DNA Extraction Lab:

DNA is often used in crime investigations to help identify victims and perpetrators. DNA can be obtained from hair, skin, blood and saliva. However before technicians can analyze a sample the DNA must be pulled out from the nuclei of the cells. Considering you can’t see a cell, let alone a nucleus, how can the DNA be removed? Well, the answer is, of course, SCIENCE!

**PURPOSE:**

* To extract the DNA from a sample of biotic material.
* To practice safe laboratory techniques.
* To preview some ideas about chemistry

**MATERIALS:**

1 frozen strawberry or piece of kiwi 1 50mL beaker 1 test tube

test tube rack metal probe small graduated cylinder

eyedropper slide cover slip ~5mL dish soap

~2.5mL salt 25mL tap water ethanol (0oC) 1 Ziplock bag

**PROCEDURE:**

1. Place strawberry in Ziplock bag

2. Add: 1 squirt (~5mL) of dish soap, 1 spoon salt (~2.5mL) and then 25mL tap water

3. Gently mash (massage) the contents, being careful not to break the bag. Keep at room temp for 5 minutes. Transfer to the 50mL beaker.

4. Half-fill a test tube with the strawberry mixture.

5. Tilt the test tube just enough that you do not spill and **slowly** pour cold alcohol into the test tube until it is ¾ full.

6. Observe. Make a sketch of what you see.

7. Look to see a layer that appears white and cloudy between the layers of liquid. **THIS IS THE DNA!**

8. Using the probe, GENTLY spin and wrap the DNA around the rod. Pull the probe slowly from the test tube.

9. Observe the DNA.

10. Use the eyedropper to obtain a small bit of the DNA and wet mount it.

11. Observe the DNA under low medium and high power on the microscope.

12. Make a sketch of the DNA as seen under high power.

