Balloons

Purpose

To see the difference in igniting Helium, Hydrogen, and Hydrogen/Oxygen balloons, and/or to see the effects on one's voice of the inhalation of Helium and Sulfur Hexafluoride.

Materials

balloons

string

Helium/Hydrogen/Oxygen/Sulfur Hexafluoride gas

Procedure

1. Stretch an empty balloon out in your hands before filling with gas – this makes it less likely to pop randomly when full.
2. If filling with Helium or Sulfur Hexafluoride, simply fill the balloon up at the gas cylinder. The Helium tank has a special rubber adapter that allows gas to flow when bent.
3. If filling with Hydrogen or Hydrogen/Oxygen, turn on the respective gas tank(s) and fill the balloons up at the gas adapters in the hood. Hydrogen/Oxygen balloons should be filled at a ratio of 2 parts Hydrogen to 1 part Oxygen.
4. With a sharpie, label the contents of each balloon you fill up
5. For all gases except Sulfur Hexafluoride, tie a string to the end of the balloon. If the balloon(s) are to be ignited, tie the string to the balloon and allow it to float to the ceiling, making sure it doesn't float directly under a light. Cut the string at approximately waist-height.
6. If igniting balloons, they can be tied to the railing in front of the lecture counter. Make sure to leave enough space between them that they won't ignite each other. Also make sure to leave a post-it note on the lecture counter noting the order and contents of each balloon.