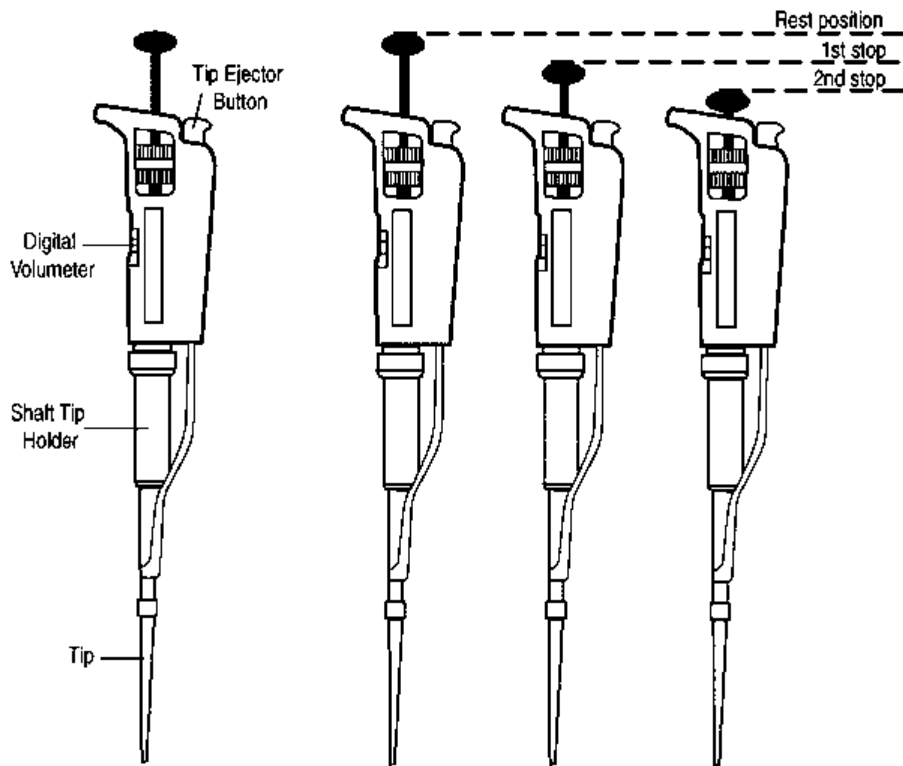


Micropipetting basics



<https://www.fao.org/3/AC802E/ac802e05.htm>

Micropipettes are precision instruments that measure **microliter** (μl) amounts.

1000 μl = 1 ml **1 ml of water weighs 1 gram**

Micropipettes come in a variety of sizes:

Size	Range	Type of tips
P-10 micropipettes dispense	0.5 – 10 μl	small white tips
P-20 micropipettes dispense	2 – 20 μl	yellow tips
P-50 micropipettes dispense	5 - 50 μl	yellow tips
P-100 micropipettes dispense	10 – 100 μl	yellow tips
P-200 micropipettes dispense	20 – 200 μl	yellow tips
P-1000 micropipettes dispense	100 – 1000 μl	large blue or white tips

Important: Micropipettes are PRECISION instruments. They are expensive scientific instruments and must be handled with care!

- ALWAYS use a tip when using a micropipette. If liquid enters the device it will damage the mechanism.
- Only set the dial for volumes within the range of the specific pipette.
- ALWAYS keep the micropipette in a vertical (up and down) position when liquid is in the tip. Again, it is important to prevent liquid from running into the instrument.
- Use your thumb to control the speed of the plunger. Releasing too abruptly can cause bubbles or leaks which can make measurement inaccurate.
- Use micropipettes that match most closely the volumes you need to measure. In general, select the smallest micropipette that will measure the volume needed.

Steps in Using the Micropipette

To take up a sample:

1. Select the appropriately size micropipette
2. Dial the appropriate volume
3. Gently push the end of the micropipettor onto the appropriate sized tip.
4. Hold the container of liquid in one hand and the micropipette in the other. Hold both at nearly eye level. The micropipette should be held at about a 45° angle.
5. Depress the plunger of the micropipette to the first stop and hold it in this position.
6. Dip the tip into the solution.
7. Slowly release the plunger. Make sure the plastic tip remains submerged the entire time the plunger is being released.

To dispense a sample:

1. Hold the container you are filling in one hand and the micropipette in the other. Hold both at nearly eye level. The micropipette should be held at about a 45° angle.
2. Gently touch the micropipette tip to the inside wall of the new container.
3. Slowly depress the plunger to the first stop, and then continue to the second stop.
4. Continue holding the plunger at the second stop and then remove the micropipette from the new container.
5. Eject the disposable plastic tip into the appropriate waste container.

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