



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
csewell@stlamerican.com or 314-289-5422

STEM

science, technology, engineering, and math

FAMILY SPOTLIGHT

The Willis family enjoys using the e-edition of The St. Louis American's NIE STEM page to continue their science lessons at home. Pictured are Cory and Chaz Willis.

Photo by Christina Willis



If your family is using the NIE STEM page for science lessons at home, please contact 618-910-9551 to find out how to be featured.

SCIENCE STARS

African American Inventor & Engineer Henry Sampson



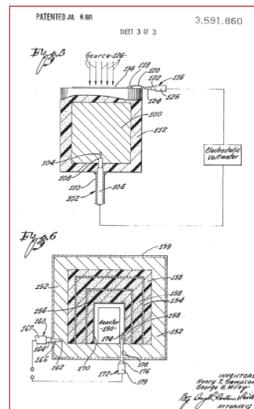
Henry Sampson grew up in Jackson, Mississippi, and attended Lanier High School. When he was just a sophomore, he attended Senior Career Day. It was there that he spoke to a graduate from Purdue University. Sampson later traveled to visit Purdue that summer and was inspired to attend college there. He first attended Morehouse

College for two years before transferring to Purdue. In 1956, he earned his bachelor's degree in chemical engineering. Five years later, he earned his master's degree in engineering from UCLA. In 1967, he became the first African American in the United States to earn his PhD in nuclear engineering.

Sampson worked as a chemical engineer at U.S. Naval Weapons Center. Next, he was a project engineer with the Aerospace Corporation in El Segundo, California. He was later promoted to the Director of Planning and Operations. On July 6, 1971, Sampson received a patent for the gamma electric cell with George Miley. Because of this, many sources mistakenly credit him for inventing the cell phone. Although he did not invent the cell phone, he helped to create and discover technology that is currently used in cell phones. Sampson also holds other patents for rocket fuels.

Sampson has written many reference books, including "Blacks in Black Face: A Source Book on Early Black Musical Shows." In 1982, he received the Aerospace Corporation Black Image Award. In 2009, he was named Purdue University's Outstanding Chemical Engineer. In 2012, he received the Entrepreneur of the Year Award from the Friends of Engineering, Computer Science and Technology, California State University-Los Angeles.

Learning Standards: I can read about an African American who has made strides in the fields of science, technology, engineering, and mathematics. I can make text-to-text connections and text-to-world connections.



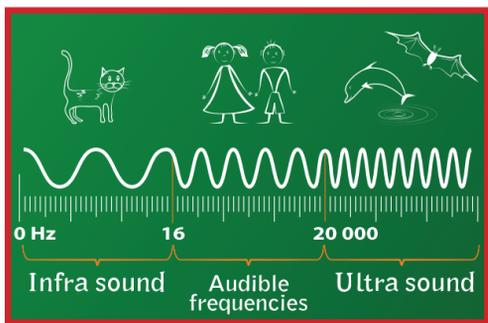
This is the patent drawing for a gamma-electrical cell that converts gamma radiation into electricity without going through a heat cycle. This invention was designed for nuclear reactors, but eventually made cell phones possible.

SCIENCE CORNER

Sound Waves

When something moves, it creates a vibration of energy, which is called sound. The vibration of sound creates movement in the air particles. If those vibrations are fast, you'll hear a high-pitch sound. If the vibrations are slow, you'll hear a low-pitch sound.

The speed of sound is the rate that these vibrations travel through matter. In dry air, speed travels at the rate of 343 meters per second, which is equivalent



to one mile in five seconds. In water, sound travels four times faster.

The loudness of sound is measured in volume, also known as decibels. The louder a sound is, the more decibels it will have. A whisper has around 15-20 decibels, a jet engine has around 150 decibels.

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

SCIENCE INVESTIGATION

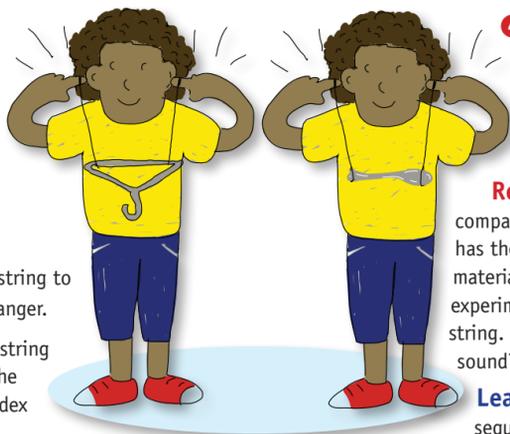
Stereo Hanger

In this experiment, you will observe how sound travels.

- Materials Needed:**
- Metal Coat Hanger
 - String
 - Metal Spoon
 - Table

Procedure:

- 1 Tie the ends of a piece of string to each corner of a metal coat hanger.
- 2 Next, loop one end of the string around one index finger and the other end around the other index finger.
- 3 Put your fingers in your ears and bang the hanger against a table.



- 4 The sound waves from the vibrating hanger travel through the string and into your ear.
- 5 Do the same thing with a metal spoon.

Reflect: How does the sound compare? Which is louder? Which one has the lowest pitch? Try using different materials and see how it affects the experiment. Try using different types of string. Does it affect the vibrations of sound?

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

MATH CONNECTION

MATH GAMES AND APPS

Read about the following math apps you can add to your family's phone. These apps are a great way to reinforce all of the skills you were learning in school.



Math Academy allows you to practice addition, subtraction, multiplication, and division facts. Having a quick memory of these facts gives you a strong, solid foundation for all other math functions.



Motion Math Cupcake app allows you to create your own cupcake creations. You must purchase supplies, set a price that allows for a profit, plan for long range success, and much more.



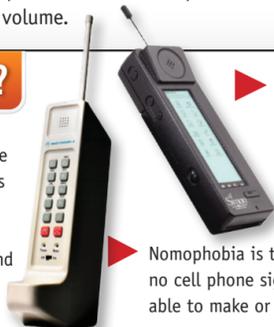
Math Climber is available for Apple and Android devices. It covers 18 topics including addition, subtraction, multiplication and divisions facts with positive and negative numbers, place value, customary measurement, metric measurement, order of operations, fractions, percents, decimals, area, perimeter, and volume.

For more information on recommended math apps, visit: <http://www.parents.com/kids/education/math-and-science/best-math-apps-for-kids/>.

Learning Standards: I can understand the importance of math fluency. I can make text-to-self connections and text-to-world connections.

DID YOU KNOW?

The first handheld cell phone weighed 2.4 pounds and was 9 x 5 x 1.75 inches in size. The new iPhone 11 is 5.94 x 2.98 x 0.33 inches and weighs just 6.8 ounces.



The world's first smartphone made its debut in 1993 at Florida's Wireless World Conference.

Americans send 26 billion text messages every day!

Nomophobia is the fear of having no cell phone signal or not being able to make or receive calls.

MAP CORNER

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

Activities —

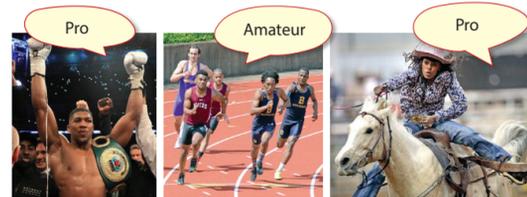
Photo Finish: Find a sports story with a photo. Make a list of all the nouns, pronouns, verbs, adjectives and adverbs in the story.

Professional vs. Amateur Look in the sports section and find 10 athletes (use either photos or names) and identify each as professional or amateur. Then list the characteristics of professional and amateur athletes.

Learning Standards: I can use the newspaper to locate information. I can identify parts of speech and characteristics of professional and amateur.



Noun	Pronoun	Verb	Adjective	Adverb
rodeo	he	riding	black	there
cowboy	both	told	entertainer	then
horse	their	competing	pro	just
clown	its	perform	great	about
star	they	demonstrate	exciting	quite



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

