

## SCIENCE FESTIVAL FACILITATOR'S GUIDE



### Strange Acting Goop

#### 1. Make sure you have the materials you need.

- Plastic table cover and paper towels to wipe up spills
- Cornstarch (several large containers)
- Bowls (one for each student-adult pair)
- Pitchers of water
- Mixing spoons (one for each student-adult pair)
- Measuring cups: 1/2 cup and 1/4 cup measures (several of each to share)

#### 2. Watch this video on your smartphone:

<https://www.youtube.com/watch?v=idCFb3DqWkk>

#### 3. Prepare your station.

- Cover your table with plastic to protect it from spills.
- Fill a pitcher with warm water. (You or a helper will probably need to do this several times throughout the evening.)
- Distribute bowls and mixing spoons for each student-adult pair. (You may need an assistant to help you clean and rinse bowls and spoons between groups.)
- Place shared cornstarch, water pitchers, and measuring cups where they can be easily shared.
- Make sure to discard the goop in the trash can only. DO NOT POUR DOWN THE DRAIN, it will clog the sink.

### Questions to ask participants before they start:

- What do we know about liquids and solids?
- What are some examples?
- Can something be both a liquid and a solid?
- Let them brainstorm and share their ideas for a few minutes—remember, there are no wrong answers!

### Instructions:

Please read each set of instructions out loud. Make sure that you direct the correct person to complete each assigned task.

- **Adult:** Put 1/2 cup of cornstarch into the bowl. Add 1/4 cup of water.
- **Student:** Mix well.
- **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.

### 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.

### Vocabulary:

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

### Real-World Application:

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?