## Getting Started

To get started with a ChemLab experiment first pick an experiment from the experiment menu, pick any selection other than the general lab. After making this selection pick the lab manual from the tool bar or from the Procedures menu. This will bring up a windows help window with a lab procedure, follow the procedure and complete the experiment.

## Using ChemLab

ChemLab for windows is an interactive simulation of a chemistry lab. Common Lab equipment and procedures are used to simulate the steps involved in performing a chemistry lab experiment. Lab equipment is added to the workspace by either selecting from the toolbar or equipment menu, additionally lab equipment can also be added by selection from the chemicals menu and specifying a particular lab container.

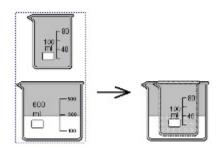
ChemLab uses the mouse to select lab equipment for a number of actions:

Picking a single piece of lab equipment, either by single mouse click or dragging: allows adding chemicals, water, thermometer, scale, stirring rod, bunsen burner, a funnel to a flask and decanting or pouring.

Double clicking on a piece of lab will open a dialog box showing the current chemicals and their states in a lab equipment.

Double clicking on a label on a piece of lab equipment also allows editing of label.

Selecting two containers by dragging mouse allows combining (arrange menu), placing one object in another, this is used for cooling.



Selecting 2 or more objects allows grouping of objects together.

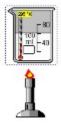
ChemLab tries to create the feel of a lab by using the position of certain lab equipment relative to other lab equipment. This is seen in decanting, or pouring, titration and heating with bunsen burner.

Pouring or decanting, involves selecting a piece of lab equipment, positioning its left side over the receiving container and selecting the decant button from toolbar or decant/pour menu item from the procedures menu. Liquid is first transferred in this process, to allow separation.





Similarly to heat an object with a bunsen burner, position the burner under that object.



Lab experiments may also be saved to file for latter use (file format \*.lab).

## Warning

Lab instructions included with ChemLab have been modified and simplified for purposes specific to ChemLab. They are not suitable for use in an actual lab setting and should not be used as a substitute to actual Lab documentation and instructions.

## **Feedback**

Please send me your comments on this software, problems, suggested improvements, and experiments you think could work in this format.

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