

UNIT 3

EXPERIMENTING WITH MICROPIPETTES



USING THE MICROPIPETTE

1. Make sure you are using the correct pipette for the intended volume. First, release the lock which is a small ring at the top of the pipette. Rotate this ring to free the adjustment mechanism. Turn the plunger until the volume you want to pipet is displayed in the window. Finally, turn the volume lock into lock position.

2. Next, you will need to select the appropriate disposable tip. Gently place the end of your pipette into a tip. A light tap can help seat the tip properly on the end of the micropipette so that a good seal is formed between the two.

3. Gently press the plunger down and note that the pipette has 2 “stop” positions. The first stop is where you want to be when drawing up the appropriate volume of the sample. The second stop is to dispense the sample completely from the tip.

4. Gently press the plunger down to the first stop. Then insert the tip of the pipette into your food coloring sample. Begin releasing the plunger very slowly to prevent damaging the instrument.

5. Now you are ready to dispense the solution. Place the tip of the pipette into the container you are pipeting to and slowly dispense the solution. Do so by slowly pressing the plunger all the way down to the second stop position.

6. Keep your thumb at the second stop position until you have completely removed the pipette from the container to avoid drawing your sample back into your pipette.

7. When you are finished pipeting, simply eject your tip into a waste container by pressing down on the tip ejector button.



Materials for each team of 3:

- One P-10, P-100 and P-1000 micropipettes with appropriate tips
- Paper towel folded to have three layers
- Ruler
- Food coloring solution



PROCEDURES

1. Each person (in groups of 3) should get a piece of paper towel approximately 3 feet long. Fold the paper towel into three layers. Press the edges firmly down. Make sure the paper towel is perfectly flat with no ripples.

2. You will each be measuring the following volumes of the food coloring solution: 10 μL · 100 μL · 500 μL · 1000 μL

3. Using the appropriate micropipette, measure each volume of the food coloring sample.

4. Dispense the food coloring onto a piece of paper towel. Place the tip of the micropipette near the paper towel and SLOWLY release the sample at the same spot. Let the sample dry. Label the drop with the measured volume.

5. Compare your results with your partner's by measuring the diameters of the dried sample with a ruler. Record on the paper towel using the metric system.

6. Keep your paper towel until further instruction by your teacher.