



Extracting DNA from Fruit

DNA stands for **Deoxyribonucleic Acid**. It is special because it holds the code for every cell in your body. That's right, every cell in your body uses **DNA** for an instruction manual.

How do scientists take **DNA** out of a living thing? It's not that hard—you can do it, too! Follow the steps below to extract **DNA** from strawberries.

What you need:

- measuring cup
- measuring spoons
- rubbing alcohol
- 1/2 teaspoon salt
- 1/3 cup water
- 1 tablespoon Dawn dishwashing detergent
- glass or small bowl
- cheesecloth
- funnel
- tall drinking glass
- 3 strawberries (green tops removed)
- reclosable plastic sandwich bags
- test tube or small glass jar (like the kind spices come in)
- bamboo skewer (find them at the grocery store)

What to do:

1. **Chill the rubbing alcohol in the freezer. (You'll need it later.)**
2. **Mix the salt, water, and Dawn detergent in a glass or small bowl. Set the mixture aside. This is your extraction liquid.**
3. **Line the funnel with the cheesecloth, and put the funnel's tube into the glass.**
4. **Put the strawberries in the plastic bag and push out all the extra air. Seal it tightly.**
5. **With your fingers, squeeze and smash the strawberry mixture for 2 minutes.**

6. Add 3 tablespoons of the extraction liquid you made in Step 2 to the strawberries in the bag. Push out all the extra air and reseal the bag.
7. Squeeze the strawberry mixture with your fingers for 1 minute.
8. Pour the strawberry mixture from the bag into the funnel. Let it drip into the glass until there is no liquid left in the funnel.
9. Throw away the cheesecloth and the strawberry pulp inside. Pour the contents of the glass into the test tube or small glass jar so it is 1/4 full.
10. Tilt the test tube or jar and **very slowly** pour the cold rubbing alcohol down the side. The alcohol should form a layer on top of the strawberry liquid. (Don't let the alcohol and strawberry liquid mix. The DNA collects between the two layers!)
11. Dip the bamboo skewer into the test tube where the alcohol and strawberry layers meet. Pull up the skewer. The whitish, stringy stuff is DNA containing strawberry genes!