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Creating a New Organism

Intended Audience – Elementary Level

Teacher Guide

Purpose:

Laboratory professionals' use many different chemicals when they are working. This activity is an example of how chemicals can be used to create new and exciting things. This activity is designed to be purely fun.

Procedure:

1. Mix 1 teaspoon borax into 1 cup of water in a bowl.
2. Stir until the borax is completely dissolved.
3. In a separate container, mix ½ cup (4 oz.) white glue with ½ cup water.
4. Stir until completely dissolved.
5. Add three drops of food coloring, if desired.
6. After you have dissolved the borax and diluted the glue, you are ready to combine the two solutions. Stir on slime solution into the other. Your slime organism will begin to polymerize immediately.
7. The slime organism will become hard to stir after you mix the borax and glue solutions. Try to mix it up as much as you can, then remove it from the bowl and finish mixing it by hand. It's okay if there is some colored water remaining in the bowl.
8. The slim organism will start out as a highly flexible polymer. You can stretch it and watch it flow. As you work it more, the slime will become stiffer and more like putty. Then you can shape it and mold it, though it will lose its shape over time.
9. Do not eat your slime and do not leave it on surface that could be stained by the food coloring.
10. Place your slime organism in a Ziploc bag.

Observation Questions:

What happened when you mixed the two bowls together?

The glue mixed with the other solution to create a chain of molecules that locked together loosely. Steel undergoes a similar process of mixing under high temperatures but its molecules are locked tightly together, making it rigid.

Do you think the food coloring slowed the reaction or made it harder to form?

No, because it was a small amount

What would happen if you added too much or too little water?

Too much water might end with runny watery slime, too little and your slime would be hard

Creating a New Organism

Student Sheet

Procedure:

1. Mix 1 teaspoon borax into 1 cup of water in a bowl.

2. Stir until the borax is completely dissolved.

3. In a separate container, mix $\frac{1}{2}$ cup (4oz.) white glue with $\frac{1}{2}$ cup water.

4. Stir until completely dissolved.

5. Add three drops of food coloring, if desired.

6. After you have dissolved the borax and diluted the glue, you are ready to combine the two solutions. Stir one slim solution into the other. Your slime organism will begin to polymerize immediately.

7. The slime organism will become hard to stir after you mix the borax and glue solutions. Try to mix it up as much as you can, then remove it from the bowl and finish mixing it by hand. It is okay if there is some colored water remaining in the bowl.

8. The slime organism will start out as highly flexible polymer. You can stretch it and watch it flow. As you work it more, the slime will become stiffer and more like putty. Then you can shape it and mold it, though it will lose its shape over time.

9. Do not eat your slime and do not leave it on surfaces that could be stained by the food coloring.

10. Place your slime organism in a Ziploc bag.

