

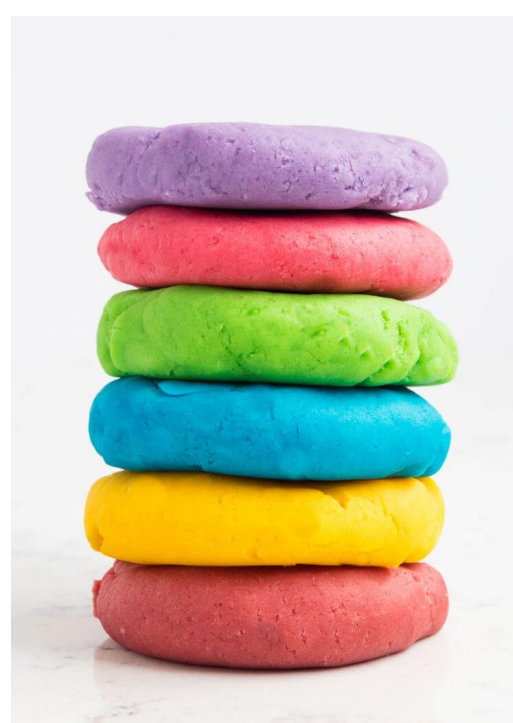
FOOD LAB

Play Dough

Ag for Life

Ingredients:

- 3 cups of flour
- 1 ½ cups of salt
- 3 tablespoons of oil
- 3 cups of water
- spoon for stirring
- large mixing bowl
- wooden spoon for mixing



Directions:

1. In a mixing bowl, add the flour and the salt. Stir them together.
2. In another bowl, add the oil and water.
3. Optional: if you want to add food colouring, first add it to the water, and then add in the oil!
4. Add the water, oil and optional food colouring mixture into the flour and salt mixture and stir.
5. Once all the water has been absorbed, knead the mixture with your hands. Knead the dough until a ball forms by pulling away from the sides.
6. Knead until the texture matches play dough (1-2 minutes).
7. Store in a plastic container. Should last for ~3 months



Food Chemistry



- A **mixture** is when two substances are physically combined, but no reaction has taken place. When the salt and the flour are mixed together, they create a mixture. The salt and flour are still in their original form and no reactions have occurred between them. They could technically still be separated from each other.
- A **solution** is formed when two liquids mix completely. This is what happens when the water and food colouring are mixed. However, this does not happen when the oil and the water mix. Oil is a fat and this means that the particles in it are held together tightly. Oil is hydrophobic, meaning that it is 'water fearing'. Instead of mixing with the water molecules, the oil is repelled from them. This stops it from mixing with the water.
- When you put all of the ingredients together, you get a completely different substance than when you started. This is because of the chemical reactions that have taken place between all of the ingredients.
- If you want to experiment with your play dough, you can try leaving out certain ingredients to see what happens. How does leaving out certain ingredients affect the play dough that you make?

How does this relate to cooking and baking in the kitchen?

All these ingredients are commonly used in baking. Flour, salt, water and oil (or some type of fat) are usually used in muffins, cookies, loafs and bread. When one of these ingredients is left out of baking, it will typically change the end product. For example, too much flour will give you a dry cookie and if you add too much butter (a fat like oil) you will get a cookie that is spread out and thin.



Interested in learning more about our cooking classes? Take a look at our Nutrition and Cooking Programs: <https://www.agricultureforlife.ca/nutrition-and-cooking>

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