



Play Dough STEAM Engineer Challenge

In honor of National Play-Doh Day, we thought we would share a few of our favorite play dough recipes and a fun STEAM challenge.



STEAM Engineering Challenge

Young children learn about science through hands-on experiences. They learn by observing, thinking, and talking about how materials feel and how they change.

You can encourage scientific thinking. Talk about how this new kind of dough looks and feels. Introduce words like texture, grainy, smooth, and lumpy. Your child might declare, "I'm making this flat!" as she pushes down on play dough with the palm of her hand. Or she may say, "I'm making it soft," as she adds water to dry play dough to make it more pliable. When you ask, "What do you think would happen if we added too much water?" you are helping her understand the scientific concept of cause and effect.

Have fun with this engineering challenge!

Instructions:

Using the items featured below, challenge your child to see how tall he can build a structure using play dough, Duplos or LEGOS, and straws. The challenge is to make sure the structure stands and does not fall over.

Materials Needed:

- Play dough
- Straws
- Duplo or LEGO bricks

Play Dough Recipes

1 Oatmeal Play Dough

Ingredients:

- 1 cup flour
- 2 cups oatmeal
- 1 cup water

Instructions:

- 1) Combine the flour and oatmeal in a bowl.
- 2) Gradually stir in the water.
- 3) Knead until mixed and add food coloring if you like.

2 Rubbery Play Dough

Ingredients:

- 2 cups baking soda
- 1 1/2 cups water
- 1 cup cornstarch

Instructions:

- 1) Mix the ingredients with a fork until smooth.
- 2) Boil over medium heat until thick.
- 3) Spoon onto a plate or wax paper and allow it to cool.



3 Play Dough

Ingredients:

- 2 cups all-purpose flour
- 3/4 cup salt
- 4 teaspoons cream of tartar
- 2 cups lukewarm water
- 2 Tablespoons of vegetable oil (coconut oil works too)
- Food coloring, optional
- Quart-sized bags

Instructions:

- 1) Stir together the flour, salt, and cream of tartar in a large pot. Next, add the water and oil. If you are only making one color, add in the color now as well.
- 2) Cook over medium heat, stirring constantly. Continue stirring until the dough has thickened and begins to form into a ball. Remove from heat and then place inside a gallon-sized bag or onto wax paper.
- 3) Allow to cool slightly and then knead until smooth. If you are adding colors after, divide the dough into balls (for how many colors you want) and then add the dough into the quart-sized bags. Start with about 5 drops of color and add more to brighten it. Knead the dough while inside the bag, so it does not stain your hands. Once it is all mixed together, you are ready to PLAY.
- 4) Store the play dough inside the bags to keep it soft.