Kitchen Science: The Scoop on Gluten

5-Minute Baking Activities

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Subject: Flour is NOT Just Flour

Activity: Compare the absorption and elastic structure of gluten-forming flour and gluten-free flour.

Resources required: 4.25 oz. bread flour and 4.25 oz. oat or rice flour
Two, 2-cup liquid measuring cups each with 3/4-cup/6oz. water
Stirring spoons

Introduction: Gluten is formed in wheat flour mixtures as it is stirred or mixed with liquids. It's what makes the light and expanded structure of baked goods. Baking is a challenge for the 4-6% of the population who must bake "gluten-free."

Directions: See gluten develop in a high protein wheat flour (bread flour) and the NOT develop in a gluten-free flour (oat flour or rice flour)
1) Cup 1: Stir 4.25 oz. bread flour into ¾ cup (6 oz.) water
2) Cup 2: Stir 4.25 oz. oat flour or 4.25 oz. rice flour into ¾ cup (6 oz.) water
3) Stir each mixture with spoon for 3 minutes or the same amount of time.
4) Observe how each mixture looks. Do both mixtures have strands of gluten forming in the mixture? Is there any structure to the gluten-free mixture? (A: The starch in the rice or oat flour will absorb the water, but little elasticity or structure.)

Baking Power Assignments: Learn the facts about gluten and health at www.wheatfoods.org and www.csaceliacs.org.
Access gluten-free test kitchen baking links in Baking Glossary, HomeBaking.org
Free lab: *Kitchen Science: Baking for Special Needs*, HomeBaking.org

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