

MOO GLUE



Cows make milk—and you can make glue from milk’s “secret” ingredient.

WHAT YOU’LL NEED

- $\frac{1}{4}$ cup liquid skim or nonfat milk (warm or hot)
(OR 2 tablespoons powdered milk mixed with $\frac{1}{4}$ cup hot tap water)
- 1 teaspoon vinegar (or more??)
- $\frac{1}{4}$ or $\frac{1}{2}$ teaspoon baking soda (or more if needed)
- 1 or 2 teaspoons water
- Paper towels or coffee filter paper
- 2 bowls or containers
- Measuring cup
- Measuring spoons
- Spoon or fork

WHAT TO DO

Check with an adult for help in heating any milk or water!

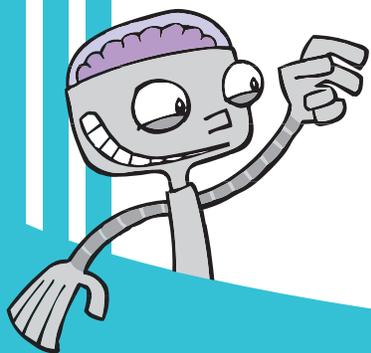
- 1** Stir liquid milk and vinegar together in a bowl or container. Let the mixture sit for 2 minutes. The solution will begin to separate into solid curds—made of a chemical called casein—and thin liquid whey. Stir again to separate the lumpy solids from the liquid as much as possible.
- 2** Place paper towels or coffee filter over the second bowl or container. Drain liquid from the curds by pouring your mixture through the paper, into the bowl or container. Throw the fluid away.

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(ACTIVITY CONTINUED)

- 3** Put the curds back into one of the bowls or containers. Use a spoon or fork to break the curds into tiny bits.
- 4** Add baking soda and water to the curds. Stir until smooth to make your glue mixture.
- 5** Add a little more water or baking soda to the glue to get the thickness you want.
- 6** Refrigerate your glue to make it last longer. (Outside the frig, your glue will start to smell bad in about a day.)



DID YOU KNOW?

- Sticky curds are made of a chemical called casein, which is often used in manufacturing bread.
- Milk glue has been used for hundreds of years.