

Are you looking for something to do to keep your brain active and engaged? We're here to help with Science at Home! You can conduct these fun science experiments using commonly found items. You can also visit us at the Museum's [Science at Home](#) page for additional resources.

Experiment: Strawberry DNA



Materials:

- 1 zipper-style sandwich bag
- ¼ cup water
- ¼ teaspoon baking soda
- ¼ teaspoon unseasoned meat tenderizer
- 1 teaspoon liquid dish soap
- 1 fresh or frozen (*but thawed*) strawberry
- 1 9-oz clear plastic cup
- 1 spoon
- 2 tablespoons of cold 70% Isopropyl Alcohol (*rubbing alcohol*) — keep in freezer until needed
- 1 paperclip, unbent into the shape of a hook

What We've Learned

DNA is a molecule that is present in the cells of every living organism — dogs, trees, fish, bacteria, you! DNA contains the information necessary for life, from the color of your eyes to the number of scales on a fish's body. A single DNA molecule is too small for our eyes to see; but gather enough molecules together (*millions and millions*) in one place and we can see them.



Instructions:

1. Pour ¼ cup of water into the bag.
2. Add ¼ tsp baking soda and ¼ tsp meat tenderizer to the water in the bag.
3. Add 1 tsp dish soap to the bag.
4. Add 1 strawberry (*green top removed*) to bag and push out as much air as possible before sealing the bag.
5. Break the strawberry into small pieces by mashing it with your fingers.
6. Pour the fruit mixture into clear cup.
7. Let mixture sit undisturbed for 1 minute.
8. Using the spoon, carefully remove and discard the fruit pieces that are floating on the top of the mixture in the cup.
9. Slowly add 2 tablespoons of cold isopropyl alcohol to the cup so that the alcohol forms a layer on top of the strawberry mixture.
10. Over the next few minutes, watch the boundary between the top layer of alcohol and the bottom layer of strawberry mixture. Tiny bubbles and thin, white threads start to rise out of the strawberry mixture. These threads are the strawberry's DNA!
11. Using a hook-shaped paper clip, gently gather up the material that has floated up into the alcohol layer. You can touch the DNA, if you want to.
12. When you are done admiring the DNA you extracted from the strawberry's cells, clean up and put away all your materials.

Having Fun?

We want to see! Tag [@naturalsciences](#) on social media, so we can see you and your loved ones enjoying our Science at Home experiments.