



FIGURE B

OPERATING THE STOPCOCK

1. The stopcock should be operated with the left hand. This method gives better control but may prove awkward at first for right-handed students. The handle should be moved with the thumb and first two fingers of the left hand, as shown in Figure B.
2. Rotate the stopcock back and forth. It should move freely and easily. If it sticks or will not move, ask your teacher for assistance. Turn the stopcock to the closed position. Use a wash bottle to add 10 mL of distilled water to the buret. Rotate the stopcock to the open position. The water should come out in a steady stream. If no water comes out or if the stream of water is blocked, ask your teacher to check the stopcock for clogs.

FILLING THE BURET

1. To fill the buret, place a funnel in the top of the buret. Slowly and carefully pour the solution of known concentration from a beaker into the funnel. Open the stopcock, and allow some of the solution to drain into the waste beaker. Then, add enough solution to the buret to raise the level above the zero mark, but do not allow the solution to overflow.



FIGURE C

READING THE BURET

1. Drain the buret until the bottom of the meniscus is on the zero mark or within the calibrated portion of the buret. If the solution level is not at zero, record the exact reading. If you start from the zero mark, your final buret reading will equal the amount of solution added. Remember, burets can be read to the second decimal place. Burets are designed to read the volume of liquid delivered to the flask, so numbers increase as you read downward from the top. For example, the meniscus in Figure C is at 30.84 mL, not 31.16 mL.
2. Replace the waste beaker with an Erlenmeyer flask containing a measured amount of the solution of unknown concentration.

Experiment 15 is an example of a back-titration applied to an acid-base reaction; it can be performed on a larger scale if micropipets are replaced with burets.