

Lab Technique 9: Using a Bunsen Burner

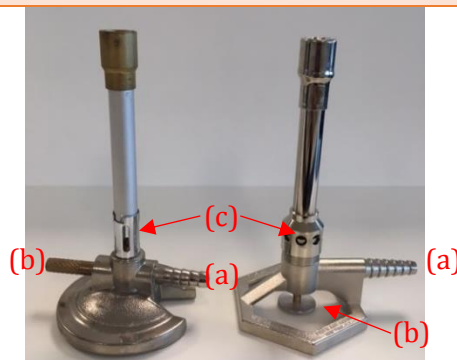
A Bunsen burner is a gas-fueled device used for heating or burning materials in the laboratory.

Titration Video link: <https://www.youtube.com/watch?v=ie3M4fN7U2M>

There are several types of Bunsen burners, including these two.

The three key components of a Bunsen burner are:

- A side arm through which gas enters the burner.
- A gas inlet valve, which controls the gas flow through the Bunsen burner.
- An air vent, which controls the air supply.



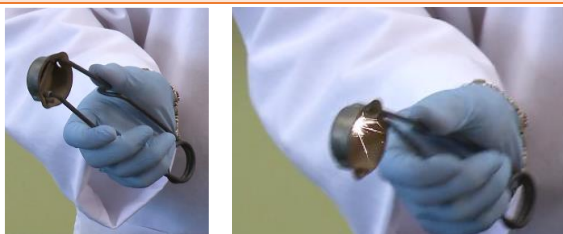
Before connecting the Bunsen burner to the gas source, inspect the hose for cracks or holes. Throw away the hose if it is defective and get another one.

Connect one end of the hose to the gas source and the other end to the Bunsen burner's side arm. Sometimes the hose is a little rigid. Twist and move the hose and Bunsen burner until the Bunsen burner is in a stable position.






Notice the position of the handle on the gas valve. The valve is closed when the handle is perpendicular to either side of the valve. It is open when the handle is parallel to the valve.

Ensure that the striker is working properly. You should see a spark when you pull the arms together. Also, make sure there is a spark when you hold it at angle over the Bunsen burner. You may find it easier to use two hands.



Before opening the gas, make sure the gas inlet valve on the Bunsen burner is closed. Turn clockwise to open, counter clockwise to close.



| | |
|---|--|
| <p>Close the air valve by rotating the sleeve on the burner. For efficient combustion, oxygen is combined with the gas in the burner. You will need to re-open this valve once the burner is lit.</p> |  |
| <p>Open the gas valve on the bench completely and then, open the gas inlet valve on the burner. Holding the striker on an angle over the top of the burner, strike it to ignite the gas.</p> |  |
| <p>Using one hand to hold the base of the burner, use the other hand to adjust the air valve until the flame is pale blue and has three cones, or regions of color.</p> <p>Notice that the color of the outline in the middle is a slightly different blue. This counts as one of the three cones.</p> |  |
| <p>Again, while holding the base with one hand, slowly turn the gas inlet valve on the burner until the flame is about 1.5 inches high.</p> | |
| <p>When finished, close the gas valve on the bench and remove the hose. Let it cool before returning it to its proper location.</p> | |
| <p>Notes:</p> | <ul style="list-style-type: none"> • Check the space above the Bunsen burner. If there is a snorkel fume extractor, move it out of the way. It should not be directly above the Bunsen burner since the heat will blister the paint. • You will hear a slight buzzing sound. This sound is characteristic of a burner that is working well. • Shut off the gas immediately when you are finished. |
| <p>Warnings:</p> <ul style="list-style-type: none"> • Never leave open flames unattended. • Make sure that there is nothing flammable around the Bunsen burner including any papers, lab notebook, chemicals, long hair, caps, dangling clothing, or jewelry. Check the space above too. | |