



## HANDS-ON LAB

# Make a Synthetic Material

You will use a chemical reaction to make a ball out of a synthetic material.

Your reactants are borax, cornstarch, water, and glue. Borax is mined from rocks. Cornstarch is separated out from corn kernels. Borax, water, and cornstarch are natural materials. Glue is a synthetic material.

## Procedure

**STEP 1** In the table, describe the properties of each starting material.

| Materials  | Properties |
|------------|------------|
| borax      |            |
| cornstarch |            |
| water      |            |
| white glue |            |

## Materials

- borax,  $1\frac{1}{2}$  tsp
- cornstarch, 1 tbsp
- craft stick
- cups (2)
- food coloring (optional)
- glue, 1 tbsp, white
- water, 2 tbsp, warm



**STEP 2** Make a borax solution by adding  $1\frac{1}{2}$  tsp borax to 2 tbsp warm water in a cup. Stir until the borax disappears.

**STEP 3** Add 1 tbsp glue to the second cup. If you are using food coloring, add about 3 drops.

**STEP 4** To the glue, add  $\frac{1}{2}$  tsp of the borax solution and 1 tbsp of cornstarch.

**STEP 5** Wait 10 seconds, and then stir the contents of the cup until you cannot stir anymore.

**STEP 6** Roll the mixture in your hands until it forms a smooth ball. Explore the properties of the new material.

**Name:**

**Date:**

## Analysis

**STEP 7** How do the properties of the synthetic material you made compare to the properties of the starting materials?

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**STEP 8** What caused the properties to change?

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