The 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

CLASSROOM SPOTLIGHT

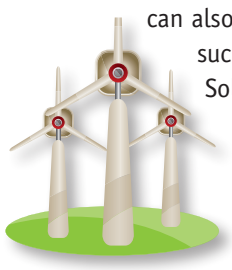
Russell Elementary School 5th grade teacher Georgene Collier shows students Claire Jones, Raymere Jackson, Mikhail Hendricks and Izabella Buncan how to incorporate the newspaper in their science lessons. *Photo by Wiley Price / St. Louis American.*

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.

SCIENCE CORNER

Electricity and Power Plants

Power plants make energy that is sent through miles of electric power cable to the homes, offices, schools, and factories where it is used. Some power plants have large generators that are fueled by steam created by burning fossil fuels, such as coal, gas, or oil. Energy can also be created from renewable resources, such as wind mills and solar power. Solar power is used by capturing light's energy and turning it in to electricity. Many calculators and digital watches have solar cells that allow them to operate using solar power.



To learn more, visit: http://www.eia.gov/kids/.

Teachers: You can request a visit from Ameren's mascots, Louie the Lightning Bug and Sniffy the Sniffasaurus. Visit https://www.ameren.com/company/community to complete the application.

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

SCIENCE INVESTIGATION

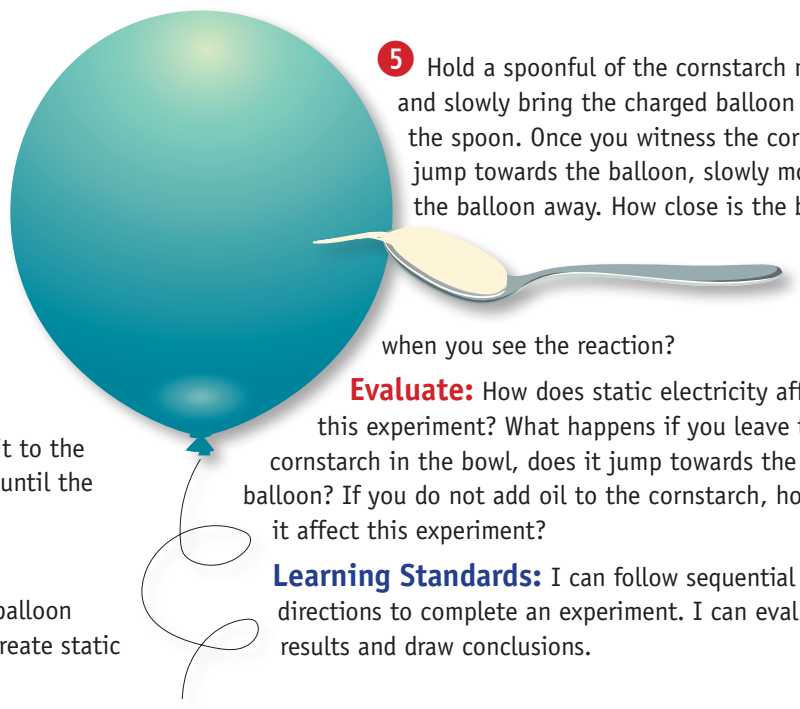
Electrify Cornstarch!

Background Information:
In this experiment, you will see cornstarch appear to jump towards a balloon.

Materials Needed:
• Cornstarch • Vegetable Oil • Mixing Bowl • Large Spoon • Balloon Measuring Cup

Process:

1. Measure ¼ cup of cornstarch and pour it into the mixing bowl.
2. Measure ¼ cup vegetable oil and add it to the cornstarch. Stir the cornstarch and oil until the mixture thickens.
3. Blow up a balloon and tie it closed.
4. Use your hair to statically charge the balloon (rub the balloon against your hair to create static electricity).
5. Hold a spoonful of the cornstarch mixture and slowly bring the charged balloon near the spoon. Once you witness the cornstarch jump towards the balloon, slowly move the balloon away. How close is the balloon when you see the reaction?



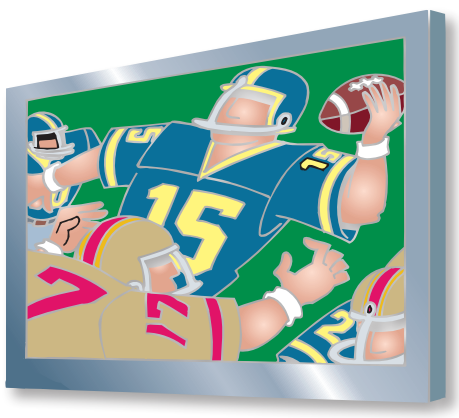
Evaluate: How does static electricity affect this experiment? What happens if you leave the cornstarch in the bowl, does it jump towards the balloon? If you do not add oil to the cornstarch, how does it affect this experiment?

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

MATH CONNECTION

The Cost of Electricity!

The cost of electricity depends on how many watts of electricity the item needs and how long it is used. Use this formula to answer the following questions: wattage x hours used ÷ 1000 x price per kWh (kilowatt hour) = cost of electricity.



1 Your Xbox 360 uses 185 watts of electricity. If you use your Xbox 4 hours per day, and your electricity costs 25 cents per kilowatt hour, how much does it cost to use your Xbox for one day?_____ One week?_____ One month?_____

2 Your microwave oven uses 1440 watts of electricity. If you use your microwave an average of 15 minutes a day, and your cost of electricity is 25 cents per kWh, how much does it cost to use your microwave each day?_____

3 The television in your living room uses 200 watts of electricity. If you use your television 6 hours a day, and your cost of electricity is 25 cents per kWh, how much does it cost to use your television for one week?_____

4 If your furnace uses 6000 watts of electricity, and you use your furnace for 5 hours per day, and the rate of electricity is 25 cents per kWh, how much does it cost to use your furnace for one month?_____

Learning Standards:
I can use addition, subtraction, multiplication, and division to solve a problem.

DID YOU KNOW?

- It's estimated that electricity consumption will increase by 51 percent from 2002 to 2025.
- The Brooklyn Bridge was the first bridge to be lit using electricity.
- A bolt of lightning can measure up to three million volts — and it lasts less than one second.
- Electricity can be made from wind, water, the sun and even animal manure. One power plant can produce enough electricity for 180,000 homes.

SCIENCE STARS

African-American Electrical Engineer Cordell Reed

Cordell Reed was born in Chicago on March 26, 1938. After growing up in the housing projects, Reed went on to earn a bachelor's degree in mechanical engineering, in 1960. He attended University of Illinois, Urbana-Champaign (UIUC), and became the third African American to earn that degree from UIUC. After graduation, Reed went to work for Commonwealth Edison, which is an Illinois electric company and worked his way to an executive position, in 1975.

Reed was very successful at Commonwealth Edison and served as a department manager and a public spokesman for nuclear power. He served in three different departments before he earned the title of senior vice president. In 1994, Reed became their ethics officer and the chief diversity officer. He was in charge of purchasing materials for the company's fossil fuel-fired energy-generating plants. In 1995, he even represented the company on a trade mission to South Africa. He retired in 1997.

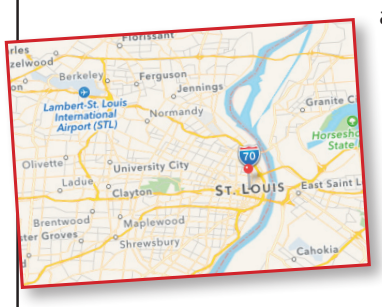
Throughout his career, Reed earned many awards and honors. In 1988, he earned the lifetime achievement award from The Black Engineer of the Year awards. Five years later, he earned the Tommy Thompson Award from the American Nuclear Society. Reed has served on the board of directors for LaSalle bank, the Walgreen Company, Underwriters Laboratories, and Washington Group International. He is a member of the National Academy of Engineering, American Nuclear Society, Tau Beta Pi, the National Technical Association, and the Urban Financial Service Association. Reed has also volunteered his time and expertise for the following: John G. Shedd Aquarium, the Illinois Academic Decathlon Association, Cal-Met Village Senior Citizen Housing, the Development Fund for Black Students and the Metropolitan Family Services Advisory Board.

Learning Standards: I can read a biography about a person who has made contributions in the fields of science, technology, engineering, and math.

MAP CORNER

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

Activity One —
Adding Maps: Maps are very helpful tools and are often found in newspapers. Skim your newspaper and find an article that you think would be improved with the addition of a map. Design a map that you think should accompany the article and present your map to your classmates.



Activity Two —
Ad Critique: Choose 10 advertisements to evaluate for message (what are the ads trying to say) and impact (is the strategy effective). Next, revise three of those ads to appeal to people in a certain age group (teens, senior citizens, etc.)

Learning Standards: I can use the newspaper to locate information. I can create visual representation of information. I can write for a specified purpose and audience.

Content---Jennifer Wirthwein • Design---Beth Sharpe • Updated by---Jonathan Irving

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

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