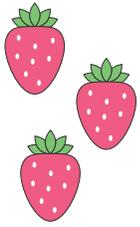


How To Extract DNA From A Strawberry



HERE'S WHAT YOU'LL NEED

- Clear glass or plastic cups
- Dish soap
- Table salt
- Water
- Blender or food processor
- Rubbing alcohol (99% isopropyl alcohol)
- Coffee filters, cheesecloth, or strainer
- Strawberries

1 Pulverize Strawberry

To get the DNA out, we first need to smash up the strawberries!

Put a strawberry in a plastic bag, close the bag, and squeeze the bag to mash up the strawberry with your fingers.

2 Soapy cell lysis

Next, we use dish soap to break open the strawberry cells.

Cells are surrounded by a membrane that helps keep all of its innards inside—including DNA. Soap breaks up the membrane and lets the innards and DNA spill out. In science, we call this process of breaking open the cell **lysis**.

Prepare your lysis solution by combining:

- ½ cup of water
- 2 teaspoons of dish soap
- 1 teaspoon of table salt

Mix until the salt is dissolved.

Add 3 tablespoons of lysis solution to the bag of pulverized strawberry goop, close the bag, and squeeze with your fingers again to mix everything together.

3 Filtering

Now all of the DNA is in our soapy strawberry mixture. We don't want the goopy other parts of the cell, so we'll have to filter them out.

Place a coffee filter over a clear plastic cup, hold the filter in place, and pour the soapy strawberry mixture into it.

4 Presto!

After filtering, you should have a red liquid (it should not have any chunks, but will look pink or red like cranberry juice). Our strawberry DNA is dissolved in this liquid, and we'll use rubbing alcohol—with help from an adult—to make the DNA visible for you. In science, we say we're going to make the DNA precipitate.

Tilt the glass and slowly add an equal amount of rubbing alcohol to the red liquid.

If everything has worked, you'll see fluffy white DNA come out of solution and sit between the alcohol and extract layers! If you don't see anything happening, try making a new batch of lysis solution, making sure that you have the correct amount of soap and salt. Also check that your rubbing alcohol is 99%—lower concentrations won't work as well.