Name: _____ Date: _____ Sec: _____

Extracting DNA from Strawberries: Laboratory Exercise

Discussion:

Have you ever wondered what DNA looks like? Well today you will find out as you will be breaking apart the cell membrane of a strawberry to separate the DNA from the nucleus. Strawberries are a good source of DNA because they have eight copies of each type of chromosome. This large number of chromosomes will filter out of your solution and you will be able to see the strawberry's DNA.

The long, thick fibers of DNA store the information for the functioning of the chemistry 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.

Procedure:

Working together in groups of two, read through the entire procedure and follow the steps in Parts I, II and III.

Part I- Preparing the DNA Extract

1. Place the strawberry in a Ziploc bag.

2. Mash the strawberry for 2 minutes. You need to completely crush the strawberry, but **you do not want the mixture to be bubbly – the less bubbles, the better.**

3. Add 10 mL of the DNA extraction buffer into the bag.

4. Mash again for 1 minute. **While one partner is mashing the strawberry, the other partner must do step 5.**

5. Place the funnel into the beaker. Drape the cheesecloth into the funnel. Make sure the top part of the cheesecloth is folded over the top of the funnel and that the bottom of the cheesecloth does not touch the bottom of the funnel (See Figure below).