**Extracting DNA from strawberries**

This exercise demonstrates the presence of DNA in living things, including plants by allowing students to extract DNA from fruits (strawberries and bananas). Students learn of basic cell organization and about the characteristics of DNA.

**Materials**

1. Ziploc Bags
2. Strawberries (usually 2 strawberries per student)  
   Bananas (Half banana per student)
3. Large coffee filters
4. Rubber bands
5. Clear Plastic cups
6. bamboo Skewers
7. 70% Isopropanol
8. Dish soap
9. Sodium Chloride
10. Tubes (we use 1.5 mL microcentrifuge tubes) for collecting DNA

Optional

Benchtop balance

Microcentrifuge

**Instructions**

1. Put the strawberries into the ziploc bag and remove all of the extra air. Seal the bag tightly.
2. With your fingers, gently squeeze and smash the strawberries.
3. Add 5 mL of the extraction liquid to the strawberries in the bag. Push out all of the extra air and reseal the bag.
4. Squeeze the strawberry mixture with your fingers for one minute.
5. Use the coffee filter to make a funnel over the plastic cup. Pour the strawberry mixture from the bag into the funnel.
6. Tilt the cup and very slowly pour some rubbing alcohol down its side. Pour until the alcohol has formed approximately a thin layer on top of the strawberry liquid. Do not let the strawberry liquid and alcohol mix.
7. Dip the bamboo skewer into the cup where the strawberry liquid and rubbing alcohol layers meet to pull up the DNA from the rubbing alcohol.
8. Repeat steps 1-8 using half of a banana instead of strawberries.

Optional:

Students separate DNA from excess liquid using a microcentrifuge and compare the amount of DNA acquired from each fruit using a balance.