

# Science English II: DNA Extraction Experiment

Name :

HRNO :

In this experiment, you will extract DNA from your saliva. Follow the instructions and write about your observations after completing the experiment.

Vocabulary:

Extract: 採る

Saliva: 唾

Enzyme: 酵素

Extraction: 抽出

Detergent: 洗剤

Cell: 細胞

Precipitation: 沈澱

Separation: 分解

Protein: タンパク質

## *Part 1 : Introduction*

What is DNA? Why is it important?

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What is the goal of this experiment?

**The goal of this experiment is to collect DNA from our saliva and make it easy for us to see.**

How is extracting DNA useful? What can we learn from this experiment?

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## *Part 2: Experimental Procedure*

- 1) Place 5ml of saltwater into your cup. Drink the saltwater and wash your mouth for 1 minute. After that, spit the water back into the cup.
- 2) Place two drops of detergent and two drops of enzyme (contact lens cleaner) into the cup. Lightly stir and mix the cup.
- 3) Place the cup in warm water that is about 40-45°C for 5-10 minutes.
- 4) After removing the cup, gently add 8-10mL of cold 80% ethanol. Pour it so that it touches the wall of the cup and forms a layer on top of the water.
- 5) Place the cup in front of black paper. Gently shake the cup back and forth without lifting it up. The white string in the cup is your DNA.

*Part 3: Results*

Were you able to see your DNA?

Yes | No

If you saw your DNA, explain what it looked like.

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Draw a picture of what you saw:

*Part 4: Discussion and Conclusion*

Why were you able to see your DNA? Explain what the detergent, enzyme and ethanol did. Look at your biology textbook for ideas.

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What was difficult about this experiment? Did you make any mistakes? Did they affect your results?

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After this experiment, what type of experiment do you want to try next?

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