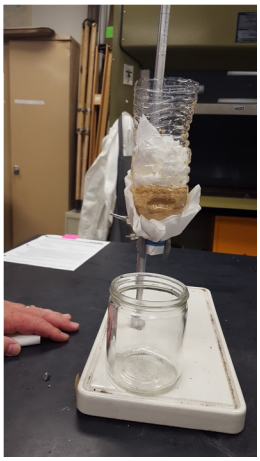
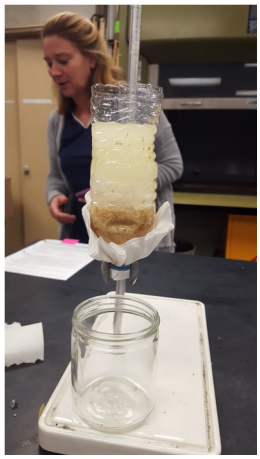
7.3.5 Separating Oil and Water

Participants: John Michael, Robyn, Emma

1. Background Research
    a. Oil and water do not mix-oil sits on top of the water
    b. Oil can be taken up through a sorbent (sponges make a good absorbent) .
    c. Using knowledge gained from previous labs, we will construct a device to separate the oil and water.
2. Description of prototype structure and function
    a. Materials needed
        i. Empty water bottle
        ii. Water and oil combination
        iii. Coffee filters
        iv. Tape
        v. Graham crackers (4)
        vi. Collection car
        vii. Ring stand and clamp
        viii. Rubber band
        ix. Kimwipes (6)
    b. Cut off the bottom of the bottle, and flip it on its top
    c. Put the coffee filter over the top and rubber band it to secure the filters in place
    d. Crush the crackers and put them into the coffee filter
    e. We will place the Kimwipes on top of the crushed graham crackers to help absorb the oil
    f. Secure the bottle into the clamp and place the collection jar underneath the bottle
    g. When the materials are secure, pour the oil/water mixture into the bottom of the water bottle
3. Analysis of results
    a. Began project at 4:15pm
    b. After pouring about 300ml of the liquid mixture into the bottle, we have a very slow percolating process
    c. In the bottom of the water bottle we can see the water and oil beginning to separate after 4 minutes of draining
    d. After 35 minutes of waiting, no water or oil has drained from the bottle
    e. We will do more observations in the morning



Before mixture poured in



After mixture poured in