.

- The incompressibility of water \_\_\_\_\_
- Hydrostatic pressure gradients \_\_\_\_\_
- High concentration of solutes at source \_\_\_\_\_
- Water uptake by osmosis \_\_\_\_\_

Identify xylem & phloem in the shoot image below.

**Clover stem *Trifolium sp.***



Compare & contrast a source and a sink – in terms of organic compounds in plants.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Growth in plants

Auxin is a plant growth substance which causes \_\_\_\_\_

Micropropagation is \_\_\_\_\_

Mitosis promotes growth by increasing \_\_\_\_\_

Describe the two phytochromes which help a plant to switch to flowering in response to light and dark.

\_\_\_\_\_

What effect does the alteration of gene expression by auxin in cells have on growth

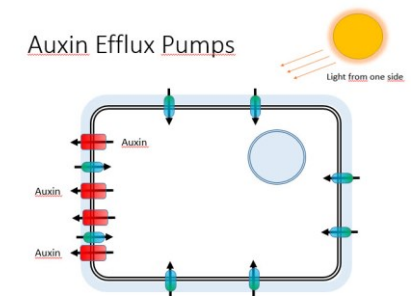
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

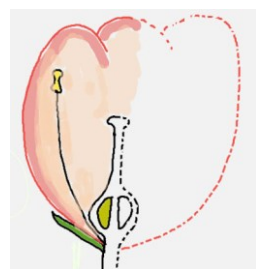
\_\_\_\_\_

Describe what this diagram shows



Reproduction in plants

Complete the right hand side of the "half view" (cross section) of a flower



& label it.

Compare & contrast pollination and fertilization

Pollination	Fertilization

- Describe how a mutualistic relationship can help fertilization

\_\_\_\_\_

\_\_\_\_\_

- Describe how a change in gene expression in the shoot apex leads to flowering

\_\_\_\_\_

\_\_\_\_\_

Describe how to make short day plants like chrysanthemums flower out of season

\_\_\_\_\_

\_\_\_\_\_

Name the parts of the internal structure of a seed. \_\_\_\_\_, \_\_\_\_\_,

\_\_\_\_\_, \_\_\_\_\_

