

Experiment with Diaper Science!

This activity is designed to serve as an introduction to polymer chemistry. Sound fancy? Have no fear – you'll be using the material found inside of a baby's diaper!

What You Need:

- Absorbent diaper
- 1 gallon zip-closing plastic bag
- Small plastic cups
- Food coloring
- Plastic tablespoon measure
- Scissors
- Safety goggles (optional)



Caution: the powdered chemical found in the absorbent diaper will irritate the nasal membranes if inhaled. If your child has asthma this activity should not be conducted.

What You Do:

1. Use a pair of scissors to cut off the paper or plastic outer layer around the entire diaper. Separate the cotton, paper, and plastic layers of the diaper.
2. Place the layers of diaper into the plastic bag. Seal the bag and shake it for about one minute. You should see white powder granules collecting in the bottom of the bag.
3. Now, without opening the bag, scoot the cotton, plastic, or other large pieces of material toward the top of the bag. Keep the material at the top of the bag as you shake the bag again. This will allow the powder to settle down to the bottom without getting picked up by the cotton again.
4. After you have about a teaspoon of powder in the corner of the bag, slowly open the bag and discard the large pieces of material. Now, carefully pour the powder into a small cup. Wash your hands. (Although the powder is safe to handle, it is always good practice to have your child wear safety goggles whenever they conduct any activity that involves working with chemicals.)
5. Have your child add 1 tablespoon of water at a time to the powder and watch what happens. You can also add food coloring if desired. As the powder absorbs water, it becomes bigger and bigger and turns into a gel. A teaspoon of this material can often absorb over 100 drops of water. That's how the baby's bottom stays dry!

This amazing powder, scientifically called sodium polyacrylate, is considered to be a super-absorbent polymer because it can absorb hundreds of times its weight in water! To force the water that was absorbed out of the powder have your child add some table salt.

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