An Absorbency Experiment

Try this experiment see how a small amount of absorbent material can take up many times its own mass in water.

You will need:

- 4 thin-style diapers
- scissors
- piece of paper
- 1 drinking glass
- water
- salt
- spoon for stirring

What to do:

1. Cut open each diaper on the inside using a pair of scissors.
2. Remove the cottony stuffing and pull it apart over a piece of paper to collect the powder from inside the diaper. Pour this powder into a glass.
3. There should be about 5 ml (1 teaspoon) of material at the bottom of the glass.
4. Place 45 ml (3 tablespoons) of water in the glass over the material.
5. Swirl the water around slightly.
6. Make observations.

You will notice that the water soon turns to a gel. You can turn the glass upside-down and no water will spill out of the glass. It only takes a small amount of powder to turn the water to a gel.

To make the experiment ever more amazing add about 5 ml (1 teaspoon) of salt to the gel and stir. The gel turns back into a liquid! The salt actually breaks the bonds that were formed during the gelatinizing process.

After about another 30 minutes of fermentation, when the yeast plants have grown, you will see bubbles rise and smell the "yeasty" odor of fresh bread in cups 1 and 3.

The bubbles are the carbon dioxide we breathe out, that makes bread rise and puts the froth on beer and the bubbles in champagne. No bubbles or odor should come from cups 2 and 4.

About one half of the dry weight of plants is glucose molecules linked together with bonds of beta configuration into long-chain cellulose molecules. Only bacteria can break these beta bonds and this is why people cannot live on paper, straw or wood.

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