Apple Fact Sheet Lesson Plan

Apple Preservation Lab

Introduction: If you've ever reached into a bag of apples and wrapped your hand around a slimy one, you know that handling a decomposing apple is not a pleasant experience. Apples are perishable and require proper handling to preserve freshness. Preservation of whole apples requires controlling the temperature, oxygen, carbon dioxide, and humidity levels during transportation and storage. Preservation of cut slices can be even more challenging!

Objective: Students will investigate which preservatives and methods keep an apple slice from rotting.

Standards: NGSS: 5-LS2-1, 3-5-ETS1

Materials: Clean recycled containers (glass jars, lidded containers, resealable sandwich bags), apples, vinegar, salt, sugar, honey, citric acid, Ball Fruit-Fresh (used for canning)

Procedure:
1. This is a student-led exploration, where students design their own experiment with the support of an adult. The adult may wish to slice the apples into equal slices for the students.
2. Help students make predictions about what preservative and method will preserve their apple slice the best. Invite students to test their predictions by designing an experiment.
3. Remind students to keep one apple slice as a control variable, that will not be treated with preservative.
4. Instruct students to determine and carefully measure the amount of each preservative used on each slice. Consistency is key! Allow students to test several different preservatives for comparison. Cover each container to reduce the presence of fruit flies.
5. Make daily observations. Record data such as presence of mold, color or mold, and amount of mold. At the conclusion of the activity (perhaps 10 days) have students interpret their results and draw conclusions.
6. Discuss:
    - What preservatives were the most effective?
    - How is our experiment different from how decomposition occurs in nature?
    - Why is decomposition important in nature?
    - What are you wondering now?