



## SfS Away from the Classroom!

**SCIENCE**  
FROM SCIENTISTS

### AP03: DNA Extraction (Recommended for Grades 6-8)

**Please use the following resources to learn about DNA extraction.**

**Watch this Video:** <https://www.youtube.com/watch?v=JofXXyFZn38>

**Answer these questions:**

- What opens the cell membrane in the DNA extraction process?
- Why do we add salt to the solution?
- DNA is insoluble in what liquid (this allows it to be visible in the last step)?

**Activities:** Follow these directions to see how much you know about extracting DNA from a strawberry.

You will need:



- 1 piece of paper
- Scissors

- 2 different colored pens or pencils

1. Cut the paper into 12 equal pieces.
2. Using six pieces of paper and one color ink, write all of these DNA Extraction steps. Write one step on each piece of paper.:
  - Choose 2-3 strawberries.
  - Mash up strawberries in a bag.
  - Add water and detergent.
  - Add salt.
  - Filter the solution.
  - Add cold ethanol or alcohol.
3. Using the other six pieces of paper and the other color ink, write these explanations. Write one explanation on each piece of paper.
  - Strawberries have a lot of DNA.
  - Starts to break open the cell membrane.
  - Completes opening the cell membrane and opens the nucleus.
  - Helps the DNA clump together.
  - Gets rid of the things in the solution we don't need.
  - Pulls DNA out of the water solution so we can see it.
4. Mix all 12 pieces of paper together.
5. First, put all of the steps of the DNA Extraction in the correct order.
6. Then match the explanations to each step in the experiment.
7. Re-watch the video if you get stuck.

## **Make observations & use Claims, Evidence, and Reasoning!**

1. **Claim:** You need to break open the cell membrane and the cell nucleus to extract DNA.

- **Evidence:**

- **Reasoning:**

2. **Claim:** DNA is soluble in water.

- **Evidence:**

- **Reasoning:**