STEM

SCIENCE | TECHNOLOGY | ENGINEERING | MATH

This special Newspaper In Education feature is brought to you by the St. Louis American Foundation, the Missouri Press Foundation and this newspaper.

Growing future scientists, technologists, engineers, and mathematicians with the newspaper!

What Is 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. 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, water management and waste disposal agencies, and land use planning.

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. CCS.ELA-Literacy, CCRA.R.2, CCS.ELA-Literacy.CCRA.L.6

Extra! Read All About It!

Good readers make inferences. Inferences are "educated guesses" that 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 slam doors usually are angry).

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.

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

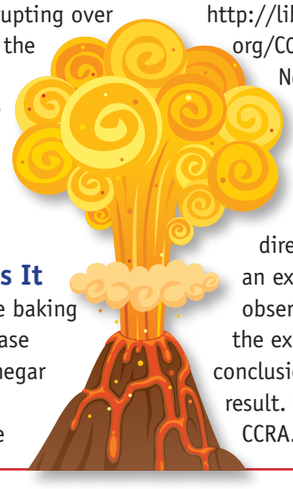
Learning Standards: I can use background knowledge and textual clues to make an inference. CCSS.ELA-Literary.CCRA.W.4, CCS.ELA-LiteracyCCRA.R.2

Become A Mad Scientist!

Geologists study volcanoes. Volcanoes are openings in the earth's surface that allow lava and 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: Cover the bottom of your container about an inch thick with baking soda. 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. CCSS.ELA-Literacy.CCRA.R.1

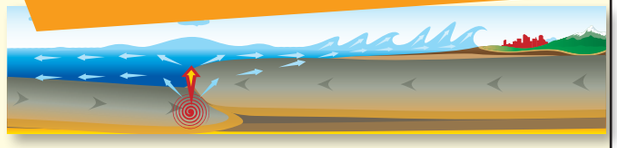
Code:

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

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

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?

Go Figure!



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. CCSS.MathContent.3.OA.A3

Content—Jennifer Wirthwein • Design—Beth Sharpe