

STRAWBERRY DNA EXTRACTION PROTOCOL



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.

'Protocol' is a fancy word for 'Experiment'

What you will need:



1 re-sealable plastic bag



2 strawberries (fresh or frozen)



2 tsp dish detergent



1 tsp of salt



1/2 cup water



2 plastic cups



1 coffee filter



1 scientist

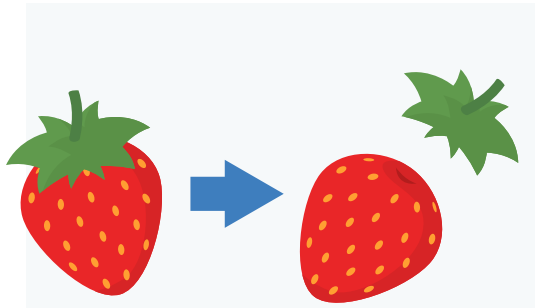


1/2 cup COLD rubbing alcohol



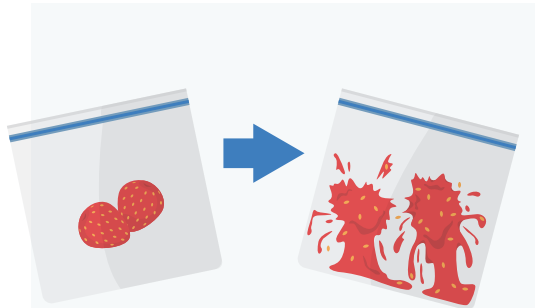
1 coffee stirrer

What you will do:



1

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



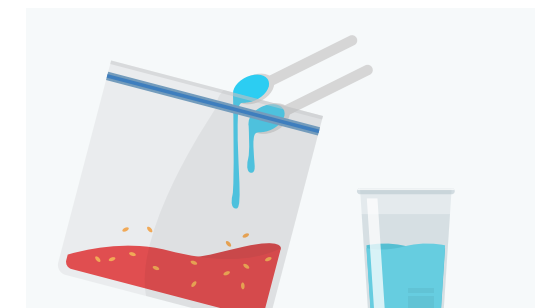
2

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.



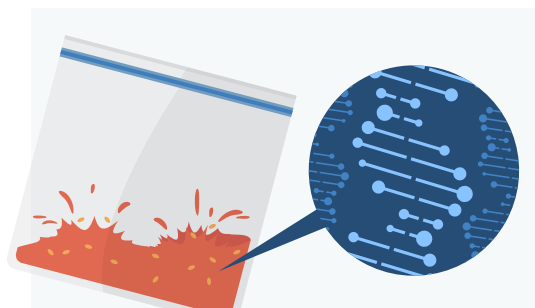
3

In a plastic cup, make your DNA extraction liquid: mix 2 teaspoons of detergent, 1 teaspoon of salt, and 1/2 cup of water.



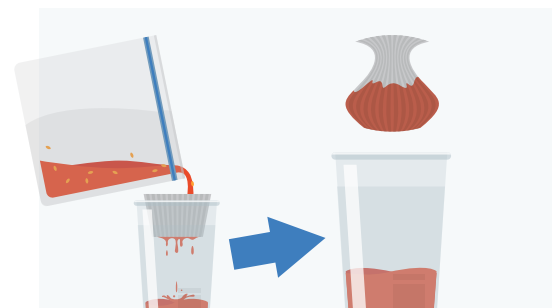
4

Add 2 tsp of the DNA extraction liquid into the bag with the strawberries. This will further break open the cells.



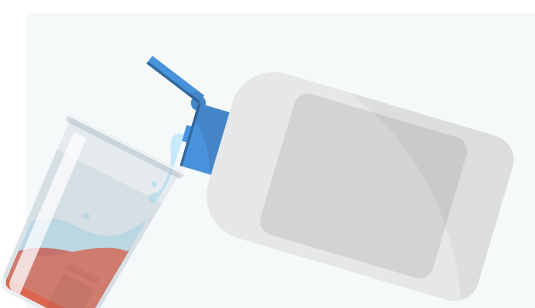
5

Reseal the bag and gently smash for another minute (avoid making too many soap bubbles).



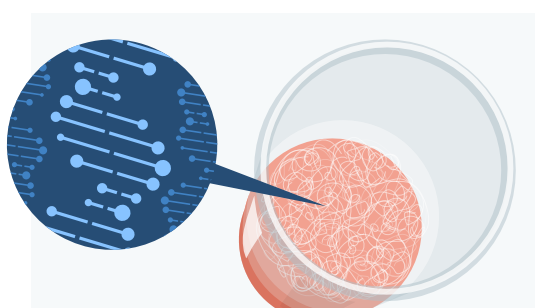
6-7

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 remaining liquid into the cup.



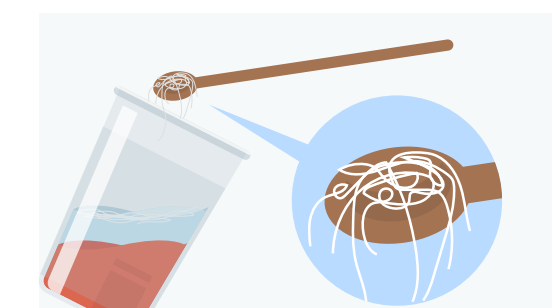
8

Pour rubbing alcohol 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.



9

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



10

Tilt the cup and pick up the DNA using a plastic coffee stirrer or wooden stick.



WATCH THIS EXPERIMENT LIVE!

Visit:

<https://www.youtube.com/watch?v=h0pu4iN5Bh4>