

Rome science kids have their heads in the clouds

By **DANIEL P. BADER** **Observer-Dispatch** Posted May 15, 2011 @ 06:06 PM

AVA — Remember “Mr. Wizard”? He was the television scientist who did everyday experiments using things found in the home. Well, a dedicated mom and group of inquisitive neighborhood kids are the real-life equivalent of that old television program, and they are getting some national attention.

The Neighborhood After-School Science Association, a group of youths led by mother of four and surgeon Beth Bulawa, is one of four groups chosen by NASA to conduct one of their homemade experiments this week at the Glenn Research Center in Cleveland, Ohio, as part of the second Balloonsat High-Altitude Flight Competition.

The group of seven students, who range in age from 7 to 15, has spent the last few months at Bulawa’s home on their hydroponics-in-space project, and has designed an experiment that will test how plants react to the conditions of the stratosphere. NASA will take their experiment and load it into a weather balloon destined for the upper atmosphere. “We’re going to send some plants and seeds up and then retrieve them and plant them and see if there’s any change in growth,” Bulawa said.

There’s not a lot of air high up in the atmosphere, so they had to worry about the effects of a vacuum on the plants, so they actually put a few in a vacuum chamber to see what would happen. They also had to figure out how to counteract the cold, so over the winter the kids put plants outside with chemical hand warmers and watched, monitoring temperatures on an indoor/outdoor thermometer. “The kids had to design the experiment and then write up a 10-page questionnaire to try and win the award,” Bulawa said.

Scientists in Ohio will evaluate the team as it runs its experiments, and compare it to four experiments designed by high schools from different parts of the country, and pick an overall winner. Bulawa’s group, NASSA for short, is not affiliated with any school, though all of the kids are Rome school students. In fact, NASSA grew out of Bulawa’s failed search for an after-school science program about two years ago. “There was nothing available that did what I wanted, so I thought I should be doing something at my house,” Bulawa said.

She started doing short experiments with her four girls — MaryAnn, 15, Lilly, 13, Adia, 10 and Jennie, 7 — and thought they’d be more interested if other kids were a part of it. “I found if I had neighborhood kids participate they’d be more excited about it,” Bulawa said.

The trip to Ohio is the latest accomplishment for the team. Last month the group was one of 10 finalists who won a \$1,000 prize for the Students Innovate for a Better America Competition conducted by the National Museum of Education. The challenge was to study the future of energy in America, and the students learned about different forms of renewable energy. They visited a nearby home that uses geothermal energy for heating and captured methane gas from manure and lit a Bunsen burner. “We made a solar oven and the kids got to cook hotdogs in the solar oven,” Bulawa said.

The \$1,000 prize was supposed to go to a school, but NASSA gave its prize to the Children’s Museum in Utica, which sponsored the group. There’s a whole exhibit dedicated to NASSA at the museum. On the fourth floor of the museum is a diorama of a home with installations of wind, solar, geothermal and biofuel sources. On the other side of the aisle is a water filtration device the students created, and a toilet that saves water that the kids modified.

The modern buzz word is STEM, which stands for Science, Technology, Engineering and Mathematics, and is taught in a hands-on fashion. “All of these four fit together; let’s teach them all together,” said museum Executive Director Marlene Brown, a former teacher. “We know kids learn best by doing.”

Every Saturday museum guests perform experiments, and there are a lot of age-appropriate activities that show, instead of tell, about science. “You have to get kids early,” Brown said. “Where we start losing them (to science) is in junior high.”