

# Oobleck

**Objectives:** TLW analyze the properties of a unique substance.

**Materials:**

1-16 oz. box cornstarch  
1 ½ c. water  
food coloring (optional)  
large bowl  
newspaper to cover tables



**Procedure:**

1. Combine 8 drops of food coloring with the water.
2. Empty one box of cornstarch into a large bowl and create a well in the center of the powder.
3. Pour approximately half of the water into the well and then mix the cornstarch and water with your hands. Add the additional water as you mix. (This consistency should be a liquid feel when trying to pick up Oobleck, but a solid when poked or hit. You should be able to roll a small handful of Oobleck into a ball, but the minute you stop, it should return to its liquid state.)
4. Play with the Oobleck and make observations.

**Background Information:**

Oobleck is a unusual type of substance that has challenged scientists, including Albert Einstein, to explain the unique characteristics. Ketchup is another example of a substance that behaves like Oobleck. It gently flows from the bottle. Yet, if you hit the bottle, it does not flow.

One suggestion is that cornstarch is a long chain molecule that becomes “tangled” after it is added to water and compressed. In this model, Oobleck does not flow easily because it is tangled with other molecules when it is quickly compressed.

Another model looks at the electrical charge. As the molecules are rubbed together quickly, an electrical attraction between the molecules makes the flow more difficult and the results is properties of a solid. The electrical attraction is less with a slow movement and lets the substance flow as a liquid.