

Instant Worms

Don't blink or you'll miss the gooey liquid turn into a solid worm.

WHAT TO DO

Slowly squirt a little worm goo into the bowl of water to instantly create a solid worm-like polymer that's still gooey inside.

WHAT'S HAPPENING?

The thick syrupy liquid in the bottles is a polymer (just like in the Slime & Silly Putty activity), but this one, a type of polysaccharide (or sugar polymer) called sodium alginate, is natural and comes from brown seaweeds. The water in the bowl contains calcium ions (the same thing that makes your bones strong), and when the alginate goo hits the water these calcium ions instantly cross-link or bond the alginate molecules together, causing them to tangle up like sticky spaghetti and form a solid layer. This happens so quickly, in fact, that it forms a solid "skin" which hardens and blocks calcium from entering the inside of the worm (or rather slows it way down) and your worm remains a gooey liquid on the inside- so be careful not to squeeze it too hard at first. Calcium does slowly leak in however (scientists called this diffusion), so the skin will thicken over time until your worm is completely solid. While all of this is perfectly safe to eat (and used to thicken lots of foods), it tastes horrible until flavors are added, and it's probably dirty from all those hands in the bowl, so don't!