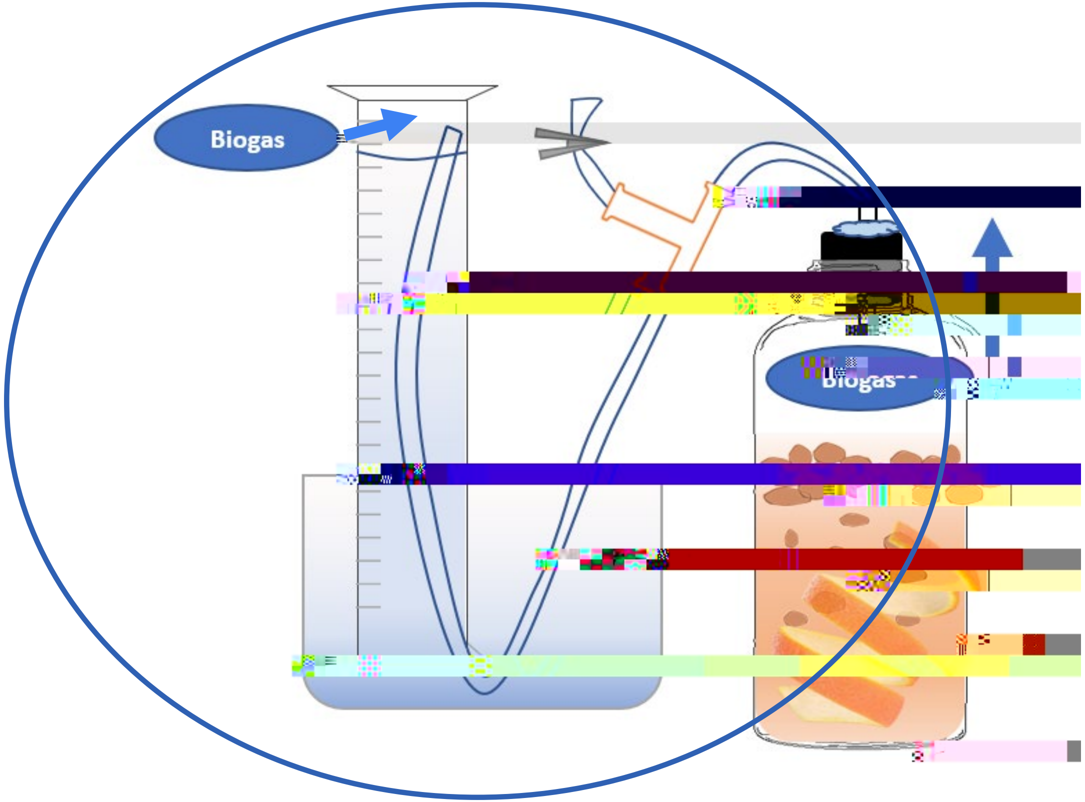
Constructing the Biodigester: Creating the gas collection system

The gas collection system



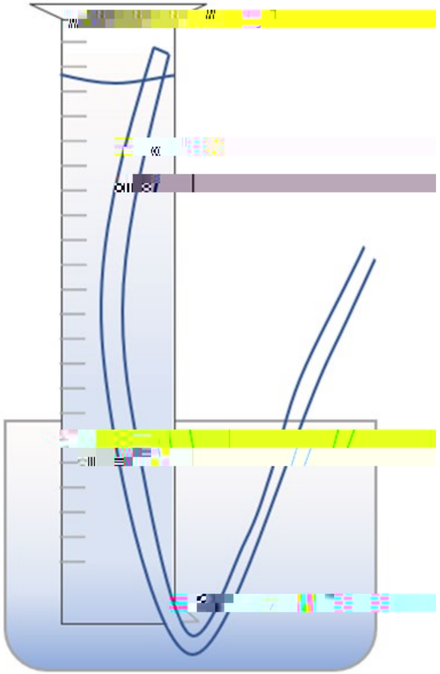
Materials:

- Graduated cylinder: ideally glass, but any kind will do (including hand-callibrated, like the one on the right)
- Shallow basin, like a bowl or plastic container
- Flexible plastic tubing, at least as long as 2x height of the glassware

Building the gas collection system

Before getting started, note the following:

Setting up the gas collection system is tricky. The graduated cylinder must be filled with water and very carefully flipped upside down into a shallow basin of water.



These steps will take practice –
it’s okay if you don’t get them right on the first try!

1. Fill the shallow basin partially with water.
2. Fill the graduated all the way to the top with water.
3. Put your hand or a card over the top of the graduated cylinder.
4. Quickly flip the full graduated cylinder upside-down, into the
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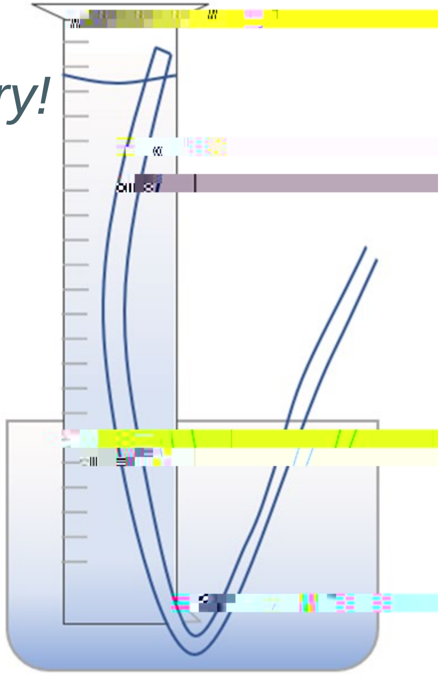
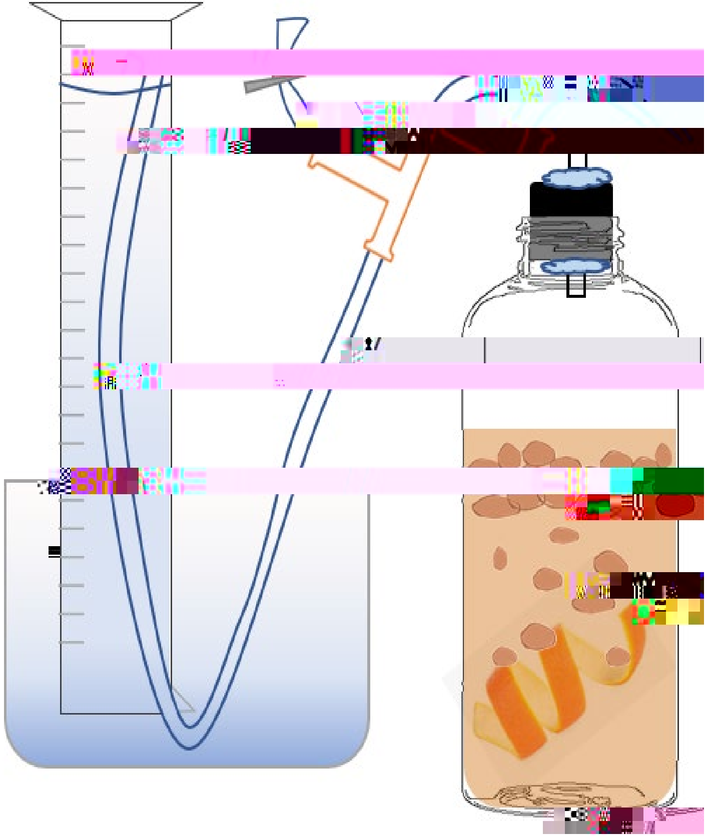


1. Attach the 20 cm piece of flexible tubing to the rigid tubing in the rubber stopper.
2. Connect this piece of tubing and the gas collection tubing to the T fitting.
3. Cut another small piece of flexible tubing, about 8 cm, and attach it to the T fitting.



Discussion questions

Who can describe what is happening in each part of the biodigester?

How will we take our biogas measurements?

- Biogas production
- Methane content

How will you take the other measurements needed for your group’s experiment?