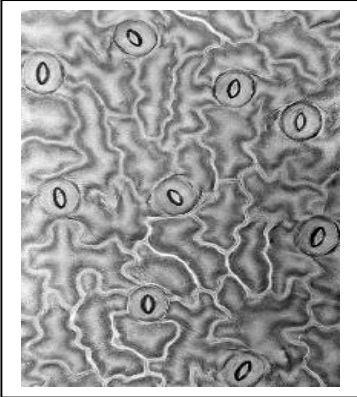


PASTE THIS SHEET ON THE LEFT SIDE OF YOUR NOTEBOOK & WRITE YOU LAB ON THE RIGHT.



Mini-Lab: Examining Stomata.

Directions: In groups of 2 you will explore the stomata of different types of leaves. The materials are found on each side of the room. READ THE MATERIALS AND PROCEDURE so you know what is expected of YOU!! Your goal is to look at 2 different types of leaves and their stomata. You are to look at 3 areas on the same leaf and collect data at 400x at how many stomata you see in your field of view.

Materials: glass slide, scotch tape, clear finger nail polish, microscope

Procedure:

1. You and your partner make a hypothesis answering this question: Which leaf will have the most stomata and why?
2. You are to look at 3 different areas of the slide at 400x and count approximately how many stomata you see in each view , and take the average, (of two different types of leaves).
3. Make a data table to hold 3 trials of data for *how many stomata seen for two types of leaves.*
4. Collect materials and take them back to your table except for finger nail polish leave up on the front table.
5. Spread a thick coat of clear nail polish on the underside of each leaf.
6. Wait 2-5 minutes for the polish to dry completely, while you wait read and answer the questions below.
7. Attach a strip of clear tape to the nail polish and gently peel off the tape, lifting the dry nail polish.
8. Tape the polish to a clean microscope, do not run your finger over the impression.
9. Take your microscope up to the highest power, 400x
10. Make a count at 400 x in one spot, move the slide and count a second and third time, then take the average. Do this again with the second leaf.

Analysis and Conclusion: Use pages 680-682 in the Miller and Levine book.

1. Are the stomata open or closed?
2. Describe the palisade layer and its function
3. Name two types of vascular tissue.
4. Describe the spongy layer and its function.
5. What is transpiration?
6. What role do stomata play in maintaining homeostasis in the plant?
7. What 3 substances are exchanged through the stomata?
8. How do the guard cells protect the stomata?
9. Do plants ever give off CO₂?