



### Absorbent Materials

I bought some new shoes recently and they had one of those “do not eat” packages in them. I have always wondered what is in those things, so I did a little bit of research. I found out that the packages have an absorbent material in them that absorbs moisture from the shoe box so the shoes don’t get ruined before you wear them. Absorbent materials and chemicals can be found all around you. In fact, there is one in the cupboard of your house and we are going to experiment with it today.

**\*\*Always remember to ask an adult before completing any science experiment\*\***

#### Materials:

- 1 onion
- Small plate
- 2 sandwich zipper lock bags
- Marker
- Knife
- 1 cup baking soda
- Shoebox with a lid

#### Procedure:

1. Measure out 1 cup of baking soda and place it in the shoe box.
2. Remove 1 tablespoon of the baking soda and place it in one of the sandwich bags. Label the bag with the word “control”. This means that this baking soda can be used to compare the experimental baking soda.
3. Spread the baking soda to cover the bottom of the box.
4. Have an adult help you peel and cut an onion. Cut it into fourths and put it on the plate.
5. Place the plate in the shoe box and put the lid on it.
6. With the lid on the box, put it in a cupboard, or somewhere else that it won’t be disturbed overnight.
7. After 24 hours, take the lid off of the shoe box, the onion can be discarded and the plate washed.
8. Remove 1 tablespoon of baking soda from the box and put it into the second sandwich bag. It can be labeled with “experimental: 1 day”.
9. Take a turn to smell each bag (the control and the experimental). What do you notice?

#### Explanation:

In this demonstration, you should have noticed that the experimental bag of baking soda smelled strongly of onion, with the control did not. This is because of baking soda’s absorbent properties.

Baking soda is an absorbent material. It can absorb not only liquid but also stains and odours. Many people have been using baking soda to absorb odours for years. There is often an open

box in the refrigerator at my house to help prevent smelly foods (like half an onion) from transferring smell (and flavour) to the other food in the fridge.

Other materials work better to absorb smells than baking soda. Activated charcoal is an amazing substance that can clear air or smells and water of impurities. Try testing the efficacy of the baking soda. Set up the experiment the same as above, but label some additional sandwich bags. Try taking a tablespoon of baking soda from the box every hour, or every couple of hours. Place it in the bag and then at the end of 8-10 hours, try smelling all of the bags. Is there a point when the baking soda gets “saturated” with smell and can’t absorb anymore?

Happy Experimenting!

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