

## Make your own vacuum jar!

Below are the parts to make your vacuum container.



What do you think each part is for?

Can you figure out which way air can go through the one-way valves?

How can the syringe be used to make a vacuum? (Hint: cover the tip with your finger at the tip and pull back on the plunger).

Directions:

Attach the tee to the syringe of the jar using 1 piece of tubing. If it is hard, use tweezers to stretch out the tubing to make it larger.

Attach a one-way valve to each open port of the tee using the tubing. Make sure the valves work such that one valve (A) let's air into the syringe when you pull back on the plunger and one valve (B) let's air out when you push down on the plunger.

Attach valve (A) to the top of the can using 1 piece of tubing.

The final assembly should look something like the picture below. You are now ready to create a vacuum! When you pull on the syringe, you are sucking air out of the vacuum jar. To “break” the vacuum and let air back in, remove the tubing from the top nozzle on the jar’s lid.



**Tips:**

The vacuum is limited by how much pressure differential you can get between the one-way valves. To get higher vacuum you can try making the tee-connections as small as possible. On-line examples use a 150 ml syringe (3x bigger). However this was too expensive for this project.