Conserving Supplies

You are not being charged for supplies in this class. That notwithstanding, you are expected to make the most out of all the glass you will be working with. Please be considerate on how you use the glass so as to not waste anything.

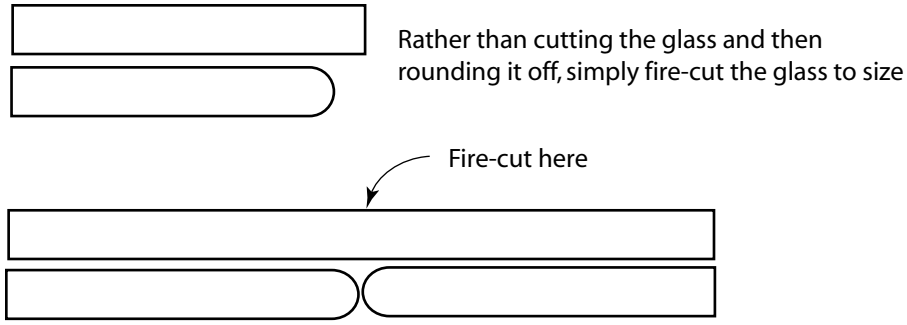
Keep in mind that all tubing in this class is from four foot lengths. (European lengths are 1.5 meters.)

To obtain the most efficient and convenient sizes for rods and tubing in this class, please use the following lengths for constructing glass items:

1. Rods should be cut into 4 equal pieces of about 12 inches each. This is easily done w/o measuring by finding the middle of a full length piece by balancing the item on your finger, cutting this in half and repeating this one more time. This is easily accurate to about ½ inch.
2. Tubing is best cut into 5 equal pieces, of about 9 ⅝ inches. If you measure out one such length and cut it off, this can be used as a "measure length" for subsequent pieces. This length is a compromise that allows you to both easily handle the glass and having enough glass for multiple re-use.

After cutting tubing to length, keep in mind that the outer two pieces should already be fire-polished. The inner three pieces are not and should be fire-polished immediately. As they cool, you can be using the outer two pieces—efficiency of time.

If you are going to be making test tubes or working with capillary tubing, there is no reason to cut pieces if they are going to be rounded off anyway. Let me demonstrate:



By cutting the glass tubing at about 19 inches and separating it in half with the torch, you are half-way to making your test tube. Not only have you saved some time, but you also have saved about an inch or so of tubing. This does make a difference over the course of a whole quarter in this class.

When preparing tubing for this type of operation, you will have two 19 inch pieces and one piece about 9 ⅜ inch. There will be three ends of the longer pieces that need firepolishing—do them immedeately. The short piece should have one end already fire-polished (from the factory), and one end not fire-polished. Using a glass rod, you can close the end of the not fire-polished end. There is no need to fire-polish what will be tossed.

Fire-polishing

Fire-polishing is the act of placing the torch's flame to the edge of the glass just long enough to melt the edge and cause it to round over—not to change the diameter of the tubing. You can use a soft or hissy flame, just that a soft flame provides you with more time to work. Either way, you MUST rotate the glass in the flame to prevent fire-polishing one side and leaving the other side uneffected.

There are two reasons for fire-polishing glass: to protect your lips so that you do not cut them, and to better receive a cork so that the cork is properly squeezed into the end of the glass. A not fire-polished glass end tends to cut into a cork preventing the cork from squeezing into the glass tube.

Each end of a tube is fire-polished from the factory. A "factory end" should never be used to seal onto another tube. The glass in factory ends tend to be dirty and/or overheated and are not acceptable for a good clean seal. Factory ends can be blown into, or for shoving a cork into, but should not be used for sealing.