

DNA Extraction

Supplies Needed: 2 strawberries, 1 Ziplock bag, dish soap, salt, water, coffee filter, 1 cup, coffee stir stick, and rubbing alcohol.

Recipe for the DNA extraction liquid: 2 tsp (10mL) dish soap, 1 tsp (6g) salt, and 1/2 (118mL) cup water. Use 2 tsp of the DNA extraction liquid during the activity

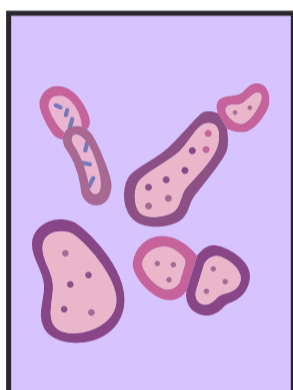
Step 1

Gently squish two strawberries inside a Ziplock bag for two minutes. This begins to break open the strawberry's cells so the DNA can escape!



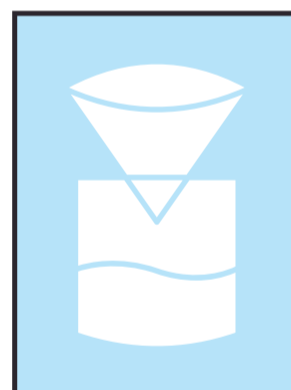
Step 2

Add 2 tsp (10mL) of DNA extraction liquid to the bag and squish it in with the strawberries for one more minute. This is to break the cells open even more!



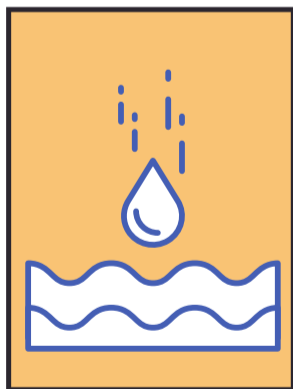
Step 3

Place the coffee filter in the cup and pour the strawberry liquid through the filter. Squeeze out the excess liquid as needed. The filter catches the bigger parts of the cell while letting the DNA go through.



Step 4

Slowly pour equal parts of cold rubbing alcohol as strawberry liquid down the side of the cup. **DO NOT STIR!** This isolates the DNA from the rest of the liquid.



Step 5

The cloudy substance on the top of the liquid is the strawberry's DNA. You can grab it with the coffee stir stick to get a closer look.



REFERENCES

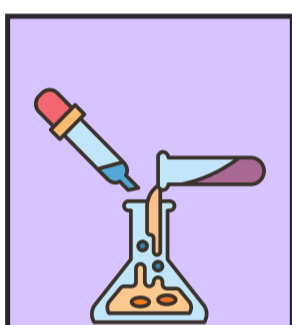
- Peekaboo Kidz. "What is DNA? | The Dr. Binocs Show - Best Learning Video For Kids | Peekaboo Kidz. YouTube video, 06:43. <https://www.youtube.com/watch?v=6368Y-OfU9U>
- How to Extract DNA from a Strawberry, <https://www.genome.gov/Pages/Education/Modules/StrawberryExtractionInstructions.pdf>

Questions to guide the Activity

Cells are the small pieces that make up all living things like plants, animals, and people! DNA lives inside all living cells, it's the cell's instructions. It tells the cells what to do and how to look.

Where did the DNA come from?

The DNA came from inside the strawberry, it was inside of its cells!

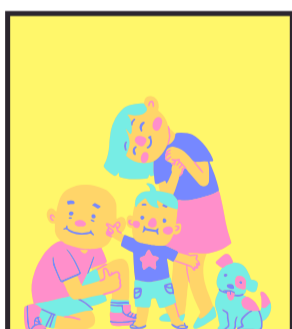


How did the DNA get out of the strawberry's cells?

The DNA got out of the strawberry when we popped open the cells by squishing them inside the bag. The soap and salt in the DNA extraction liquid also help to break open the cells further.

What is DNA's job?

DNA's job is to tell the cells what to do and how to look. For example, it makes sure you look unique by telling your cells what to do!



What else has DNA?

All living things have DNA! This means all your fruit and veggies. Pets, like cats and dogs, have DNA too. You and your family all have DNA inside your cells!

Additional Resources

To watch a video with a more in-depth explanation of DNA, scan this QR code!



Goal: At the end of this activity children will be able to explain what DNA does and where it can be found.