



4-H Learn from Home Activity: Diaper Powder Polymer

Materials Needed:

- Disposable Diaper
- Scissors
- Plastic ziploc bag
- 8 x 11 sheet of colored paper
- Cup (preferably clear)
- 1 cup of warm water

Instructions:

Open a diaper (inside facing up) flat on a piece of colored paper. Cut a slit (lengthwise) down the diaper, exposing the inside materials (the cotton and powder). Rip out the cotton and place in a ziploc bag. Shake the bag for 5-10 seconds causing white powder to collect at bottom; remove the cotton and set aside the bag.

Next, shake the diaper upside down over the colored sheet of paper to collect remaining white powder. Pour the powder from the colored sheet into the ziploc bag.

Pour all the white powder you've collected from the bag into the clear plastic cup. Pour $\frac{1}{2}$ cup of the warm water in with the powder. Stir with your finger for 10-15 seconds.

The resulting substance is what happens when the white powder (actually a polymer called sodium polyacrylate) is mixed with water.

Reflective Questions:

- What did you think would be inside a diaper?
- What is a polymer?
- What other ways could we use super absorbent powder to solve a problem with water or other liquids?

Extensions of this activity:

- Compare brands of diapers to see which brand is most absorbent.
- Try liquids other than water to see if they react the same.
- Find somewhere in your house or yard that could use super absorbent powder.

To learn more about polymers:

sfyl.ifas.ufl.edu/flagler/marine-and-coastal/microplastics/k-12-resources

4-h.org/parents/curriculum/agriscience/#!biotechnology-activities

<https://www.4hpolymers.org>

ucanr.edu/sites/SJC_4H/files/248355.pdf