



Gluten: The Secret Ingredient in Flour

What is it?

Gluten is a protein found within wheat flour. When the flour is hydrated (water added) and manipulated (stirred and kneaded), the gluten begins to form elastic bounds which stretch and grow stronger as the dough is worked more.

What does it do?

Those bonds help to trap air as they stretch. When the dough is heated, the air expands and helps the dough to stretch and rise. After the gluten to a high enough temperature the protein starts to harden and then helps the dough to hold its shape. We can see that in breads and many other baked goods.

How is flour used to make a gluten ball?

To make a gluten ball you will need a flour which has a larger amount of gluten. Bread and all purpose flour have more gluten than other types. The flour also has starch, but to see the gluten you will need to separate the starch from the gluten in the flour by washing the dough out. When all of the starch is gone the gluten looks like *chewed gum*.



Challenge Question: Do you think cake flour has more or less gluten than all purpose flour? Why? (see answer in the box at the bottom of the page)

How can I make my own gluten ball?

Ingredients	Instructions
<ul style="list-style-type: none"> • 1 cup of flour (bread flour and all purpose work best as they have more gluten) • Cold water (just enough to create a sticky dough) 	<ol style="list-style-type: none"> 1. Pour just enough cold water on flour while stirring to create a stiff dough. 2. Knead the dough hard for at least 5 minutes until silky smooth. 3. Place dough in clear cold water and work the dough. As the water gets cloudy replace with new water and continue until the water stays clear. (You are washing out the starch.) 4. Bake in a 450 degree F oven for 15 min. and then at 300 degrees F for 30 minutes. 5. Remove from oven and cut open to see the interior.

Purdue Extension – Bartholomew County
 783 S. Marr Rd., Columbus, IN 47201
 812.379.1665

<https://www.extension.purdue.edu/bartholomew>
 Facebook: Purdue Extension -Bartholomew County

Challenge Question: Less, because cakes are more tender than breads and need less gluten.