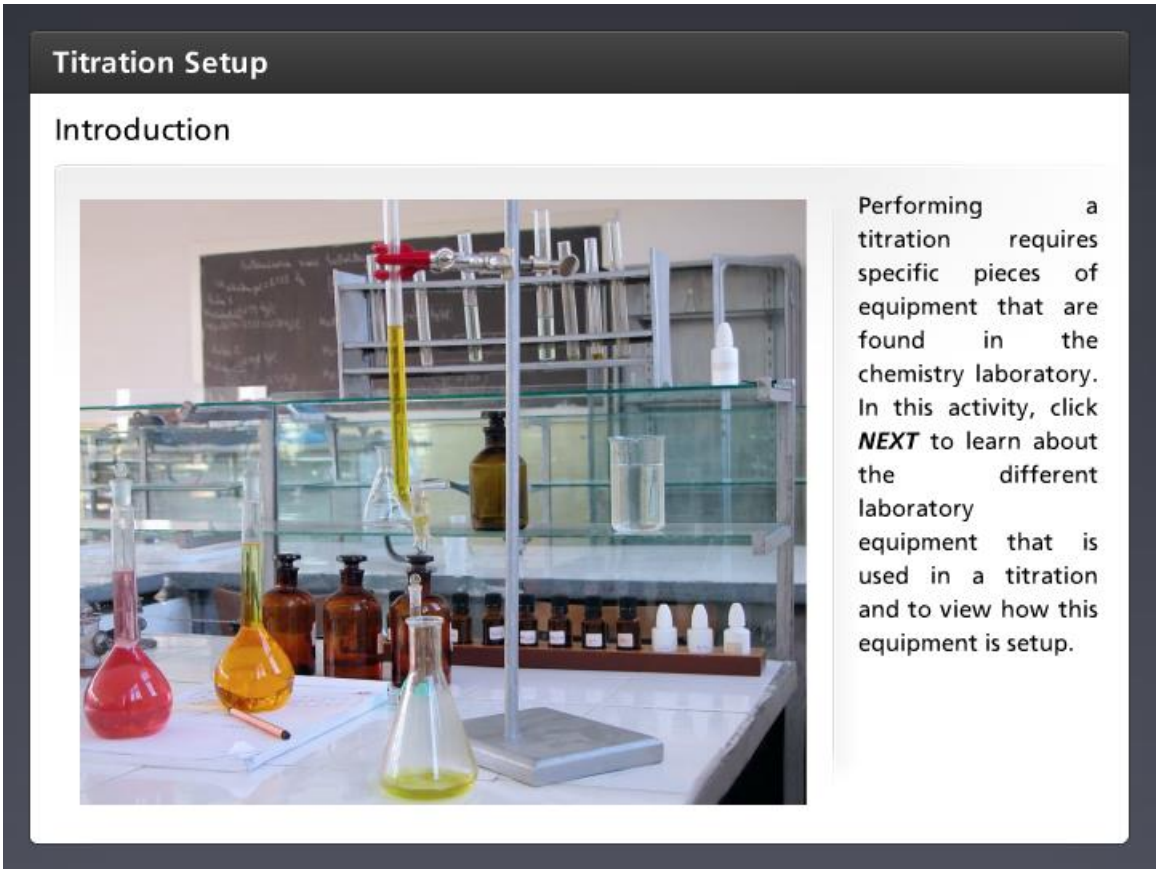
Module 11: Acid/Bases, Neutralization, and Redox Reactions

Topic 4 Content: Titration Setup Notes

Introduction



Performing a titration requires specific pieces of equipment that are found in the chemistry laboratory. In this activity, click ***NEXT*** to learn about the different laboratory equipment that is used in a titration and to view how this equipment is setup.

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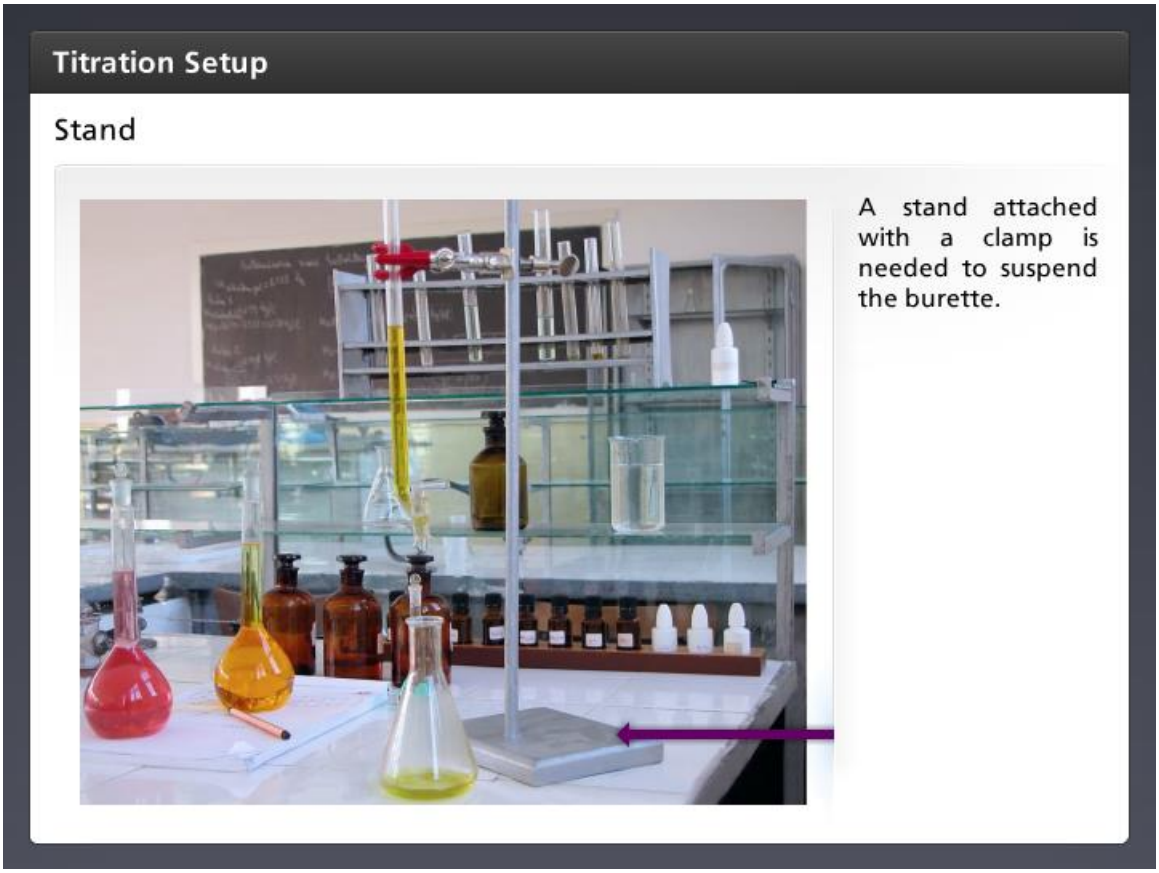
Stand



A stand attached with a clamp is needed to suspend the burette.

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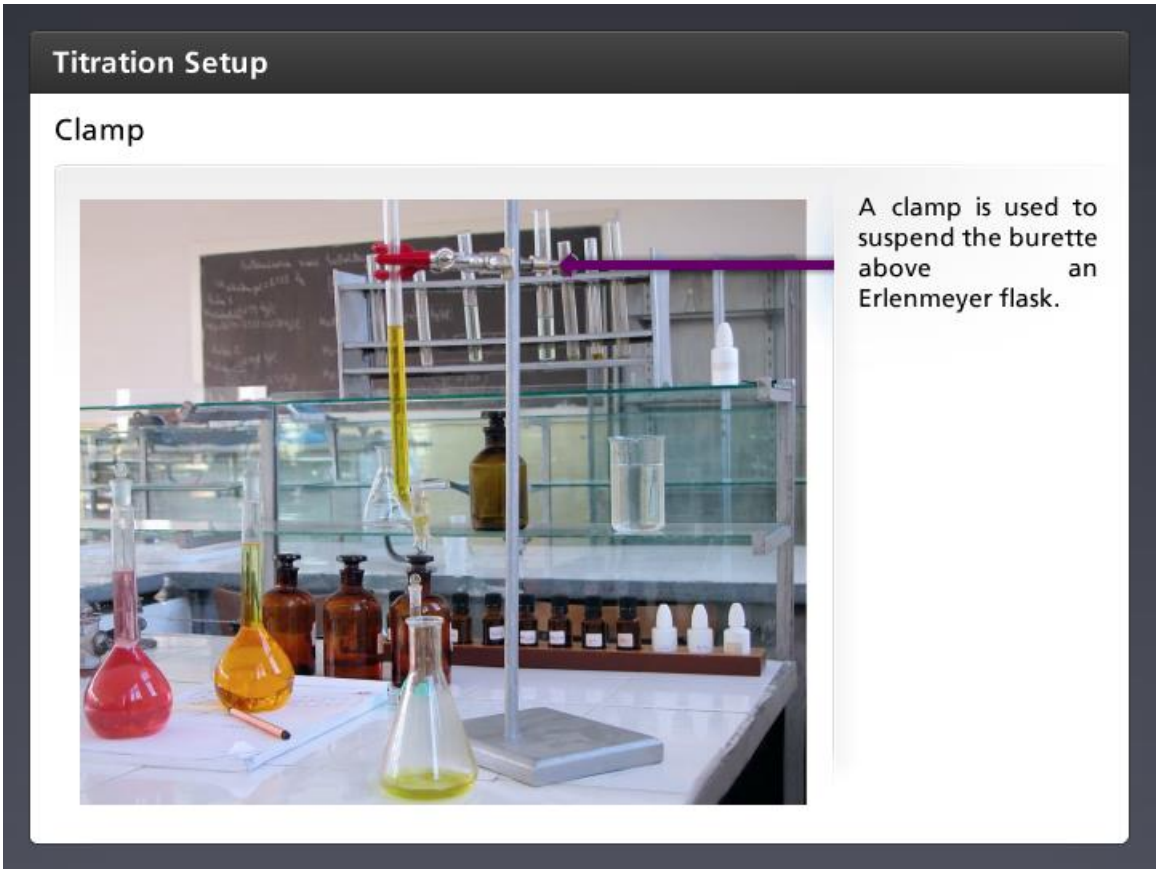
Clamp



A clamp is used to suspend the burette above an Erlenmeyer flask.

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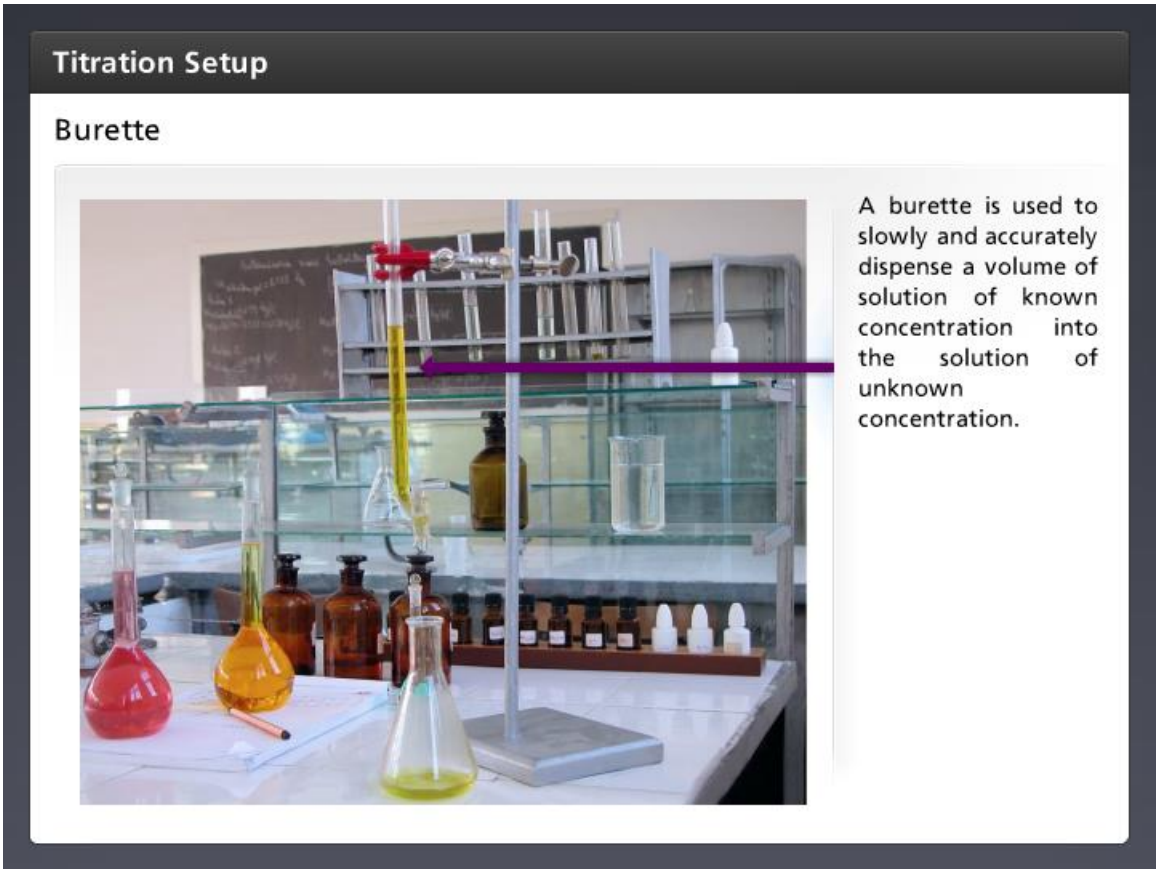
Burette



A burette is used to slowly and accurately dispense a volume of solution of known concentration into the solution of unknown concentration.

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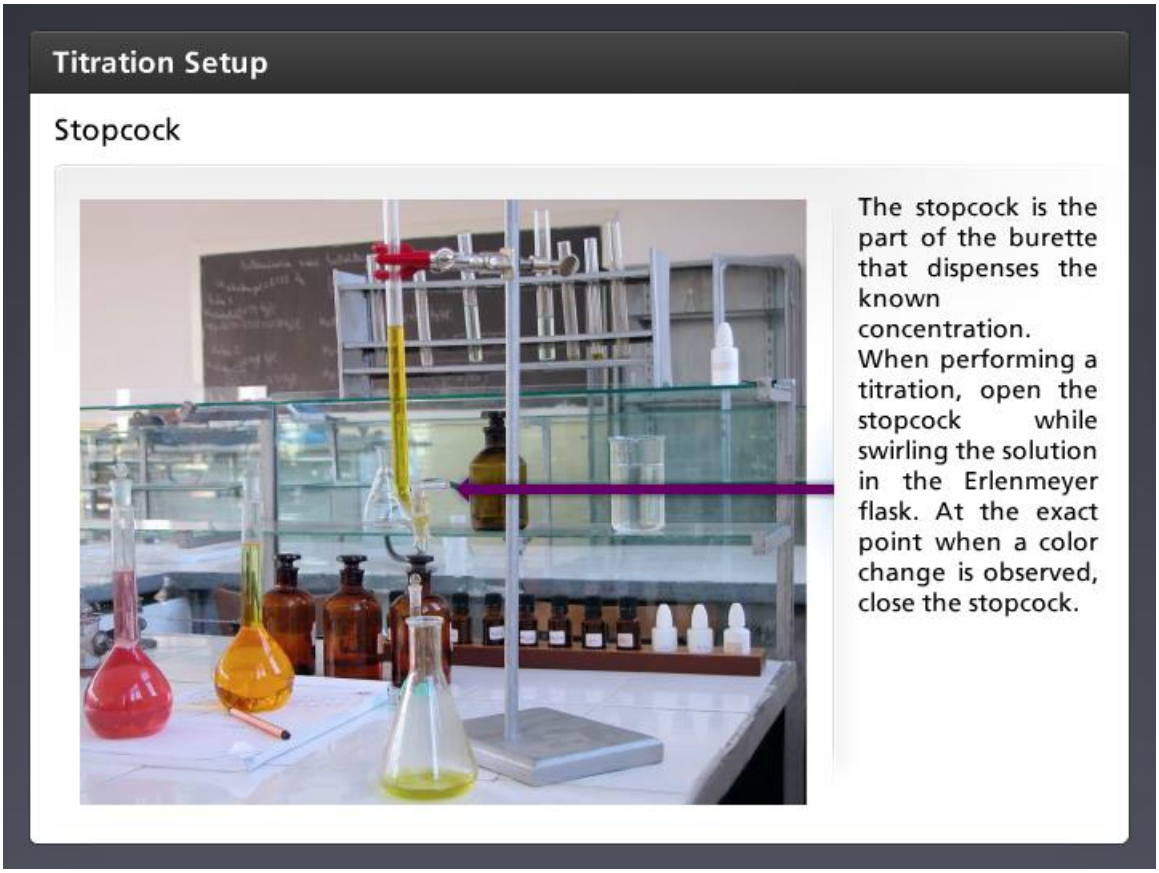
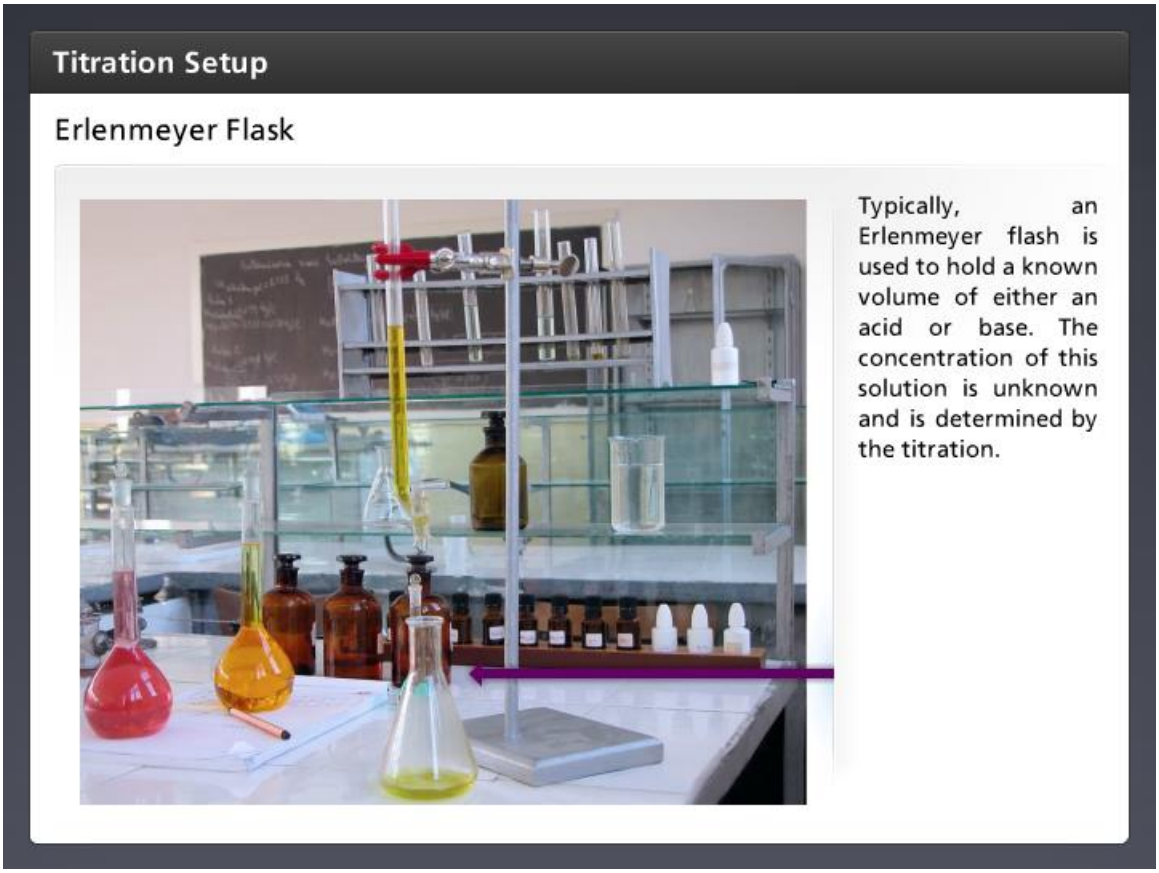
Stopcock



The stopcock is the part of the burette that dispenses the known concentration. When performing a titration, open the stopcock while swirling the solution in the Erlenmeyer flask. At the exact point when a color change is observed, close the stopcock.

Erlenmeyer Flask



Typically, an Erlenmeyer flash is used to hold a known volume of either an acid or base. The concentration of this solution is unknown and is determined by the titration.

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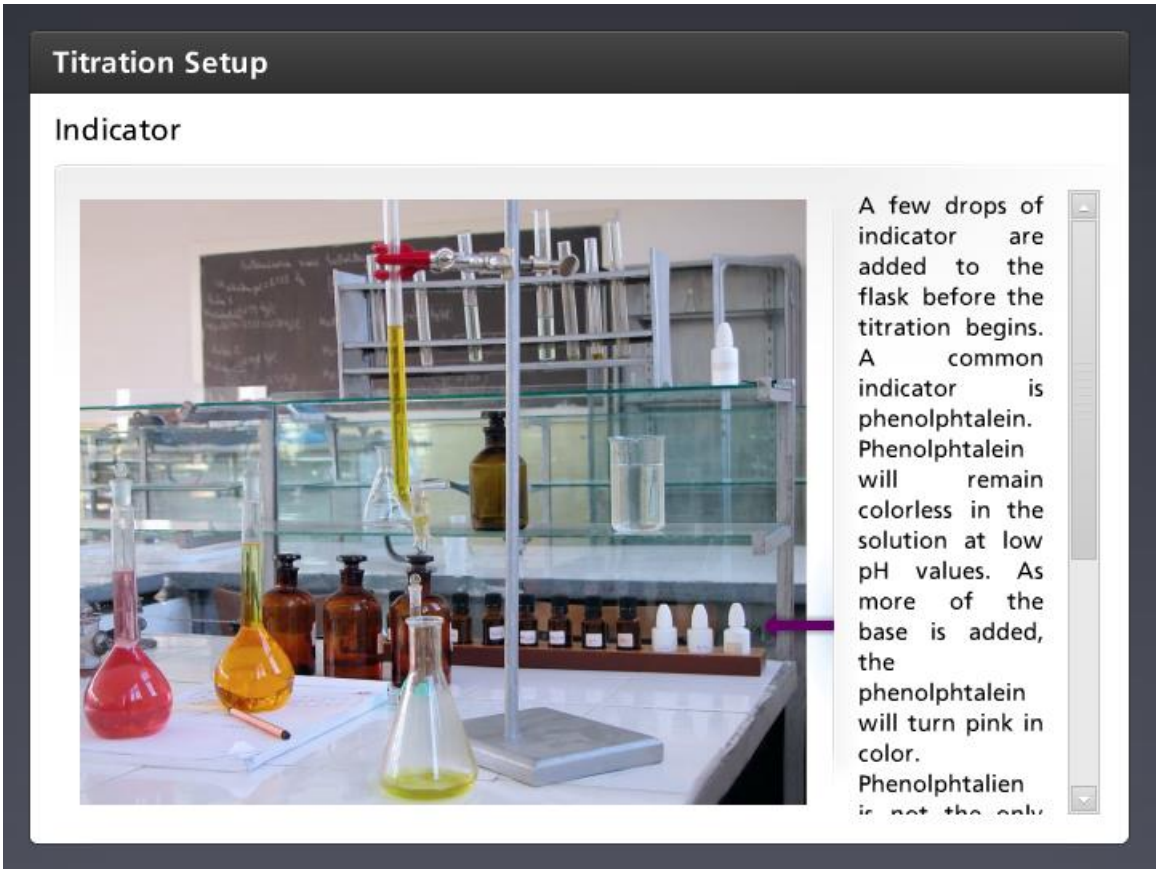
Indicator



A few drops of indicator are added to the flask before the titration begins. A common indicator is phenolphtalein. Phenolphtalein will remain colorless in the solution at low pH values. As more of the base is added, the phenolphtalein will turn pink in color. Phenolphtalien is not the only indicator used in titration. There are many different indicators that can be used based on the pH of the solution being tested. Chemists may also choose to use litmus paper.