

# Home-brewed DNA

In this home activity you will isolate DNA using common household items! To keep the strands of DNA intact throughout the isolation, you need to handle everything gently. If you do this, you will be rewarded at the end with long, gooey strings of DNA.

1. Check that you have all the supplies that you will need:
  - Frozen strawberries (small handful, rinsed)
  - Canned peaches (2-3 slices, rinsed)
  - 2 plastic cups
  - Water
  - Shampoo
  - Salt
  - Cloth
  - Rubbing alcohol (cold)
  - Plastic gloves
  - Wooden stick
2. Put on one glove and squish the produce into one of the plastic cups. Continue to squeeze the pieces until the strawberries are the consistency of a smoothie (small chunks are okay).
3. Add an equal volume of water (just guess, it doesn't have to be exact).
4. Add 2 small squirts of shampoo and about a teaspoon of salt (measure the salt in your hand). Mix this up gently with your gloved hand or stick.
5. Strain the mixture through 1 or 2 layers of cloth into the second plastic cup. Have someone assist you with that part of the activity. Allow the liquid to drip through. After most of the liquid has dripped through, you may gently squeeze the cheesecloth to get more liquid out.
6. Add an equal volume of COLD rubbing alcohol to the clear, pink liquid. Gently swirl the cup. You should see strings of clear DNA form and float to the top. Use the wooden stick to twirl the gooey DNA around and pick it up out of the liquid. This is DNA!

## Questions:

1. What is DNA, and where is it found?
2. Is there DNA in your food? How do you know?
3. What did the DNA look like?
4. If DNA is so small it fits in one cell, how are we able to see it with our eyes after extraction?
5. Were there any differences in the DNA you extracted from the strawberries compared to the peaches? Why do you think there were or were not any differences?
6. What can we do with the DNA we isolate? Why is it valuable that we are able to isolate DNA?
7. Why do we wear gloves when doing science?
8. Based on this lab, why do we shampoo when we shower?