

# Strawberry DNA EXTRACTION PROTOCOL

'Protocol' is a fancy word for 'Experiment'



## Cells

are the basic unit of life and make up all plants, animals, and bacteria.

**Deoxyribonucleic acid, or DNA,** is the molecule that controls everything that happens in the cell. DNA contains instructions that direct the activities of cells and, ultimately, the body. This activity will demonstrate how DNA can be isolated from a strawberry using common household materials.

## What you will need:



1 re-sealable plastic bag



2 strawberries (fresh or frozen)



10 mL extraction buffer



1 pipette



1 microtube



1 small plastic cup



1 coffee filter



1 scientist



1/2 cup COLD ethanol

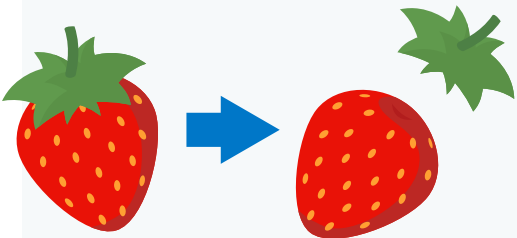


1 wood stick



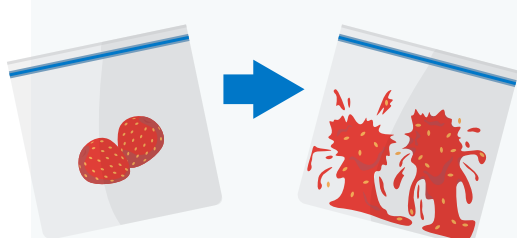
thread stick

## What you will do:



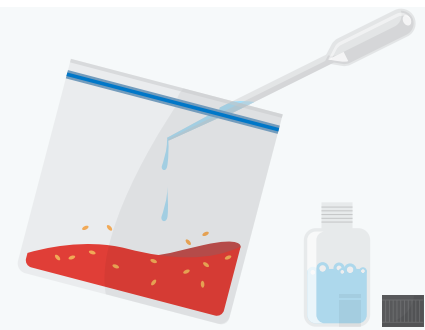
1

Pull off any leaves on the strawberries that have not been removed yet.



2

Put the strawberries into the plastic bag, seal it, and gently smash it for about 2 minutes. Completely crush the strawberries. This starts to break open the cells and release the DNA.



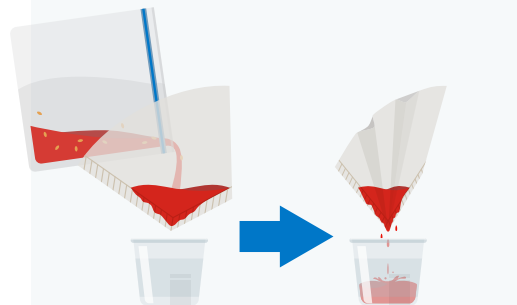
3

Add 10 mL of the DNA extraction buffer into the bag with the strawberries. This will further break open the cells.



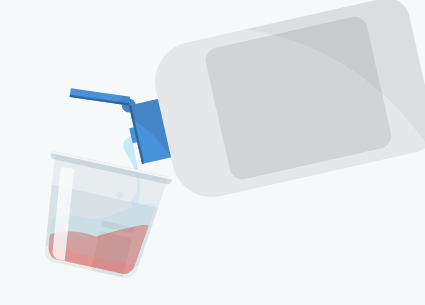
4

Reseal the bag and gently smash for another minute.



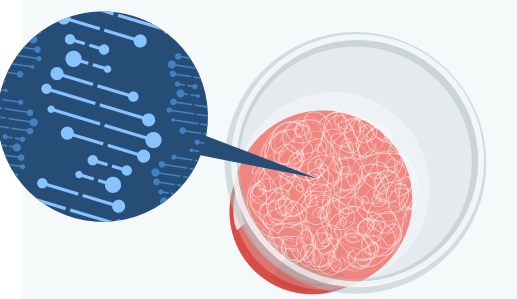
5-6

Place the coffee filter inside the other plastic cup. Open the bag and pour the strawberry liquid into the filter. You can twist the filter just above the liquid and gently squeeze the extra remaining liquid into the cup.



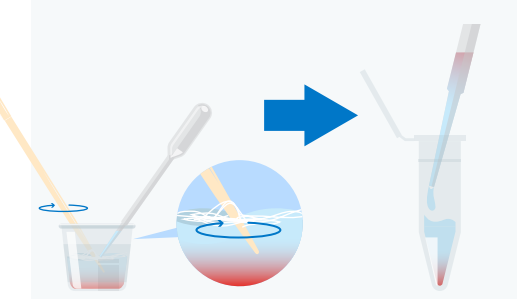
7

Pour cold ethanol down the side of the cup. It should be the same amount as the strawberry liquid. Do not mix or stir. You have just isolated the DNA from the rest of the material contained in the cells of the strawberry.



8

Within a few seconds, watch the development of a white cloudy substance (DNA) in the top layer the above strawberry extract layer.



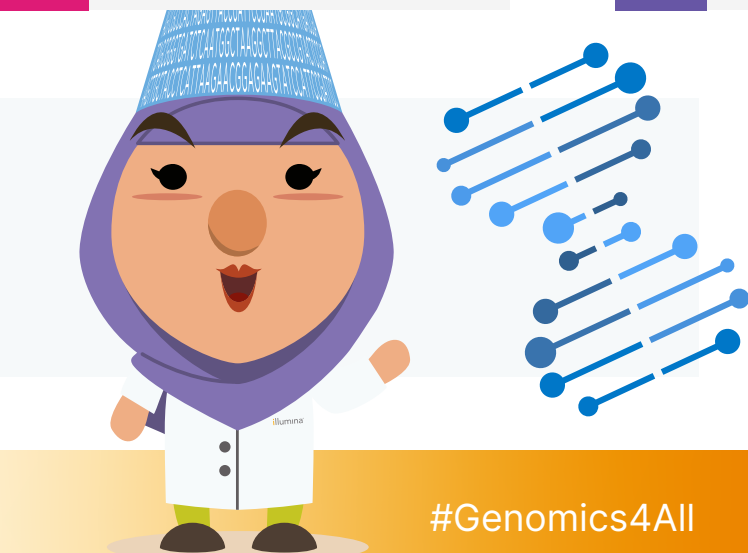
9-10

Pick up the DNA using a plastic coffee stirrer or wooden stick. Use bulb pipette to transfer DNA into microtube.



11

Make sure to run your thread under your cap before you close it. It will allow the DNA Necklace to hang on the thread.



Watch this

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