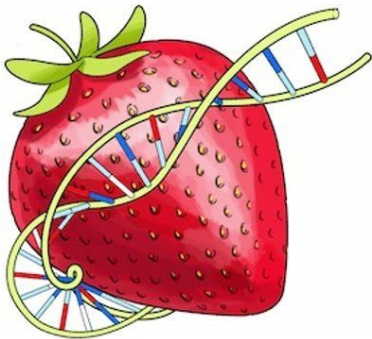


Strawberry DNA Extraction

A Lesson on DNA Extraction

BACKGROUND INFORMATION:



Is there DNA in my food? Absolutely! All living things have DNA- Deoxyribonucleic acid – the chemical instruction on how to make that living thing. This incredible chemical molecule can be easily seen with the naked eye when collected from thousands of cells. This simple method quickly gives some visible proof that plants have DNA.

MATERIALS NEEDED:

- Strawberries
- Zip-Closure Sandwich Bags
- DNA Extracting Solution (mix about 1 cup of clear liquid detergent and 1/4 cup salt into a gallon of water)
- Funnels
- Plastic Cups
- Gauze or Cheesecloth
- Test Tubes
- Droppers
- Denatured Alcohol
- Paper Towels

PROCEDURE:

1. Place a strawberry in a zip-closure bag and remove most of the air before you seal the bag.
2. Mash the strawberry through the bag in your hand. Do not hit against the table.
3. Add 2 tablespoons of the DNA extracting solution.
4. Continue mixing and mashing the bag in your hand.
5. Place a piece of gauze over the large opening of the funnel.
6. Place funnel in a plastic cup. It should sit on the rim.
7. Carefully pour the strawberry mixture into the funnel making sure to catch the solids with gauze.
8. Take a dropper full of the liquid in the cup and place in the test tube.
9. Add alcohol until you have about the same amount of alcohol as you do the mixture. Take care not to tilt or tip the test tube; do not mix the two liquids.
10. Observe the line between the strawberry mixture and the alcohol. You will notice a white thread-like cloud appearing at this line. This is strawberry DNA. The DNA will clump together and float to the top of the alcohol layer.
11. Observe the test tubes of others around you. Do you notice any differences?
12. When finished observing the DNA, you may collect the DNA and place into a small tube to take with you.

LEVEL: 5-7 Grades

SUBJECTS/STANDARDS:

Subject:
Science

Standards:
Science as Inquiry
Life Science

ACTIVITY DESCRIPTION:

Students will actively take part in an experiment to see if they can extract DNA from a strawberry. This activity will show students that all living things contain DNA. This will also give the students an appreciation for science.

QUESTION:

Does a strawberry contain DNA?

HYPOTHESIS:

Students will predict if they can extract DNA from a strawberry.

CONCLUSION:

Students will extract the DNA and record if their hypothesis was correct.

SOURCE:

Saint Louis Science Center