



## SCIENCE FESTIVAL FAMILY EXPERIMENT GUIDE: STRANGE ACTING GOOP

Can something be both a solid and a liquid?

### Instructions:

**Adult:** Fill the plastic cup halfway with cornstarch and pour into the bowl. Fill a separate plastic cup a quarter of the way full with water and pour into the bowl.

**Student:** Mix the cornstarch and the water well in the bowl.

**Both:** Experiment with your goop!

Slowly dip your finger into the gooey mixture.

Grab some in your hand and pour it back into the bowl.

Slap it hard with your hand or a heavy spoon.

Grab some in your hand again and squeeze.

### Questions for after:

#### K-2<sup>nd</sup>:

Can something be both a liquid and a solid?

What happened to the goop when you squeezed it?

What else did you see happening?

#### 3<sup>rd</sup>- 5<sup>th</sup>:

What happens when you squeeze the goop? Is it acting like a liquid or a solid?

What happening when you pour the goop or drop it? Is it acting like a liquid or solid?

### How It Works:

The strange acting goop allows us to learn about molecules. When slapped quickly, the strange acting goop molecules, because they are all tangled up, prevent any splattering. In this way the mixture behaves more like a solid. When you slowly squeeze the mixture in your hand, the goop feels like a solid inside your hand, yet it slides out through your fingers back into the bowl. That's because the mixture now behaves more like a liquid. This concoction is an example of a suspension one of which is finely divided and dispersed in the other. In the case of this goop, it's a solid dispersed in a liquid.

### Vocabulary:

**Molecule:** The smallest particle of a substance, like a tiny building block.

**Suspension:** A mixture of solids and liquids that act like both states of matter.

### Real-World Application:

This strange acting goop is very similar to how quicksand acts, if you move it in certain ways it sticks more than others. In solids, the molecules are tightly packed together and don't move around. This comes in handy when you need a solid chair to sit on! In liquids, molecules are still close together, but they move around more (much better for swimming!). What are some other examples of liquids and solids?

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