



ST. LOUIS AMERICAN
NEWSPAPER IN
EDUCATION

The St. Louis American's award winning NIE program provides newspapers and resources to more than 8,000 teachers and students each week throughout the school year, at no charge.

STEM
science, technology, engineering, and math

Questions or comments? Contact Cathy Sewell
csewell@stlamerican.com or 314-289-5422

FAMILY SPOTLIGHT

The Stayton family enjoys using the e-edition of The St. Louis American's NIE STEM page to conduct science lessons at home. Sean and Shaniya Stayton are working together to complete an experiment found using the newspaper's STEM series. The activity demonstrates how to use shaving cream and cornstarch to make fake snow. Photo by Carmen Stayton.



Families - If you are using The St. Louis American for home science lessons, call 618-910-9551 to be featured in the Family Spotlight!

SCIENCE STARS

Rozlyn Chambliss

Boeing Materials, Process and Physics Engineer



Rozlyn Chambliss was raised in the historic city of Tuskegee, Alabama. Her love of math and science was sparked at an early age by her parents, and it was enhanced through the many wonderful K-12 educators that tailored that interest. In high school her passion for math, chemistry, and engineering grew further through encouragement from her math and chemistry teachers. And she was honored at graduation as the Salutatorian and Votectorian of her high school class.

Chambliss' interest continued through her participation in the local chapter of the National Society of Black Engineers (NSBE) Jr.-Pre College Initiative, and through engagement in summer enrichment programs. She earned a Bachelor and Master of Science in Chemistry, and Doctor of Philosophy degrees from Tuskegee University. While at the University, she received the opportunity to perform undergraduate research that gave her exposure to Materials Science and Engineering as a doctoral field of study.

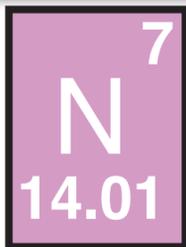
Boeing was the first job that Chambliss held that allowed her to use her PhD material science and engineering degree. At Boeing, involvement, mentoring and outreach show the heart that Chambliss has for the community, and especially for young scientists. At The Boeing Company she earned the Boeing St. Louis Valuing Diversity and Inclusion Influencing Award (2017) for her work as a volunteer at Lexington Elementary School's Engineering Club. She serves as the Professional Development Chair for STL-Boeing Black Employee Association and is a member of the Society of Women Engineers and the National Society of Black Engineering.

In order to motivate and provide exposure to the next generation of STEM leaders, Chambliss eagerly volunteers at opportunities such as mentoring Tuskegee University students and the YES Networking Extravaganza - St. Louis Science Center, Gateway GIS.

SCIENCE CORNER

Nitrogen!

Nitrogen is a colorless, odorless, and tasteless gas under normal conditions. It is a chemical element represented by the letter N on the periodic table. Nitrogen is in all living things, including people and plants. It makes up approximately 78% of the air that we breathe.



fertilizers. Nitrous oxide (also called laughing gas) is used in hospitals and dental offices to help reduce pain; it is also used in canned whipped cream. Finally, nitrous oxide can also be used to increase the power and speed of an automobile.

Learning Standards: I can read non fiction text for main idea and supporting details.

What is the purpose of nitrogen? It is used to keep packaged foods fresh and for making electronic parts. Nitric acid is used in

SCIENCE INVESTIGATION

MAKE LIGHTNING IN YOUR MOUTH!

Background Information:

In this experiment, you'll witness what happens when a positive charge and a negative charge meet—a spark!

Materials Needed:

- Wint O Green or Pep O Mint Lifesavers®
- Dark Room • Mirror

Process:

- 1 Go to a dark room and let your eyes get accustomed to the lighting.
- 2 When your eyes adjust to the darkness, look in the mirror and put a Wint O Green or Pep O Mint Lifesaver® in your mouth.



- 3 Use your teeth to quickly bite the lifesaver into small pieces as you look in the mirror to observe what happens.

Analyze: If performed correctly, you should see a spark that is bluish in color. This is the result of sugars being released from the lifesavers, which carry a positive charge. When these sugars react with the nitrogen in the air, which have a negative charge, a spark results.

Learning Standards: I can follow sequential directions to complete an experiment. I can analyze results.

MATH CONNECTION

THE PROBLEM WITH RATIOS!

Chemists use a variety of math in their day-to-day operations, including probability, measurement, algebra, and ratios. In this activity, you will practice ratios. Ratios are used by chemists when mixing solutions.

Ratios show the relationship of two numbers as a compared quantity. A colon ":" is used to show the relationship. For example, if there is one girl for every two boys in your classroom, the ratio would be listed as 1:2. This number can also be written as a fraction: 1/3 are girls, 2/3 are boys, as a decimal: .33 girls, or a percent: 33% girls. Use this information to answer the following questions.



Out of the past 30 days, five of them have been rainy. Write this comparison as a ratio _____.

Twelve of the 36 cars in the parking lot are red. Write this comparison as a ratio _____.

Out of the past 14 days, seven of them have been snowy. Write this comparison as a ratio _____, write this comparison as a fraction _____, write this number as a decimal _____, and write the number as a percentage _____%.

Learning Standards: I can use addition, subtraction, multiplication, and division to solve mathematic word problems.

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DID YOU KNOW?



Did you know that tooth enamel is the hardest chemical in your body?

Did you know the letter J is the only letter that doesn't appear on the periodic table?

PONDER THESE CHEMISTRY FACTS...

Did you know water expands when it freezes? An ice cube will take up approximately 9% more space than the water that was used.

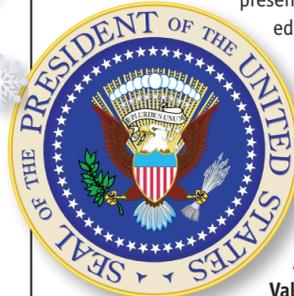
MAP CORNER

Use the newspaper to complete these activities to sharpen your critical thinking skills.



Activity One — Problem and Solution:

As a class, read through the newspaper and make a list of problems and concerns presented in stories, pictures, editorials, etc. Pretend you are the president and you are preparing a State of the Union address. What problems/concerns will you mention in your speech? What are your proposed solutions?



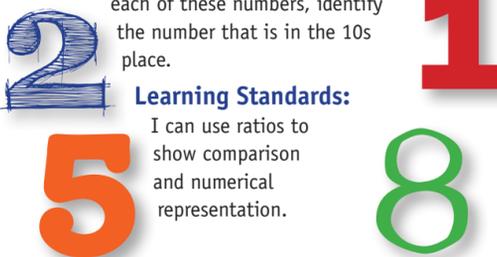
Activity Two — Place Value:

Use the newspaper and select five single-digit numbers.

What is the largest number you can make with those numbers? What is the smallest number? In each of these numbers, identify the number that is in the 10s place.

Learning Standards:

I can use ratios to show comparison and numerical representation.



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