



Apple Mummies

Mummification has been around for thousands of years, being conducted by humans, and by nature! A **mummy** is a deceased person or animal whose skin, organs, or some tissue has been preserved! This makes mummies different from just a skeleton, because part of the organic matter, like skin, is saved over time. Normally, when something dies, it breaks down because of microbes, insects, and the natural way organic matter starts to decay. The key to mummification is drying - some things we see around us are preserved in a similar way like raisins, beef jerky, or freeze-dried fruit. If it can stay at a relatively constant temperature, dry, and away from critters and decomposers, it has a possibility to be preserved.

Nature can mummify from different conditions like extreme cold, extreme heat, and even bogs! In history, some civilizations have also used different techniques to mummify loved ones after passing. The Egyptians mummified their loved ones for the afterlife using something called natron, a natural mixture of baking soda and salt. This mixture **desiccates** or dries out the body. In this experiment, we will be able to “mummify” an apple! Observe the process of desiccation and see how mummification changes the way things break down!



Supplies

One jar or Tupperware container
Baking soda
Salt
Apple, hotdog, or another food item



Challenge

How long does it take to “mummify” an apple?

1. Slice your apples into pieces. If you are using a hot dog you can keep it whole. Try out other food too in future experiments and see how it works in the “mummification” process
2. Take out a jar or Tupperware container
3. In the container, mix baking soda and salt together, in a 1:1 mixture. Half a cup of each is enough to fill a medium-size container. It should be enough of the drying mixture to completely cover the apples.
4. Bury the apples in the baking soda and salt mixture and make sure they are covered completely.
5. Place in a cool, dry place for at least 3 days, to a week.
6. You can check on your apple mummies every few days to see how the process is going. If you notice the baking soda and salt mixture is wet from absorbing the liquid from the apples, replace the baking soda and salt mixture with a fresh mix.



Questions

1. Why does salt and baking soda dry out our apple?
2. What happens when you keep the apple in there for more time? Less time?
3. What changes about the apple? The weight? The texture? The color?
4. How does this compare to how an apple regularly breaks down?