MATERIALS:
- An empty and rinsed out 20 oz. plastic water or soft drink bottle with its cap (you can bring in one from your recycling bin)
- 8 packets or 3 tablespoons of white granulated sugar
- Warm tap water
- A packet of either active dry yeast or dry quick rise yeast (equal to 1 tablespoon if using a jar or bulk package)
- One 9” latex balloon (the typical party latex variety; if you are allergic to latex—use a substitute)
- Scissors
- String or construction paper (for bottle measurement)
- Small plastic funnel (you may also tape together a paper funnel)

TIME REQUIREMENT:
- 10 minutes for preparation
- 10 minutes (or longer if desired) to observe your bottle

1. Add yeast and sugar to your bottle using a paper or plastic funnel, or a paper cup.
2. Fill your bottle half-full with warm tap water that is very warm to the touch, but not so hot that it is painful or scalding. Replace the cap and shake the bottle to mix in the yeast and sugar at the bottom of the bottle.
3. Place a balloon over the open top of the bottle and observe what happens. It will take a few minutes for the yeast to start eating the sugar.
4. Soon you will see the balloon is starting to inflate! Inside the balloon is a gas called carbon dioxide. It is the same gas that you exhale when breathing. As the yeast eat the sugar, they release waste products, one of which is carbon dioxide.

If you are using a plastic baggie instead of a bottle and balloon, add the yeast, sugar, and warm water (as described above) to the sandwich bag. Close the bag tightly, letting out as much air as possible, and mix/mash them together. See what happens to your bag over time! You might want to place the bag on its side and place paper or even a book on it. How high will the object rise? Try measuring how many inches the bag expanded and enter your data on www.4H.org. Share with us any other variations of the experiment you have tried!

Taken from: http://www1.extension.umn.edu/youth/mn4-H/projects/docs/biofuelact.pdf