

STRAWBERRY DNA ACTIVITY











Removing DNA from a strawberry is like a cool science detective game. Every living thing, including plants, animals, and tiny bacteria, is made up of tiny parts called cells. Inside these cells is something called DNA, which is like a set of instructions that tells the cells what to do. In this fun activity, you'll get to see DNA from a strawberry using stuff you can find at home. It's a neat way to see something that's usually too tiny to see and learn how every living thing has DNA inside it!

What you will need:

- 2 Strawberries (fresh or frozen)
- 1 Re-sealable Plastic Bag – Quart Size is Best!
- 2 tsp Dish Detergent
- 1 tsp Salt
- 1/2 cup Water
- 1 Coffee Filter
- 2 Plastic Cups
- 1/2 cup Rubbing Alcohol
- 1 Coffee Stirrer or Popsicle Stick

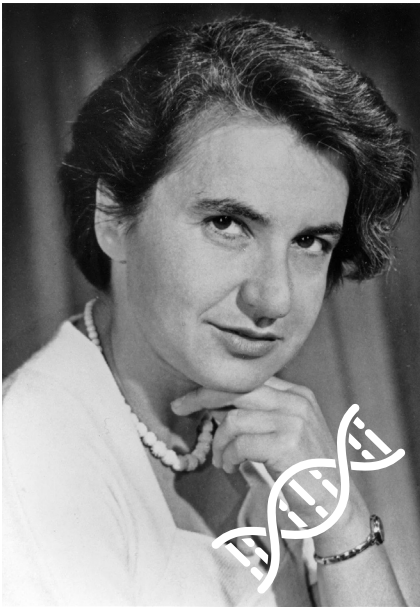


Instructions:

1. Pull off any green leaves on the strawberry. 
2. Put the strawberries into the plastic bag, seal it and gently smash the strawberries with your hands for about two minutes. This starts to break open the cells and release the DNA. 
3. Mix together 2 teaspoons of detergent, 1 teaspoon of salt, and 1/2 cup of water in a plastic cup. This will be your DNA extraction liquid. 
4. Pour the DNA extraction liquid into the bag with the strawberries (make sure the bag is big enough; quart-sized works well!). This will further break open the strawberry's cells. 
5. Reseal the bag and gently smash for another minute. Avoid making too many soap bubbles. 
6. Place the coffee filter inside the other plastic cup. 
7. Open the bag and pour the strawberry liquid into the filter. Twist the filter just above the liquid and gently squeeze the remaining liquid into the cup. 
8. Pour an equal amount of rubbing alcohol as there is strawberry liquid down the side of the cup. Do not mix or stir. 
9. Within a few seconds, watch for a white cloudy substance (DNA) to develop in the top layer. You have just pulled the DNA from the rest of the material contained in the cells of the strawberry. 
10. Tilt the cup and pick up the DNA using a coffee stirrer. 



Video Instructions



Meet Rosalind Franklin

Rosalind Franklin was a scientist who made big discoveries about DNA, which tells our bodies how to grow and what to do. She was born in 1920 in London and loved science a lot. Rosalind used a special camera to take a clear picture of DNA. One of her pictures, called "Photo 51," showed other scientists that DNA looks like a **twisty ladder**, which is called a double helix. This was a big discovery! Even though she didn't get a lot of credit back then, her work is really important now. Just like Rosalind looked at DNA in her lab, you'll be doing something similar by taking the DNA from strawberries. It's a fun way to see what Rosalind worked on and understand how cool and important DNA is. Rosalind Franklin is a great inspiration showing that being curious and working hard can lead to amazing discoveries!

Questions:

DNA's Importance: Why is DNA important for living things like strawberries and humans? What does it do?

Similarities and Differences: Do you think the DNA in strawberries is a lot like our DNA? Why or why not?

Using DNA in Real Life: Can you think of some ways that scientists might use DNA in their jobs?

Observing Changes: What did you see happen to the strawberry mixture when you added rubbing alcohol? Any idea why that happened?

Your Own Discoveries: If you were a scientist, what would you want to find out about DNA?
