DR. CHRISTOPHER'S

SUPER ABSORBENT POLYMERS EXPERIMENT INSTRUCTIONS

Background Information

Polymers are long chains of molecules linked together.

The **Primary States of Matter** are solids, liquids, and gases.

Meniscus: the curved upper surface of a liquid in a tube

Measuring using a beaker or graduated cylinder

1. Add your liquid to the container
2. Get down to eye level with the container.
3. Read the measurement by reading the lowest portion of the meniscus.

Watch the Video on Youtube

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Super Absorbent Polymers Experiment

<u>Safety Warning: Do not rub your eyes, eat, drink, or consume anything until you have cleaned your area and washed your hands. Also, do not flush the chemicals down the toilet or sink, but dispose of everything in the trash. **</u>**

Supplies Needed

- Safety Glasses
- Bag of Crystals
- Water
- Cup
- Spoon

Super Absorbent Polymers

1. Safety first! Make sure you are your **safety goggles**.
2. Remove some of the **crystals** from the bag and put them in the cup. (*You don't have to use all of the crystals.*)
3. Add **water** to the crystals in the cup.
4. Let it sit for a period of time, we let ours sit overnight.
5. Remove crystals from the cup.

The Sodium Polyacrylate Challenge

Supplies Needed

- Diaper
- Safety Scissors
- Plastic Bag (empty)
- Water
- Table salt
- Plate
- Plastic Cup
- Paper
- Beaker
- Plastic Bag with Sodium Polyacrylate powder

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The Diaper Challenge

Goal: To create a gel from the sodium polyacrylate found in a diaper

1. Carefully use your **scissors** to cut through the **diaper** to cut out the lining.
2. Shake out the powdery substance onto the **paper** to collect.
3. Remove the cotton from the diaper and put it in the **plastic bag.**
4. Seal and shake the plastic bag,
5. Remove the cotton from the bag and put any powder into the **plastic cup.**
6. Add the powder from the paper to the plastic cup.
7. Use your **beaker** to slowly add some **water** to the plastic cup.
8. Use the **spoon** to carefully stir the mixture to create the gel.

Continuing Sodium Polyacrylate Experiment

1. Use the **beaker** to measure out 40 milliliters (ml) of **water**.
2. Pour the water into the **cup.**
3. Use a **spoon** to add **sodium polyacrylate** and create a gel.
4. Take some of the gel that develops and place it on a **plate**.
5. Sprinkle **salt** onto the gel.
6. Watch it turn back into a liquid!

Share your observations
In the comments with me on Youtube!

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