

## TP 5 : CONDUCTING TISSUES

### INTRODUCTION

All vascular plants have conductive tissues that ensure the conduction of sap (raw sap for the xylem and refined sap for the phloem). Conducting tissue cells are grouped into structural units that form long columns. There are 2 types of conducting vessels:

- **The xylem** is responsible for the circulation of mineral sap, or raw sap, and is composed of very elongated dead cells with walls thickened by lignin deposits, interrupted in places to allow raw sap to pass through.
- **The phloem** allows the sap to move by means of sieve cells. While the larger daughter cell becomes considerably hydrated and transforms into a sieve element (sieve tubes), the smaller one remains very dense and retains pronounced meristematic characteristics (companion cells).

### MATERIALS USED

- Razor
- leaves, roots, cactus leaves, celery stalk or petiole the spinach leaf and the stems.
- Slide
  - Water
  - Microscope
  - Forceps

## **METHODS**

- 1) cut a cross section in leaves, roots, cactus leaves, celery stalk or petiole the spinach leaf and the stems.
- 2) Place a few drops of water on the tissue; add the coverslip.
- 3) observe the tissue under the microscope and sketch a few of the cells.

## **WORK TO DO**

- Observing and monitoring conductive tissue de stems and root.
- Observing and monitoring conductive tissue in de leaves.
- Drawing of all observed tissues with data.
- Comparison between the two types of conductive tissue.