Mummy Mysteries: Uncovering the Science of Preservation!

Introduction (5-10 minutes):

Have you ever heard of Egyptian mummies? They are thousands of years old! How do you think they lasted so long? Usually, when plants or animals die, they break down and return to the earth. This is called **decomposition**. Tiny living things called bacteria and fungi (like mold) eat away at dead things, causing them to rot. But the ancient Egyptians figured out a way to stop this process! Why did they want to do that? They believed people needed their bodies in the afterlife. Today, we're going to be scientists and explore how they might have done it using something you have in your kitchen!

Activity: Apple Mummies! (15-20 minutes preparation, then observation over several days)

Adult supervision needed for cutting the apple.

1. **Prepare the Apples:** An adult carefully cuts the apple in half. Remove the core/seeds from both halves. Pat the insides dry with a paper towel.
2. **Prepare the Mixtures:** In one container, place one apple half, cut side up. Label this container "Control" or "Air Only". In the second container, mix the salt and baking soda together. This mixture is like 'natron', a special salt the Egyptians used!
3. **'Mummify' One Half:** Place the second apple half into the salt/baking soda mixture. Make sure the cut side is completely covered by the mixture. Label this container "Natron" or "Salt Mix".
4. **Observe:** Place both containers in a safe, dry place where you can watch them for about a week.
5. **Record Findings:** Each day, draw or write down what you observe happening to each apple half in your notebook. Does one look drier? Does one start to look brown or moldy faster? Which one looks more 'preserved'?

Discussion (10-15 minutes - can be done after a few days of observation):

- What differences did you notice between the 'Control' apple and the 'Natron' apple after a few days?
- Which apple half showed more signs of decomposition (getting brown, soft, maybe moldy)?
- What do you think the salt and baking soda mixture did? (Hint: It absorbed water!)
- Bacteria and mold need moisture (water) to grow and cause decomposition. The 'natron' mix dried out the apple, making it hard for them to live.
- How is this similar to what the ancient Egyptians did? (They used natron to dry out the bodies, removing the water that bacteria and fungi need. This helped preserve the bodies for a very long time!)

Conclusion (5 minutes):

Today we learned about decomposition â€“ nature's way of recycling dead things. We saw how removing moisture, like the ancient Egyptians did with natron salt, can slow down or stop decomposition. Our apple experiment showed us a little bit of the science behind those amazing Egyptian mummies! What was the most interesting thing you learned about mummies or decomposition today?

Extension (Optional):

Research other preservation methods (like freezing or pickling) and discuss how they work to stop decomposition.