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**Examining Plant and Animal Cells**

**Purpose:**

1. To distinguish basic differences between plant and animal cells.
2. To prepare a wet mount slide.
3. To use a microscope to properly view cells.
4. To properly draw & label specimens viewed under the microscope.

**Part 1: Animal Cells**

**Cheek Cell:**

1. Place a drop of water in the middle of a clean glass slide.
2. Using a toothpick, gently scrape the inside of your cheek.
3. Mix the cheek scraping on the toothpick into the drop of water on the slide.
4. Place a cover slip over the drop containing cheek cells.
5. STAIN YOUR CELLS FOLLOWING THESE INSTRUCTIONS:
   1. Place one drop of Methyl Blue on the slide of the cover slip.
   2. On the opposite side, place a small piece of paper towel.
   3. Wait as the paper towel draws the stain under and across the cover slip.
6. Observe of LOW power and make a drawing.
7. Observe of HIGH power and make a drawing.
   1. Label the following structures: Nucleus, cytoplasm, cell membrane
8. Make sure to label the total magnification of both drawings.
9. Put slide & cover slip in the correct disposal bucket.

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**Mammal Neuron Motor Nerve Cells smear (Prepared Slide)**

1. Observe the Mammal Neuron Motor Nerve Cells smear under LOW power and make a drawing.
2. Observe the Mammal Neuron Motor Nerve Cells smear under HIGH power and make a drawing.
   1. Label the following structures: nucleus, cytoplasm, cell membrane.
3. Make sure to label the total magnification of both drawings.

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**Part 2: Plant Cells**

**Elodea Leaf (Prepared Slide)**

1. Observe the Elodea Leaf under LOW power and make a drawing.
2. Observe the Elodea Leaf under HIGH power and make a drawing.
   1. Label the following structures: nucleus, cytoplasm, cell membrane, cell wall, & chloroplasts.
3. Make sure to label the total magnification of both drawings.

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**Onion Root Tip (Prepared Slide)**

1. Observe the Onion Root Tip under LOW power and make a drawing.
2. Observe the Onion Root Tip smear under HIGH power and make a drawing.
   1. Label the following structures: nucleus, cytoplasm, cell membrane, cell wall.
3. Make sure to label the total magnification of both drawings.

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**Analysis & Conclusion Questions:**

1. You should have observed a difference in shape between plant and animal cells. What was the difference?
2. What organelle is responsible for giving plant cells their shape and why?
3. Both elodea and onions are types of plants. Why did you not have to label chloroplast in the onion root tip drawing like you did the in the elodea leaf drawing?
4. Why can we not see other organelles such as ribosomes, mitochondria, and endoplasmic reticulum when viewing these cells?