

THE ST. LOUIS AMERICAN

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The St. Louis American is proud to partner with Normandy School District, the St. Louis Public School District and the Saint Louis Science Center to provide this classroom tool for STEM education for students in 3rd, 4th and 5th grades, with content based on Missouri Learning Standards.

STEM

Weekly Newspaper In Education Program
science, technology, engineering, and math

CLASSROOM SPOTLIGHT

Ms. Williams' 5th Grade Class Pierre Laclède Elem.

5th Grade teacher Felisha Williams works on a STEM project with students Ariell Walker, Partikirchen Wilkins, and Chasity Burrell. The class followed the experiment about "defying gravity," which was in the Nov. 8 edition of the 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: kjones@stlamerican.com



INVENTORS & INVENTIONS

FIRST AFRICAN AMERICAN PH.D. GEOLOGIST— Marguerite T. Williams

Marguerite Thomas Williams was born in 1895. She was very curious about the world around her. She read a lot of books and completed experiments. Williams was a hardworking student who took her studies seriously. Ernest Everett Just, biologist, was her mentor.

In 1923, Williams earned a bachelor's degree in geology (geology is the study of the planet Earth) from Howard University. In 1930, she earned her master's degree from Columbia University. In 1942, Williams earned her doctorate degree in geology from Catholic University. Williams' dissertation was a history of erosion in the Anacostia drainage basin, located in Maryland, just outside of Washington, D.C. Marguerite Williams was the first African American to earn a doctorate in geology.



Map of the Anacostia River Drainage Basin studied by Williams for her geology dissertation.

Williams began her teaching career as an assistant professor at Miner Teacher's College (now part of the University of the District of Columbia) in 1923. She took a brief break to complete her master's degree. In 1942, she was promoted to professor at Miner's and taught geography and social sciences. She also taught night courses at Howard University. In 1955, she retired.

Want to know more?
Read "Swimming Against the Tide: African American Girls and Science Education," by Sandra Hanson.

Students: Summarize the biography of Marguerite Williams. What is the main idea? How many years did Williams teach? How old was Williams when she received each of her degrees?

Learning Standards: I can read nonfiction text to summarize, find main idea, and key details.



The National Association of Black Geologists and Geophysicists (NABGG) was founded in 1981 to further career opportunities for minorities in the field of geosciences. NABGG has given over \$300,000 in scholarships over the past 31 years to promising students. It holds an annual conference to allow members to establish professional relationships and exchange ideas. NABGG belongs to the American Geological Institute (AGI) as well as other related organizations.

Today there is an organization to promote geology opportunities for minorities.

SCIENCE CORNER

Who Wants To Be A Geologist?

Geology is the study of the planet Earth. How did it form? How is it changing? Geologists are the people who study geology. Geologists study rocks, soils, mountains, volcanoes, rivers, oceans, fossils, and solar systems. Their job includes such duties as: exploring for coal, oil, gas, and other materials for energy, creating maps, interpreting aerial (bird's eye view from the sky) photographs, evaluating water supply for pollution, etc.

There are two main types of geology: physical and historical. Whereas physical geologists study rock, soil, and water samples, historical geologists focus on fossils and other artifacts.

Geologists must be skilled at math, computers, and even language arts. They perform a lot of research and prepare reports for others

to read. In order to have a career in geology, you must have a bachelor's degree, although many earn a master's or doctorate degree. Geologists work in environmental consulting companies, government agencies, nonprofit organizations, water management and waste disposal agencies, and land use planning. Geologists can also teach in universities to help students prepare for a career in geology.



Students: What is geology? What do geologists do? Why are geologists important?

Want To Learn More?
Read "Jump into Science: Rocks and Minerals," by Steve Tomecek.

Learning Standards:
I can read a nonfiction article to learn more about careers in science.

SCIENCE EXPERIMENT

BUILD A VOLCANO!

Geologists study volcanoes. Volcanoes are openings in the earth's surface that allow lava and other gases to escape from below the surface. This is called an eruption. Volcano eruptions can be very destructive and can trigger tsunamis, floods, and earthquakes. In this experiment, you will create your own volcano.

Materials Needed:
Baking Soda Paper Towels
Vinegar Container

Process: Pour baking soda to cover the bottom of your container about an inch thick. Next, pour vinegar over the baking soda until you hear a fizzing sound. Watch as the reaction causes the baking soda/vinegar to create



a volcano, erupting over the side of the container. Finally, use the paper towels to clean up the mess.

How Does It Work: The baking soda is a base and the vinegar is an acid. When these two combine, they form a reaction that breaks apart into water and carbon dioxide.

Want To Learn More?
Go to: <http://www.weatherwizkids.com/weather-volcano.htm> and <http://library.thinkquest.org/C0112681/Eng/Normal/Kids/cause.htm>

Learning Standards:
I can follow directions to complete an experiment.
I can observe the reaction of the experiment and draw conclusions based on the result.

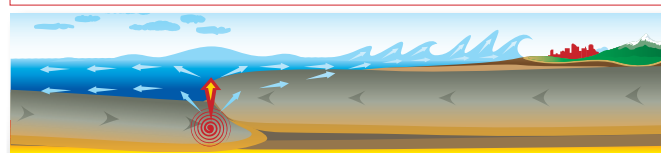
MATH CONNECTION

BY THE NUMBERS

Use this code to answer a question about geology and the formation of volcanoes and earthquakes.

Code:

A=1	E=5	I=9	M=13	Q=17	U=21	Y=25
B=2	F=6	J=10	N=14	R=18	V=22	Z=26
C=3	G=7	K=11	O=15	S=19	W=23	
D=4	H=8	L=12	P=16	T=20	X=24	



Question: The earth is covered with a type of "plate" that covers the outer shell, similar to the way an egg is covered by eggshell. Much like an eggshell, the earth's outer shell can crack and break into plates. What type of "plates" cover the earth's surface?

4x5 30/6 11-8 100/5 3x5 7x2 3x3 27/9

Learning Standards:
I can add, subtract, multiply and divide to solve an equation.



DID YOU KNOW?

Volcanic Eruptions can send ash up to 17 miles above the earth!

- Hot liquid under the earth's surface is magma; it is called lava after it comes out of a volcano.
- The word volcano comes from the Roman god of fire, Vulcan.
- Volcanoes can be found on the ocean floor and even under icecaps.
- The largest known volcano in our solar system is Olympus Mons, located on Mars.



MAP CORNER

Good readers make inferences. Inferences are "educated guesses" which use clues from the text plus your background knowledge to draw conclusions. Making an inference is "reading between the lines." For example, if you are reading a story where the character is pacing quickly and slamming doors, you can make an inference that he is angry. The author will not state this fact directly; the reader will infer it using clues in the story (pacing and door slamming) and his background knowledge (people who are angry usually slam doors). In this activity, you will use the newspaper to practice inferences.

Use the newspaper to find a photograph. Without looking at the caption,



what inference can you make when you look at the photograph? Write your inference and the clues you used to create the inference.

Next, use the newspaper to read a story. What inference did you make while reading the story? What clues did you use?

Remember: Background knowledge + clues in the text=inferences.

Learning Standard: I can use background knowledge and textual clues to make an inference.

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

