



## Dow Segment on The TODAY Show Experiment Instructions

### Safety First!

- Safety glasses are a must.
- The ingredients listed in these experiments are common household items, but should be handled safely. Although they are not harmful, these materials can irritate or sting eyes upon contact. If contact occurs, flush eyes with lots of water.
- Wash hands immediately after each experiment. Do not put hands or fingers in mouth, or rub eyes, until after hands have been washed.
- Liquid materials used during the experiment can stain and should not be allowed to remain on clothing, upholstery or wood.
- Clean up any spilled materials immediately, as they can create a slip hazard.

### Baking Soda Volcano

All you need for this experiment are:

- A model volcano, which you can make yourself out of paper mache or buy at a toy store
- Two small glasses or baby food jars – you just have to make sure they fit on top of the volcano
- Red and yellow food coloring
- One ounce of white vinegar
- One teaspoon of liquid hand dishwashing soap
- Two teaspoons of baking soda (mix with a Tablespoon of warm water)
- A teaspoon-sized measuring spoon – just make sure it is not copper

**What we learn:** Baking soda and vinegar are common ingredients found in almost every household so it is cool to see what happens when the two mix together! When the two ingredients are mixed, the carbon dioxide that is formed makes the bubbles and foam you see in your “lava” – which is really water!

### Slime

The ingredients you need to make slime are:

- White or transparent glue (all-purpose glue, not school glue)
- Borax, which is an everyday household detergent you can find at the grocery store
- Food coloring
- A teaspoon
- Two mixing bowls with spoons
- Measuring cups
- Water

To make ooey goey slime, all you have to do is mix the Borax with one cup of water. And in another container, mix one bottle of glue with one half cup of water – you can add food coloring if you want. Then, just mix the two solutions together and you’ve got slime!



**What we learn:** What we're making here is something called a polymer, and what you may not know is that we encounter different versions of polymers on an every day basis. Similar forms are in paper, plastic and even in our hair and nails!

### Vanishing Glass

All you need for this experiment is:

- 3 clear glass beakers (or clear cups)
- Wesson oil
- Water
- Pyrex stirring rods (must be Pyrex glass for this experiment to work)

Fill one glass with water and one with the Wesson oil. Then, you take one of the Pyrex stirring rods and place it in the water – you can see the rod, right? Well, now take another Pyrex stirring rod and place it in the cup with the oil, and watch the rod vanish! You can even fill a cup with half water, half Wesson oil, put the rod in the cup and watch how only half of the rod disappears!

**What we learn:** Even though this experiment looks simple, it teaches us that translucent and transparent substances each bend light at a different angle, allowing it to pass through at different speeds. Wesson oil has a higher refractive index number than that of water. When the first Pyrex stirring rod is placed in the water, we see that light moves more quickly through water than through the Pyrex stirring rod. But when the Pyrex stirring rod is placed in the Wesson oil, we see that the two substances have very similar refractive index numbers, and therefore light is not altered as it passes through the Pyrex rod, and the rod appears to vanish.

### Elephant Toothpaste

We call this experiment “Elephant Toothpaste” because the reaction makes something that looks like the toothpaste an elephant would use! All you need for this experiment is:

- A beaker
- Hydrogen peroxide
- Dry yeast
- Liquid soap (Dawn works well)
- Food coloring
- Warm water

To make the elephant toothpaste, secure a beaker or a tall container to a table. In the beaker you will want to have 125 ml of hydrogen peroxide, along with some of the liquid detergent. If you want the elephant toothpaste to look like gushing blood for Halloween, you can add some red food coloring. Then, when you are ready for the big finale, add about 5 ml of yeast and quickly stand back to watch the elephant toothpaste come to life!

**What we learn:** In this reaction, the yeast acts as a catalyst to help speed up the decomposition of hydrogen peroxide into oxygen and water! The oxygen helps create the bubbles in the soap and results in the foamy toothpaste!