**DNA Extraction – Strawberry**

\*Strawberries are **octoploid**, which means they have eight sets of chromosomes. The procedure for extracting DNA from a strawberry is simple, and the results are usually obvious, it is easy to see the white strands of DNA within the pink solution of strawberry juice. In this procedure you will crush a strawberry and add detergent and salt to break down the cell walls to release the DNA within the nucleus. The DNA will then precipitate into a cold alcohol layer in a test tube. This simple procedure can be performed by students of all ages and takes minimal preparation.

**Objectives:**

Extract DNA from a strawberry using household products

Identify the role of chemicals in the process of extracting DNA

Observe a large sample of DNA

**Procedure:**

 Materials Needed:

DNA Extraction Buffer

 (prepared in advance): 1000 ml of deionized water, 50 ml of clear dishwashing detergent, 1 teaspoons of salt

Strawberry

Ziploc bag

Coffee filters

Test tubes or cups to collect filtrate

 Funnels

1. Add a strawberry (or half) to a Ziploc storage.

2. Add 10 ml of the DNA extraction buffer.

3. Mash the strawberry and buffer for about one minute.

4. Use a funnel and coffee filters to filter the strawberry juice into a single test tube or beaker.

5. Slowly pour cold ethanol or 91% isopropyl alcohol over the top of the strawberry mixture. It may be best to use a pipette to add it. You want a single layer of clear ethanol on top of the strawberry mixture.

6. White strands will form in the ethanol layer, use a stirring rod to spool the strands.

**Discussion Questions**

1. What does DNA from the strawberry look like?

2. Why is it important for scientists to be able to remove DNA from cells?

3. What is the role of detergent, ethanol, and salt in the extraction process?

4. Is there DNA in your food? How do you know?

5. Why are you not harmed (or altered) by ingesting the DNA of another organism?