**Microscopy in Plant Transport Tissues Lab**

**Purpose:** To explore real plant transport tissues under a microscope, practice plan diagrams, and measuring with a graticule.

**Procedure:**  
 1. One at a time, retrieve each of 3 transport slides from the front of the room. For each slide,   
 complete the following:  
 a. Make a scanning power plan diagram of the entire tissue  
 b. Make a low power plan diagram of representative vasculature—label all tissues  
 c. Make a high power drawing of several representative xylem and phloem cells. Label   
 and measure one of each of these. Indicate on your drawing where you measured  
 d. Calculate the magnification of your high-powered drawing.

**Results:** Clearly label all drawings and show all work for calculations.

**Conclusions:** Copy the following conclusion questions and answer after them:  
 1. What is the difference between the apoplast, symplast, and transmembrane pathways? Draw   
 a diagram that shows all three.  
 2. Diagram phloem transport within a plant—you may do this for a leaf only.  
 3. How do water potential gradients control mass flow in xylem and phloem tissues?

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