



Extracting DNA from Strawberries

What is DNA?

- **DNA = Deoxyribonucleic Acid**
- It's the **instructions** for life – tells plants and animals how to grow and look.
- Found in the **nucleus** of cells.
- Normally **too small to see** – but we can make it visible in this experiment!

👉 Fun Fact: Strawberries have **8 sets of chromosomes** (humans have 2). That's why they're great for DNA extraction.

Why Do This?

Scientists and farmers extract DNA to:

- ✓ Study plant traits (flavor, size, color)
 - ✓ Breed crops that resist disease
 - ✓ Learn about genetics in health & science
 - ✓ Make science **hands-on and fun**
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How It Works (The Science Behind It)

1. **Mash the strawberry** → Breaks cell walls.
 2. **Add extraction buffer** (soap + salt + water)
 - Soap = breaks cell membranes.
 - Salt = helps DNA come loose.
 3. **Filter the mixture** → Gets rid of chunks.
 4. **Add cold alcohol** → DNA clumps together (precipitates).
👉 That white, stringy stuff = **strawberry DNA!**
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Try It Yourself!

Materials (per group)

- 1 strawberry
 - Zip bag
 - 2 tsp dish soap
 - 1 tsp salt
 - ½ cup water
 - Coffee filter or cheesecloth
 - Clear cup/test tube
 - Cold rubbing alcohol (from freezer)
 - Wooden stick/toothpick
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Steps

1. Put strawberry in bag. **Mash 2 minutes.**
 2. Mix soap + salt + water = **extraction buffer.**
 3. Add 2 tbsp buffer to bag. Mash 1 minute.
 4. Pour through filter into a clean cup.
 5. Slowly add **cold alcohol** along the side.
 6. Watch for **white strings** = DNA!
 7. Use stick/toothpick to **spool up DNA.**
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Think About It

- What did the DNA look like?
 - Why do we use soap and salt?
 - Why might a farmer want to study strawberry DNA?
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Wrap-Up

When you see strawberry DNA, you are looking at the **blueprint of life!**
This experiment shows how simple science connects to **farming, food, and our future.**