Pipetting Technique Guide

Transferring liquid with a micropipette

1. Select an appropriate pipette for the volume you need to transfer
   - All pipettes have a range in which they work, using a micropipette to transfer volumes outside that range can break the pipette
   - Pipettes will have their range written somewhere on them (ex. the plunger top)

2. Set the volume of the pipette to that you need to transfer
   - Be aware of place value, all pipettes have the same format for their volume but the values represented depend on the size of the pipette
   - Some pipettes have a lock to prevent the volume getting changed while transferring liquid, if there’s resistance when you try to change the volume don’t force the mechanism, check for a lock

3. Put a tip on the pipette
   - Tips are sized to fit on particular pipettes, make sure you have the correct tips for the pipette you’re using
   - The tip should form a good seal with the pipette barrel, use enough force when collecting the tip so that it’s not loose but not so much you bend its end
     - If the end of the tip is bent, dispense it and get a new one
     - If the tip is very loose, put it back in the tip box and press more firmly to set it
     - Slightly loose tips can be impossible to spot until you try taking up liquid, if you have trouble taking up the correct volume then the tip may be slightly loose and you should dispense it and get a new one

4. With the tip outside of the liquid you wish to transfer, press the plunger to the first “stop”
   - The first stop corresponds to the volume you set in step 2
   - Keeping the pipette tip out of the liquid prevents bubbles in the solution which helps ensure the accuracy of your pipetting

5. Put the tip into the liquid you wish you transfer and slowly release the plunger
   - Make sure the tip is far enough under the surface that it will stay submerged while you take up liquid (if you’re not sure, keep it near the bottom of the tube)
   - Releasing the plunger slowly helps prevent bubbles and other issues, which helps ensure the accuracy of your pipetting

6. Remove the tip from your source tube, and transfer it to your destination tube
   - If liquid sticks to the sides, wipe it off against the edge of the source tube
   - Keep the pipette upright once you have liquid in the tip, if you tilt it too much the liquid can flow down into the barrel where it contaminates the pipette and all future transfers

7. Slowly press the plunger past the first “stop” and to the second stop
   - As when taking up liquid, dispensing slowly helps ensure accuracy
   - The second stop pushes extra air through the pipette tip, which helps make sure liquid doesn’t stick in the pipette tube

8. Remove the tip from the liquid, and then release the plunger
   - If you release the plunger while the tip is submerged, you’ll take up liquid again

9. Dispense the tip into an appropriate hazard container