



# THE ADVENTURES OF MEG A. MOLE FUTURE CHEMIST

## Featured Chemist: Ms. Pamela Helms – The Caldrea Company, Minneapolis, MN

Ms. Helms works at The Caldrea Company in Minneapolis, Minnesota. She mixes chemicals together in beakers to make household cleaning products and hand care products that work great, smell fantastic and look beautiful.

The chemicals that she uses come from all over the United States and all over the world, some are very precious and expensive, some less precious but very effective.

The day that I visited Ms. Helms, she was testing different mixtures of chemicals for use in a new dish detergent mixture.

It is important that the detergents clean well, stay completely mixed, and smell nice. If the wrong ingredient is added, the detergent mixture could change colors, rinse poorly, or start to look cloudy.



Ms. Helms and I mixed several different chemicals to make a new fresh smelling, super cleaning dish detergent.



Ms. Helms and I tested how well our new formula cleaned dishes in the test lab. We also looked at how well the detergent rinsed off the dishes.

One of the ways that Ms. Helms tests the performance of a detergent is to look at the amount of foam that it will make in a graduated cylinder. A graduated cylinder is shaped like a very tall and thin glass with markings on the side called graduations.

In one of our tests, we found a detergent that made a column of bubbles as tall as me!

Ms. Helms also makes detergent mixtures that are used to clean counter tops. She showed me several different tests that she uses to see how well they work, but my favorite was the spray and wipe test. The detergent mixture that we tested cleaned the counter top so well that I could see my own reflection. It also smelled really fresh.



Ms. Helms and I tested several different detergents to see how high they would make suds in a graduated cylinder.



Cleaners have to wipe away cleanly without leaving any residue. This one cleaned so well that I could see my own reflection in the counter.

The oddest project that Ms. Helms ever had to do was to find a product that would keep cat litter boxes from smelling. She had to smell a lot of stinky litter boxes before she found the right mixture.

I really enjoyed my time visiting Ms. Helms. She was very nice, and she has an important job. She helps keep us and our homes clean and healthy.

If you have questions about my visit, you can write to me at [meg@acs.org](mailto:meg@acs.org).

### Personal Profile: Ms. Pamela Helms

What is your favorite food?

Candy Corn

What is your favorite color?

Purple

What month were you born?

June

What are you most proud of?

I am proud of the different products that I have created, especially the hair gel product that was awarded a patent.

What do you like most about your job?

I like the wide variety of things I get to do, and the creativity that is involved to get them done.

What is the best thing about being a scientist?

The thrill of solving problems in a thoughtful, efficient way that helps people.

Describe where you do most of your work.

Mostly, I work in the formulations lab making new mixtures, and in the testing lab where I see how they work.

What were your favorite subjects in school?

English and Social Studies

Were you always interested in science?

Yes, my father was an engineer and his work of creating and fixing things always seemed fun and interesting.

What made you want to go into science?

I love making new things and seeing what they do. Plus I love paying close attention to details, and keeping careful notes. My biggest inspiration was a TV character named Ashley Abbott who had her own cosmetics company.

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