REAL-WORLD SCIENCE,
AT HOME.

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SRC HONOURARY SCIENTIST

CHEEK OUT YOUR DNA!

YOUR DNA CONTAINS IMPORTANT INSTRUCTIONS FOUND IN EVERY CELL ABOUT HOW YOUR BODY IS BUILT AND FUNCTIONS. TRY THIS SIMPLE EXPERIMENT TO EXTRACT DNA FROM YOUR CHEEK TO SEE WHAT YOU'RE MADE OF!

INGREDIENTS

- ☐ 2 teaspoons blue sports drink
- ☐ Small clear plastic cups and lids
- ☐ 2 drops dishwashing liquid
- ☐ 2 teaspoons isopropyl alcohol (at least 70%)
- ☐ 1 stir stick

INSTRUCTIONS

1. Chill the rubbing alcohol in the freezer for several hours.
2. Pour 2 teaspoons of blue sports drink into a clear plastic cup.
3. Pour the drink into your mouth and swish the solution vigorously for one minute. Use your teeth to scrape the insides of your cheeks (some gargling is ok too).
4. Spit the drink back into the cup.
5. Add 2 drops of dishwashing soap to the cup.
6. Stir the soap into the solution completely (try not to create too many bubbles).
7. Gently pour the 2 teaspoons of chilled isopropyl down the sides of the cup.
8. Place a lid on the container and shake it gently.
9. See the white stringy clumps forming where the alcohol and solution meet? That's DNA!

HOW IT WORKS

The soap breaks down the cheek cells, releasing the DNA into the salty sports drink. The salt helps the cells clump together. DNA does not dissolve in alcohol, so it forms a solid where the sports drink and the alcohol meet. The white clumps are thousands of your DNA molecules!

When you swish the sports drink, you'll also pick up bacteria in your mouth. So what you see may be a mixture of your DNA and bacteria!

Scientists and researchers at SRC extract DNA from crops, such as wheat, to test it for disease and quality. DNA testing helps Canada's agriculture sector ensure people and animals receive safe, high-quality food and feed products.

DISCLAIMER: *Adult assistance is advised when handling isopropyl alcohol. Never consume isopropyl alcohol. While every reasonable effort is made to provide experiments that are safe, adult supervision is recommended at all times when experiments are performed. Safety gear, such as gloves and glasses, may be required.*

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