

**Lab: Strawberry Full of DNA**

**Background:**

The long, thick fibers of DNA store the information for the functioning of life. **DNA** is present in every cell of plants and animals. The DNA found in strawberry cells can be extracted using common, everyday materials. We will use an extraction buffer containing salt, to break up protein chains that bind around the nucleic acids, and dish soap to dissolve the lipid (fat) part of the strawberry cell wall and nuclear membrane. This extraction buffer will help provide us access to the DNA inside the cells.

**Materials:**

* One ziplock bag
* One half strawberry
* 10ml of DNA extraction buffer
* One section of cheesecloth
* Glass Rod
* Test Tube
* Funnel
* 20ml ethanol

**Procedure:**

1. Place strawberry in a Ziploc bag.

2. Smash/grind up the strawberry using your fist and fingers for 2 minutes. Be careful not to break the bag!

3. Add the provided 10mL – 15ml of extraction buffer (salt and soap solution) to the bag.

4. Kneed/mush the strawberry in the bag again for 1 minute.

5. Assemble your filtration apparatus as shown to the right.

6. Pour the strawberry slurry into the filtration apparatus and let it drip directly into your test tube.

7. Slowly pour cold ethanol into the tube. Let it run down the side of the test tube.

8. Dip the loop or glass rod into the tube where the strawberry extract and ethanol layers come into contact with each other.

9. Remove your DNA and draw a sketch below of your findings.

**Analysis:**

1. What did the DNA look like? Relate what you know about the chemical structure of DNA to what you observed today.
2. A sharp eyed person cannot see a single cotton thread 100 feet away, but if you wound thousands of threads together into a rope, it would be visible. Is this statement analogous to our DNA extraction? Explain.