Oopleck

Have fun playing with this non-Newtonian fluid that's neither a liquid nor a solid with 2 simple ingredients

Overview & Purpose

Oobleck isn't a liquid or a solid, it's a non-Newtonian fluid. What's a non-Newtonian fluid??? A non-Newtonian fluid is **a fluid that does not follow Newton's law of viscosity**, i.e., constant viscosity independent of stress. In non-Newtonian fluids, viscosity can change when under force to either more liquid or more solid. Ketchup, for example, becomes runnier when shaken and is thus a non-Newtonian fluid. At times, it may seem like a solid or a liquid but it acts differently than a normal solid or liquid. Making oobleck is a great science experiment to show how changes in pressure can change the properties of some materials.

Here's how to see the difference you can make by applying pressure to your oobleck: Apply quick pressure with a spoon or your hand and this will increase the oobleck's viscosity by forcing the cornstarch particles together. It will feel hard and you can even form the oobleck into a ball if you try with your hands. Release your pressure or slowly dip your spoon into the mixture and it will act like it's more like water. By moving slowly, the cornstarch particles have time to move out of the way.

Ingredients

- 2 cups cornstarch
- 1 cup water
- Food coloring (optional)

Making Oopleck

1. Mix 2 cups cornstarch and 1 cup of water in a bowl until the oopleck is formed.

2. If you'd like to add some color place several drops of food coloring in the bowl.

To dispose of oopleck do not wash it down the drain, let it dry out, and dispose of it in a trash can.

Questions:

- What does oopleck feel like?
- Have you ever felt anything like it before? Where?
- Can you think of other non-Newtonian fluids (neither a liquid nor solid) (hint: you put it on french fries)