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Science Experiences That Come To You

Make Homemade Play-Dough!

Ingredients (smaller amount)

- 1 cup flour
- 1 cup cold water
- 1 tablespoon vegetable oil
- 1/2 cup salt
- 1 tablespoon cream of tartar
- Food coloring

Ingredients (larger amount)

- 2 cups flour
- 2 cups cold water
- 1 cup salt
- 1 tablespoon vegetable oil
- 2 1/2 teaspoons cream of tartar
- Food coloring

Supplies

- Stovetop
- Saucepan
- Wooden board
- Plastic bag or container
- measuring cups
- wooden spoon

Instructions:

In this activity, you can make your own home-made version of Play Dough! There are a variety of recipes for play dough, and many need a stove to cook the compound. Therefore, *ask an adult for help with this activity.*

Gather all of your ingredients and supplies to make your Homemade Play Dough.

First, combine the water, vegetable oil, salt, cream of tartar, and 2-4 drops food coloring in the saucepan. Heat the mixture until warm. Stir with the wooden spoon.



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Remove the saucepan from the heat. Add the flour to the mixture. Stir.

Remove the mixture from the pan onto the wooden board. Using your hands, knead the dough until smooth. The mixture should be soft and pliable.

Store the play dough in a plastic bag or container. This modeling compound will last up to 6 months if stored! Storing your play dough in the refrigerator will help it last. If the play dough becomes hard, just add a few drops of water and knead it into the dough.

If you make a really cool figure that you want to keep, just leave it out and let the dough dry to become hard.



****Note:** Make sure you add the cream of tartar. This helps the dough last longer.

The Science Behind It:

What exactly is “a non-toxic reusable modeling compound”? That’s a long definition for a toy that everyone loves... Play-Doh! This fun, soft and colorful toy



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can be molded, squeezed, and rolled into a variety of shapes and sizes. The company, Hasbro, has been making Play-Doh, “a plastic modeling composition of a soft, playable working consistency” since 1956.

Play-Doh was originally created as a non-toxic wallpaper cleaner. Joseph McVicker owned a company that sold wallpaper and soap. Realizing that the soft, pliable wallpaper cleaner was a great modeling clay, he tested it out in some local daycares and schools. The results were amazing! Joseph and his uncle, Noah, quickly applied for a patent of this reusable clay and named it Play-Doh! The original Play-Doh was an off-white color, but they soon sold it in red, blue, and yellow colors. The primary colors allowed kids to mix the clay and create new colors.

The modeling clay was fun to play with until it began to dry out and turn white. Therefore, the company hired a chemist in 1957 to work on the modeling compound and improve its elasticity and reusable qualities. By 1960, the new formula for Play-Doh was perfected.

Play-Doh is composed of flour, water, salt, boric acid, and mineral oil. This combination of ingredients creates a soft, squeezable, non-toxic, and reusable modeling **compound**. A compound is a mixture of two or more separate elements. The mineral oil helps give the Play-Doh a smooth texture. The boric acid keeps it from developing mold so it can last a long time. However, the Play-Doh modeling compound recipe is kept a secret!

Celebrate Play-Doh!

Play-Doh is a huge success around the globe. The company estimates that children (and adults) have played with over 700 million pounds of Play-Doh!

For this toy's 40th birthday, the company introduced two new colors of Play-Doh – silver and gold!

Play-Doh was inducted into the National Toy Hall of Fame in 1998. (It joins other toy inductees such as Crayola Crayons, Silly Putty, and Slinky.)

In 2000, over 100,000 people in the United States voted on their favorite colors. The results were Rose Red, Purple Paradise, Blue Lagoon, and Garden Green. What is your favorite color?

In 2006, Play-Doh celebrated its 50th birthday. They introduced a 50-color pack with 6 new pastel colors.

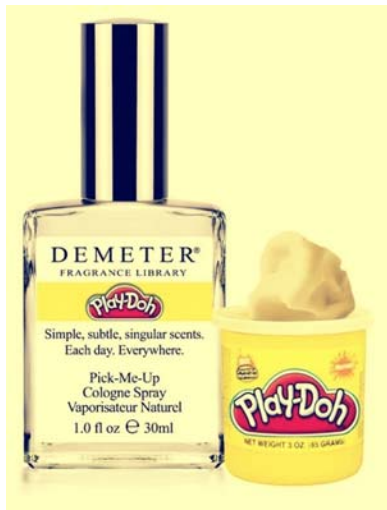


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The company, Demeter Fragrance Library, chose to commemorate Play-Doh's 50th anniversary by creating a limited-edition fragrance that smells like Play-Doh! The fragrance company stated the fragrance is for "highly-creative people, who seek a whimsical scent reminiscent of their childhood."



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