



Starch Slime

Procedure

1. Always wear safety goggles.
2. Rinse the bowl, graduated cylinder, and stick.
3. Add 1 level scoop of dry starch to the bowl.
4. Use the graduated cylinder to measure 8 mL of water. Pour the water into the bowl.
5. Use the stick to stir the starch and water together.
6. When the starch and water are completely mixed into a slimy paste, try these tests:
 - Press the mixture hard with your finger.
Does the slime act like a solid or a liquid?
 - Pick up some slime with the stick and let it drip.
Does the slime act like a solid or a liquid?

If your slime is too “runny” add a bit more starch. If it is too “cakey” add a tiny bit of water. Ask for help from an OMSI staff person if this doesn’t work.
7. Pour your slime into the “Slime Bucket.”
8. Rinse the bowl, graduated cylinder and stick.

Is starch slime a solid or a liquid?



A Closer Look

Starch slime acts like both a solid and a liquid. A **solid** will resist changes in its shape and stay firm. A **liquid** will flow and take the shape of its container. When you press the starch slime hard with your finger it acts more like a solid. When you leave the starch slime alone, it flows like a liquid.

Starch slime doesn't follow the normal rules. It is classified as a **dilatant fluid**. Starch slime and other dilatant fluids become thicker as more force is applied. Another dilatant fluid is used in the wheels of cars that have all-wheel drive or four-wheel drive. When the wheels are turning, a constant force is applied to the fluid, and it has a constant thickness. If a wheel starts to slip, it turns faster. This will make the wheel apply more force on the fluid, and the fluid becomes even thicker. The thicker fluid holds the wheel so that it will stop slipping and the car can stay on the road.

