

**Lab: DNA Extraction from Strawberries**

# \*Complete Flow Chart below for homework before beginning the lab

**Purpose:** The first step in DNA analysis in a crime or genetics laboratory is the extraction and isolation of DNA from a sample. In this laboratory activity you will perform this first step in the DNA analysis.

**Materials:** A frozen strawberry, zip-loc bag, measuring spoon, dish soap, salt, tap water, test tube and rack, cold ethanol, graduated cylinders (x2), wooden splint, paper towel, scissors.

## Method:

1. Place the frozen strawberry into the zip-loc bag. Use a graduated cylinder to add 2.5 mL of salt, 25 mL of tap water and 5 mL of dish soap. Seal the bag.
2. Gently crush the contents of the bag so the strawberry and the other substances combine. **Do not damage the bag**.
3. Keep the bag at room temperature for 5 minutes. Complete the pre-lab questions while you wait.
4. Cut a small hole in one corner of the plastic bag and carefully drain the mixture into a test tube, filling it halfway.
5. From the stock container, pour some ice-cold ethanol into a clean graduated cylinder (5 to 10 mL only). Tilt the test tube and slowly pour a layer of ethanol down the side of the test tube and on top of the strawberry mixture until the test tube is ¾ full.
6. Observe the DNA forming at the interface (boundary) between the ethanol and the strawberry mixture.
7. Using the wooden splint, pull the DNA out onto a paper towel.
8. Clean up your equipment and wash your hands.

# \*Complete post-lab questions & hand in your lab 

Name: /10

Teacher’s Initials

/1

**Strawberry DNA Extraction Lab**

A flow chart is an effective way to understand and follow a laboratory procedure. Read your Lab Handout and complete the flow chart below for homework **before** the experiment. IMPORTANT: You will not be allowed to perform the lab if this chart is not complete.

Take 1 frozen strawberry.

* 1. Put into a
  2. Add

(a)

(b)

(c)

* 1. Seal the bag. Gently crush the contents. Keep at room temperature and wait min.
  2. Fill a test tube about full of strawberry solution.
  3. Pour the ethanol into a .
  4. Slowly pour a of the rubbing alcohol or ethanol into the test tube until it is full.

Observe the DNA. Record your observations.

(1 mark)

Name:

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## Pre-Lab Questions:

1. What is the *purpose* of this lab *in your own words*? (1 mark)
2. What do you expect the DNA you extract to look like? Describe it in a few sentences and draw a small sketch. (1 mark)

## Post-Lab Questions:

1. Draw & describe the appearance of the DNA. (1 mark)
2. Did the DNA look like the diagrams of DNA we have looked at in class? Why or why not?

(2 marks)

1. Why was it necessary to crush the strawberry in this activity? (1 mark)
2. What step was necessary to make the DNA visible? (1 mark)