

Microscope Lab



Objectives:

- ▶ To learn the parts of the microscope.
- ▶ To find specimens using low and high power.
- ▶ To make a wet mount.
- ▶ To view your own human cheek cells under the microscope.
- ▶ To compare plant and animal cells.

Procedure: Letter “e”

1. Cut out the letter “e” and place it on the slide face up.
2. Add a drop of water to the slide.
3. Place the cover slip on top of the “e” and drop of water at a 45-degree angle and lower. Draw what is on the slide in **Figure 1**.
4. Place the slide on the stage and view in low power (4x). Center the “e” in your field of view. Draw what you see in **Figure 2**.
5. Move the slide to the left, what happens? Move the slide to the right, what happens? Up? Down?
6. View the specimen in high power (10x). Use the fine adjustment **only** to focus. Draw what you see in **Figure 3**.

Data: Part 1- The letter “e”

Figure 1: Drawing of the letter “e” on the slide. (half page)

Figure 2: Drawing of the letter “e” in low power (4x). (half page)

Figure 3: Drawing of the letter “e” in high power (10x) (half page)

Analysis:

1. How does the letter “e” as seen through the microscope differ from the way an “e” normally appears?
2. When you move the slide to the left, in what direction does the letter “e” appear to move? When you move it to the right? Up? Down?
3. How does the ink appear under the microscope compared to normal view?
4. Why does a specimen placed under the microscope have to be thin?

Procedure: Part 2 - Cheek Cell

1. Place a small drop of Iodine onto a clean slide.
2. Using a toothpick, gently scrape the inside of your cheek.
3. Place the toothpick tip into the iodine and mix. The iodine stains the cells so you can see them.
4. Place the slide under low power (4x). Draw what you see in **Figure 4**.
5. Switch to high power (10x). Draw 2 or 3 cells in **Figure 5**. Label the nucleus, cell membrane, and cytoplasm.

Data: Part 2- Cheek Cell

Figure 4: Drawing of the cheek cell in low power (4x) (half page)

Figure 5: Drawing of the cheek cells in high power (10x)
Label the nucleus, cell membrane, and cytoplasm. (half page)

Analysis:

1. Why did we add iodine to our cheek cells?
2. What structure in the cheek cell was stained the darkest?
3. Is your cheek cell an animal cell?

Procedure: Part 3 - The Elodea leaf

1. Place a drop of water on a clean slide.
2. Place an Elodea leaf in the drop of water, place a coverslip on top.
3. Observe under low power first (4x), then under high power (10x) Draw in **Figure 6**. Label the following organelles: nucleus, cytoplasm, cell wall, chloroplasts.

Data: Part 3 – The Elodea Cell

Figure 6: Drawing of the Elodea cell in high power (10x) (half page)

Analysis:

1. Was anything happening in your cell?
2. What structures were in the plant and animal cell?
3. What structures were only in the Elodea cell?

Conclusion: 2-3 sentences on what you learned.

YOU MUST CLEAN UP! ALL SLIDES ARE CLEANED AND PUT AWAY.