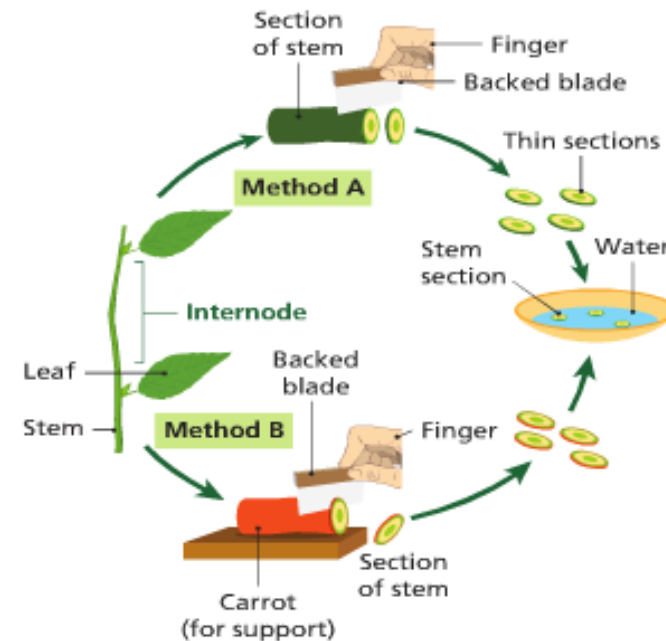


24 - Structure of Flowering Plants

Activity 17 To prepare and examine a transverse section (TS) of a dicot stem

- Plants that are suitable for this purpose are busy Lizzie, begonia, sunflower or celery (although celery is actually a petiole rather than a stem). As these are herbaceous (i.e. non-woody), they are easier to cut.
- Cut out a short section of the stem between two nodes using a scalpel or backed blade.
- Wet the blade (to reduce friction) and cut thin sections of the stem (cutting away from your fingers to prevent injury).
- Cut the sections at right angles to the stem (i.e. try and avoid wedge-shaped sections). If the stem is too soft and flexible, it can be supported by placing it into a slit that is cut in some elder pith or carrot, which can then be sectioned as shown in diagram 23.25, method B.
- Store the cut sections in a clock glass or petri dish of water (to prevent them dehydrating).
- Transfer the thinnest sections onto a microscope slide using a forceps or small paint brush.
- Add a few drops of water and a cover slip at an angle (to eliminate air bubbles).
- Observe the section under low power and then under high power of the microscope (as explained in Activities 6 and 7 in Chapter 7) and compare them with diagram 23.20.
- Draw a diagram of the TS of the stem. Label the position of the dermal tissue, ground tissue and vascular tissue.



23.25 Cutting sections of a stem for microscopic examination