



# 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.

Questions or comments? Contact Cathy Sewell  
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# STEM

science, technology, engineering, and math

## CLASSROOM SPOTLIGHT

**Russell Elementary School 5th grade teacher Georgen Collier** helps students Raymere Jackson, Claire Jones, Ma'Kenzie Gilbert, Miracle Harris, work a science experiment they found on the NIE page of the newspaper.

Photo by Wiley Price / St. Louis American

Teachers, if you are using the St. Louis American's NIE program and would like to nominate your class for a Classroom Spotlight, please email: [nie@stlamerican.com](mailto:nie@stlamerican.com).



## SCIENCE STARS

### African American Analytical Chemist Raychelle Burks



Dr. Raychelle Burks refers to herself as a magical unicorn because women like her are rare. She is an African-American female with a doctorate degree in analytical chemistry. She is very popular in social media circles with a blog (called thirtyseven), YouTube videos, and Twitter @DrRubidium. Her initials, Rb, are the same as rubidium, the 37th element on the periodic table. She uses this connection in her blog title and Twitter handle. Burks' passion is the chemistry of pop culture, specifically zombies, crime shows, and Game of Thrones.

Her interests are more than her hobbies, they are scientifically based. Burks earned her bachelor's degree in chemistry from Northern Iowa University in 2001. Seven years later, she earned her master's degree in Forensic Science from Nebraska Wesleyan University. Burks earned her PhD in Analytical Chemistry from the University of Nebraska in 2011. She completed post-doctoral research at the University of Nebraska's Department of Chemistry. In May 2016, she joined St. Edward's University in Austin, Texas, as an assistant professor. She also assists law enforcement officers to detect explosives.

Burks is often seen at Geek Girl Con; she started the DIYscizone there. She is the co-founder of National Science and Technology News Service, which connects African-American STEM professionals with journalists. Burks is a member of the Curly Hair Mafia, an informal group of African Americans who review horror, sci-fi, and fantasy TV shows and movies. She created an idea for a zombie repellent cologne, which caught the attention of several news outlets. Her idea was featured on Perez Hilton's website, NBC news Weird Science, and Saturday Night Live. Burks is an excellent example of combining your interests and passions with STEM.

The Woman Who Saved the U.S. Space Race (Burks got to highlight the work of Mary Sherman-Morgan, Alice Ball, and Dr. Rachel Lloyd in a video on this website.)

To see some of Burks' sites, visit: <http://thirtyseven.scientopia.org/>, <https://twitter.com/DIYscizone>.

**Learning Standards:**

I can read about an African American who has contributed to the fields of Science, Technology, Engineering, Mathematics.

## SCIENCE CORNER

### What to Include In A Mobile First Aid Kit

Everyone has had an accident—a fall, a bike wreck, etc. There may be times you get hurt and your parents are not with you, so you need to be prepared. For just a few dollars, you can create a kit that you can take with you to be sure you have everything you need.

Start with a small bag. You may have one at home. If not, you can get durable bags at the dollar store. Important things to add: Neosporin to treat wounds, eye droppers can be used not only to get debris from your eyes, but also to flush debris out of a wound. Tweezers are effective in removing splinters or dirt from a wound. A safety pin can be used in different ways and Band-aids are a must have.



It's always important that you keep your cell phone charged if you have one. This will allow you to keep in contact with your parents and emergency officials. Bottled water is also important to keep on hand. To learn more about first aid kits, check out the links below.

The following website gives tips for a first aid kit for home or the car: <http://kidshealth.org/en/parents/firstaid-kit.html>.

For more information, visit: <https://www.ready.gov/kit>.

**Learning Standards:** I can read nonfiction text for main idea and supporting details. I can make text-to-text and text-to-self connections.

## SCIENCE INVESTIGATION

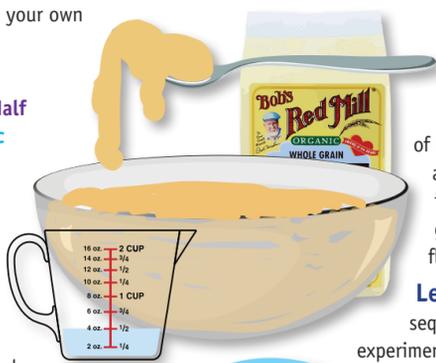
### Make Quicksand

In this experiment, you will make your own quicksand.

**Materials Needed:**  
• 1 Cup of Maize Corn Flour • Half a Cup of Water • A Large Plastic Container • A Spoon

**Process:**

- Mix the corn flour and water in the container.
- To demonstrate the quicksand properties to others, stir slowly, and allow the quicksand to drip from the spoon.



- What happens when you stir the mix quickly?
- Analyze:** When you stir quickly, there is less water between the grains of flour and the mixture becomes thick and hardens. When you stir slowly, it allows water to move between the grains of flour and the mixture is more fluid and moves more slowly.

**Learning Standards:** I can follow sequential directions to complete an experiment. I can analyze results and draw conclusions.

## MATH CONNECTION

In this project, you will work in groups of 3-5 to solve the problems.

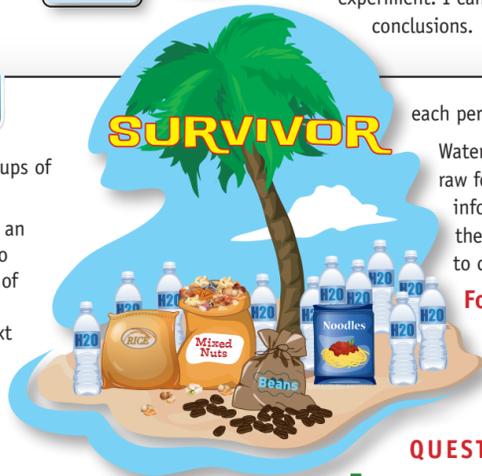
You and your group are stranded on an island, therefore, you have a limit to your food supply. The following list of food items represents all of the raw food and water you have for the next 30 days.

**Food Supplies**

- 7.5 liters of rice
- 7.5 liters of pasta
- 7.5 liters of beans
- 15 liters of mixed seeds
- 100 liters of bottled water

**QUESTIONS**

- What will the daily ration of food and water be for your group?
- If one cup of food/water is equal to two hundred fifty milliliters (250 ml), how many cups of food and water will



each person be issued a day?  
Water is needed to cook most of the raw food in your list. The following information will provide you with the food-water ratio you will need to cook your food:

**Food-Water Ratio Chart**  
(1 cup = 250 ml)

Rice:	( 1 : 2 ratio )
Pasta:	( 1 : 2 ratio )
Beans:	( 1 : 3 ratio )

**QUESTIONS**

- How much water will be needed to cook each raw food item?
- If your group cooked one cup of all three raw food items once a day, how much water would be needed and much water would be left from your daily water supply?

**Learning Standards:** I can add, subtract, multiply and divide to solve a problem.

## DID YOU KNOW?

Social media has changed the way people interact and learn. Listed at the right are Twitter accounts, YouTube, and TED talk links to further your STEM knowledge.

- @SciGirls:** This Twitter feed is from the PBS show, designed to get more women involved in STEM activities.
- @ProjectStepUP:** This Twitter feed is designed to help underrepresented populations in STEM.

In this YouTube video, Mae Jemison talks about minorities in STEM: <https://www.youtube.com/watch?v=rWLn79cS-cw>.

In this TED talk video, they discuss diversity in STEM: <https://www.youtube.com/watch?v=-v8aDo4dV3Q>.



## MAP CORNER

Enjoy these activities that help you get to know your St. Louis American newspaper.

**Activities —**

**Facts:** Find three news articles about facts you studied in school this year. Underline facts you studied in class and underline new facts.

**Restaurants struggle to survive the Pandemic.**

**The Acrostic Put three words On each line Easy if you Make it rhyme**



Stores run out of hand sanitizer.

Weather can be unpredictable.

**Acrostic Poem:** Choose a news article to read. Select one word from the headline and use that word to create an acrostic poem about the article you read.

**Learning Standards:** I can use the newspaper to select information. I can make text-to-self connections.

This special Newspaper In Education initiative is made possible, and delivered to classrooms, through The St. Louis American Foundation and its NIE Corporate Partners:

