

Reviewing Micropipets2

Name _____

When you use the micropipettes you must be sure that you are using the proper technique or you won't get the exact volume you want. Remember:

1. The **first** plunger stop is for **drawing up** liquid and the **second** plunger stop is for **expelling** liquid. Always push the plunger down to the first stop before entering the liquid.
2. Draw the liquid up by releasing the plunger **slowly** and always keeping the tip down in the liquid. Do not snap the pipette plungers because it will throw the calibration off.
3. Set the pipette in the proper range of its setting. Going below or above the setting will break the instrument.
4. Don't forget a plastic tip and never turn the pipette sideways or upside-down so liquid doesn't get into the mechanism.

Practice:

There are 1000 milliliters (ml) in a liter (l).

There are 1000 microliters (μ l) in a milliliter (ml).

1. How many μ l are there in a liter? _____
2. 7 ml = _____ μ l
3. 8 μ l = _____ ml
4. 2000 μ l = _____ L
5. 0.5 ml = _____ μ l
6. .0003 L = _____ μ l
7. If you needed the following volumes, which pipette would you use and at which setting?

Volume Needed	Type of Micropipet (p20 or p200)	Setting (3 vertical numbers)
36 μ l	p200	036
5 μ l		
16 μ l		
102 μ l		
25 μ l		
10.2 μ l		

Activity:

1. On a piece of waxed paper, pipette 2 μ l of colored liquid onto one spot using the **CORRECT** method. Draw below the approximate size of the drop.
2. In another spot pipette 2 μ l using the **INCORRECT** method. Push the plunger all the way down to the second stop to draw up the liquid. Draw the approximate size of the drop and note the difference in size.

3. Set the pipette to 4 μ l now and draw up the first spot. Dial the pipette down to 2 μ l while the liquid is still in the tip. The liquid should be right at the edge of the tip and you should not have lost any liquid. How accurate were you? If you were not accurate, try again.

4. Do the same for the second spot with the incorrect method. Now measure exactly how many microliters off you were (how much additional liquid).

5. Repeat steps 1-4 using the p200 and measuring 50 μ l of fluid.

6. Using the p20, pipette 10 μ l onto the waxed paper. Pipette 20 μ l onto the same spot. Now use the p200 to draw up the 30 μ l of liquid. How accurate were you ? If not exact, find out how much extra or less you had.