



# Strawberry DNA Extraction

SCIENCE EXPERIMENT

## Materials

- A piece of a strawberry or banana
- A zip-top bag
- 10 ml salty water (about 1 tablespoon)
- 2-3 drops of dish detergent
- Coffee filter
- 2 ml of isopropanol (91% isopropyl rubbing alcohol)
- 50 ml tube (or regular cup)
- 15 ml tube (or small clear cup)
- Small funnel
- Small wooden stick (needs to fit in 50ml tube; a Q-tip will work)

## Procedures

1. Put piece of strawberry or banana in a Ziploc bag.
2. Push air out, close bag, mash for 2 minutes.
3. Add 10 ml salty water + 2–3 drops detergent in bag. Mash 2 more minutes.
4. Take coffee filter, place in funnel, on top of 50 ml tube. Pour fruit paste in filter—let liquid pass through.
5. Pour 2 ml of filtered contents into clean 15 ml tube.
6. Add 2 ml of isopropanol by running gently down side of tube (1 volume isopropanol to 1 volume fruit juice).
7. Insert small wooden stick into tube, and gently turn (do not stir) the contents to extract the DNA from the solution.

## Observations

After the isopropanol is poured into the tube, you are looking for the separation of material that begins to come to the surface. This white looking goo is the DNA of the strawberry.

Each ingredient plays a part in releasing the DNA from the strawberry. The soap helps dissolve the cell membranes by pulling apart lipids and proteins, while the salty water releases the DNA strands by breaking up the protein chains. DNA is not soluble in isopropanol, therefore the DNA separates and you are able to extract it!

### STEP BY STEP

