

Virtual Lab Manual

Titration: Neutralize an acid lake contamination

Synopsis

Counting potatoes in a bag would be pretty easy, you can feel, see, and touch the potatoes. Now imagine counting the amount of acid in a water sample. How would you do that? In this simulation, you will embrace the power of the titration technique. With appropriate lab apparatus, a chemical indicator and a base solution, you can determine the concentration of any acid.

Assemble the apparatus for titration

A successful experiment starts with good preparation. You will need a burette, a stand, a clamp and a flask to begin the titration procedure. Proper assembly of the apparatus is paramount to a successful titration. In this simulation, we will help you ace the assembly process so that once you go to the real-life lab, you will be able to recognize and explain the function of each part of the apparatus used in the titration technique.

Performing titration

Once the assembly is complete, you are ready to drop the base! The best thing about this simulation is that you can perform the titration multiple times. But in science, many repetitions doesn't always lead to improved accuracy. You have to figure out how many times you should repeat the experiment to achieve an accurate result. You also have the freedom to experiment with multiple indicators, various sample and titrant volumes.

Analyzing the titration results

Analyzing the titration results requires an understanding of the basic stoichiometry concept. You can try to do the analysis yourself or let us guide you through the analysis, where you'll go through the method of determining the concentration of the acid step-by-step.