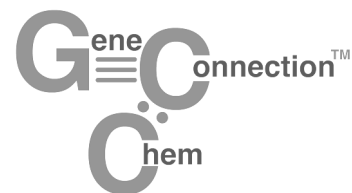


Lab A1 Activity Sheet

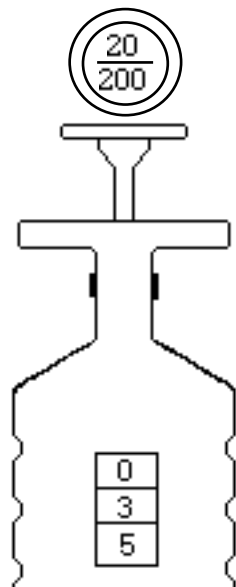
Manipulating Small Volumes



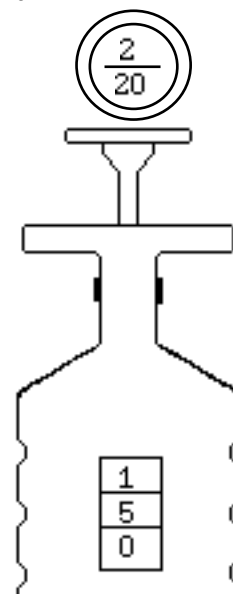
Name: _____
Period: _____ Date: _____

PRELAB:

- Complete the following conversions:
 - $1 \mu\text{L} = \underline{\hspace{2cm}} \text{mL}$
 - $100 \mu\text{L} = \underline{\hspace{2cm}} \text{mL}$
 - $250 \mu\text{L} = \underline{\hspace{2cm}} \text{mL}$
 - $\underline{\hspace{2cm}} \mu\text{L} = 1.5 \text{mL}$
 - $\underline{\hspace{2cm}} \mu\text{L} = 0.06 \text{mL}$
 - $\underline{\hspace{2cm}} \mu\text{L} = 0.003 \text{mL}$
- Put the following volumes in order from largest to smallest.
 - 2.5 mL, 250 μL , 0.025 mL, 2.5 μL : _____, _____, _____, _____.
 - 100 μL , 0.01 mL, 250 μL , 0.015 mL: _____, _____, _____, _____.
- Explain the reason for each of the following rules:
 - Always set the micropipet within its designated range.
 - Always use a micropipet with a tip.
 - Always hold a loaded micropipet in a vertical position.
 - Always release the micropipet plunger slowly.
- Observe the volume of liquid that is measured by micropipets a and b.



a. 35 μL



b. 15 μL

Which micropipet (a or b) is the P-20? _____ What is its range? _____

Which micropipet (a or b) is the P-200? _____ What is its range? _____

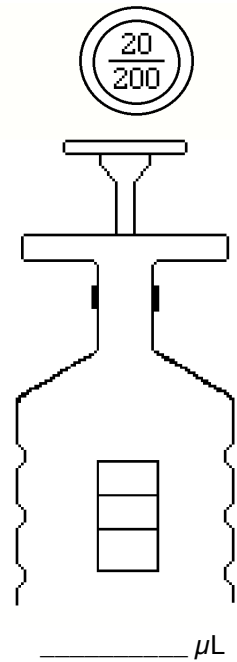
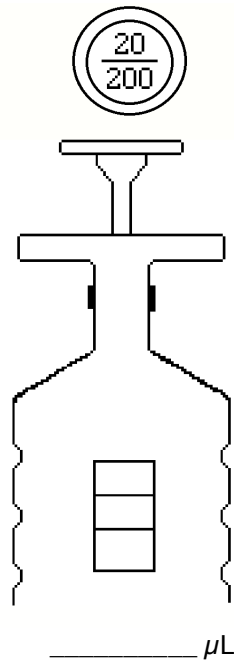
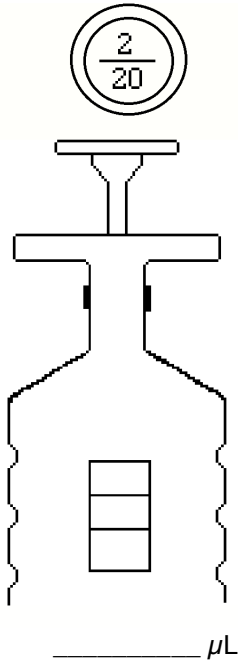
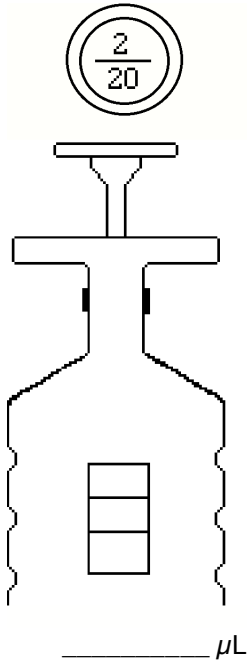
5. Select the appropriate micropipet and show what the dial should read to measure each of the following amounts of liquid. Write the amount on the line beneath each drawing.

a. 150 μL

b. 2.5 μL

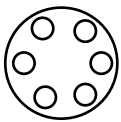
c. 84 μL

d. 7 μL

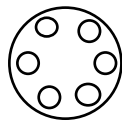


6. Why is it important to balance a centrifuge before turning it on?

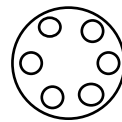
7. Show how you would arrange the given number of tubes in each centrifuge to balance the load. If you decide that you must add or remove tubes, explain.



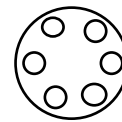
a. 1 tubes



b. 3 tubes



c. 4 tubes



d. 5 tubes