Lab #2-Microscopes & Cells

Purpose:

Eukaryotic Cells Observed

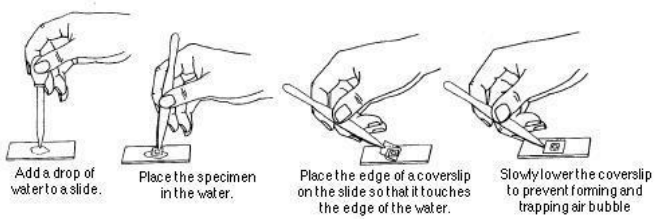
A. Cheek Cells:

1. Take a clean, flat toothpick, and gently scrape the inside of your cheek.
2. Wipe the toothpick on the center of a clean microscope slide.
3. Pipette 1.5 µL of 0.9% Methylene Blue onto the center of your slide.
4. Place coverslip on center of slide, taking care not to create bubbles.
5. If any of your sample spills out of coverslip, wipe it up with paper towel.
6. Place slide onto microscope and view your cells!

Carefully draw and color several cells as they appear under the microscope. Label the **cytoplasm, nucleus,** and **cell membrane**. Record the magnification at which the most detail could be obtained.

Total Magnification _____x

What shape are cheek cells? _____



B. Green Aquatic Plant Leaf

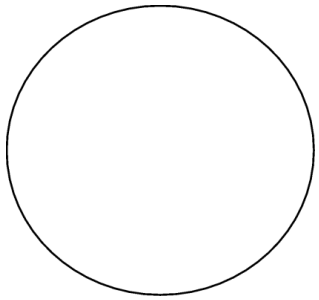
1. Using the forceps, pluck a single leaf off of the plant.
2. Place the leaf on the center of a clean microscope slide.
3. Pipette 3 or 4 drops of water onto the center of your slide.
4. Place coverslip on center of slide, taking care not to create bubbles.
5. If any of your sample spills out of coverslip, wipe it up with paper towel.
6. Place slide onto microscope and view the plant's cells! Allow the light to head the slide a bit and watch the chloroplasts move in cytoplasmic streaming.

Carefully draw, color, and label several cells in the field of view. Label the **chloroplasts**, **cytoplasm**, and **cell wall.** Record the magnification at which the most detail could be obtained.

Total Magnification _____x

What shape are plant cells? _____

Select two of the prepared slides and observe them under the microscopes. Sketch, color, and identify each of the slides that you observe.



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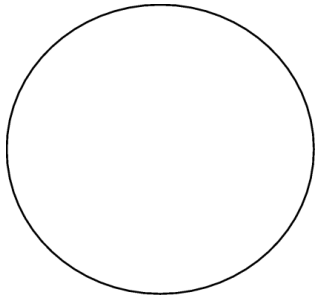
NAME OF SLIDE



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NAME OF SLIDE

Analysis:
In 4 to 5 sentences, explain how the cell structures varied between those slides that you observed and then **infer why these structures might be related to the function** of the cell or organ they belong to.

Conclusion Questions

1. What plant cell organelle is present in plant leaf cells that is absent in cheek cells? Explain why this is.
2. How does the size of the human cheek cells observed compare with the size of the plant cells?
3. List 3 structures common to all cells and describe their functions.
4. Describe some of the main differences between plant, animal, and bacteria cells.