



Group members: _____

Date: _____

Banana DNA Extraction

In this exercise you will be extracting DNA from a banana.

Your group will need:

Tools

- Safety goggles – 1/person
- 1 sandwich-sized resealable bag
- 1 pair of scissors
- 3 - 500 mL (16 ounce) plastic cups
- 1 - 5 mL (1 tsp) measuring spoon
- 1 - 1.25 mL (1/4 tsp) measuring spoon
- 1 - 15 mL (1 tbsp.) measuring spoon
- 1 plastic spoon
- 1 coffee filter (cone type)
- 1 wooden stir stick

Materials

- 1 - 4 cm long piece of **ripe** banana
- 5 mL (1 tsp) liquid dish detergent (e.g., Sunlight®)
- 1.25 mL (1/4 tsp) table salt
- 62.5 mL (1/4 cup) plus 30 mL (2 tbsp.) distilled or tap water
- 62.5 mL (1/4 cup) Isopropyl (rubbing) alcohol

Procedure

1. Each group member should put on a pair of safety goggles.
2. Put the banana into the resealable bag. Close securely. Mash the banana well with your hands.
3. Carefully snip one corner of the bag. Squeeze the mashed banana into one of the plastic cups. Add an equal amount of water into the cup and stir well.
4. Measure 5 mL of liquid dish detergent. Put into the second plastic cup.
5. Measure 1.25 mL table salt. Put into the same cup as the dish detergent.
6. Measure 30 mL (2 tbsp.) distilled or taps water. Put into the cup with the dish detergent and salt.
7. Stir gently to avoid making bubbles. Stir until the soap is mixed well and the salt has dissolved.
8. Add 30 mL (2 tbsp.) of the banana mixture into the cup with the soap/salt solution. Stir the mixture gently with a spoon for at least **10 minutes**.
9. Insert the coffee filter into the third plastic cup. Make sure that it does not touch the bottom of the cup.
10. Pour the mixture from step 5 (the **homogenate**) into the filter. After **10 minutes** a liquid, called the **filtrate**, should have collected at the bottom of the cup. Gently stir the mixture in the filter, then let sit for another minute. Remove the filter (there will still be material in the filter, but you do not need it) and set aside.

