



## STREGA NONA by Tomie de Paola

Strega Nona (Italian for *Grandma Witch*) can do magical things and you can do magical demonstrations. Many people think that the branch of science called chemistry is magic. After reading this story, your students will remember (if they don't already know) the wonderful song Strega Nona sings. Big Anthony knows the song, but he never sees the three kisses!

Tell your students that you want to see if your pasta pot will boil. Have them sit in a circle around the pasta pot and sing the song with you as you add the water (it is really white vinegar). Watch the pasta pot boil up but not over. Have them try to work their own magic (can they make the pasta pot go back down?) by singing the second verse and blowing three kisses. We all have some magic in us!

**MATERIALS:** large clear container which holds 5C of water, 1/4 C baking soda, 1 C white vinegar, 1 C uncooked pasta (large shells or ziti).

**DEMONSTRATION:** Have your "pasta pot" ready by putting the baking soda on the bottom and then covering it with the cup of uncooked pasta. Add vinegar as "water".

**EXPLANATION:** You will decide how much to explain to your students. Baking soda (sodium bicarbonate) and vinegar (5% solution of acetic acid) react to produce a salt and a gas. The gas, carbon dioxide, is the cause of all the bubbles. This gas is released when Alka-Seltzer™ dissolves in water. This gas gives the fizz to soda and it allows bread to rise. To be able to "see" the gas, repeat the experiment in a large Ziploc™ bag. Close the bag quickly after adding vinegar; the gas will take up space and inflate the bag.

**TEACHER NOTES:** I use this activity every fall as my first science

lesson in Preschool. I teach the students the safe way to smell. I show them how to *waft* the air in front of their noses. *Wafting* is done by gently pushing air toward your nose rather than sticking your nose directly above a container and breathing deeply. After the pasta pot stops boiling, have the students *waft* the air above the pot toward their noses. Ask them if the smell is a familiar one. The students that eat salad with dressing often will say yes (even three year olds).

At Halloween, look for a witch's cauldron. Put the bowl inside it and have fun!

**SOURCE:** A "five-minute demo" by Rita Perre-Davis, Barstow, CA, at the 1990 ICE Institute Activities Workshop, University of Wisconsin/Madison.

**STANDARDS:**

**BSL:** 1.1, 1.3, 1.5, 1.8, 11.4, 12.1, 12.6

**NCTM:** 4d, 10d

**SCS:** A1, B1, H2, H5

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