

Module 3: Strawberry DNA Extraction 10 minutes

Expert Addressed: 7-12124 Science, Biology, by Science

Overview:

The student will use strawberry DNA extraction using simple materials and observe a physical reaction.

Objectives:

Students will participate in the activity and observe:

- How to use a strawberry DNA extraction kit.
- Observe when DNA is visible in the solution.
- How to observe a cloud forming when adding the salt.
- Understand how DNA is found in all the food we eat.

National Science Education Standards:

Life Science: 1-3.A.1-1.3.A.2 and **1-3.A.3-1.3.A.4** (National Science Education Standards, National Research Council, copyright 1996, National Academy Press).

Content Standard 1-3 (Life Science 1-3)

- **Understanding and Knowledge:** Know organisms require a set of instructions for specifying its form. Heredity is the passage of these instructions from one generation to another.

Content Standard 1-3 (Life Science 1-3)

- **1-3.A.1-1.3.A.2** and **1-3.A.3-1.3.A.4** (National Science Education Standards) The genetic information stored in DNA is used to direct the synthesis of the thousands of proteins that each cell requires.
- **The Molecular Basis of Heredity:** In all organisms, the instructions for specifying the characteristics of the organism are carried in DNA, a long molecule formed from subunits called nucleotides (A, T, C, and G). The chemical and physical properties of DNA explain how the genetic information that controls heredity is transmitted to generation after generation. Heredity is not explained by a blending mechanism. Each offspring inherits its own form of a single characteristic.

Science Content:

1-3.A.1-1.3.A.2 and 1-3.A.3-1.3.A.4 (National Science Education Standards)

Science Process Skills:

- 1. Observing
- 2. Classifying
- 3. Inferring

Life Skills:

- 1. Communication
- 2. Learning
- 3. Collaboration

Time:

10 minutes