

The Daily STEM

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STEM in the News

Did you ever hear the story of Archimedes' heat ray? As the story goes, in about 213 BC, when enemy ships from Rome were attacking the city of Syracuse, Archimedes used mirrors to direct the sun's rays at the ships. When the sun's rays were all focused on the same point, they started a fire and burned the ships.



Whether the story is true, focusing the sun's rays is an idea that works. In 2014, an energy company installed thousands of mirrors on 5 miles of California desert. On sunny days, the mirrors reflect the sunlight at 3 towers filled with water. The water turns to steam, which turns engines to create power. However, after 10 years, it seems the energy company will shut it down. The mirrors are in constant need of repair, and solar panels have become cheaper. Can you think of a better way to create energy? Learn more: bit.ly/4gTsZzR

STEM Challenge

Have you ever seen a stained glass window? They originated in ancient Rome, but became most popular in cathedrals of middle ages Europe. There are many ways to make simple stained glass art of your own. Try gluing pieces of tissue paper to waxed paper. Another technique is to put the tissue paper pieces on the sticky side of clear contact paper. Or be more mathematical and draw lines on graph paper, then color the shapes between the lines. Learn about how stained glass is made

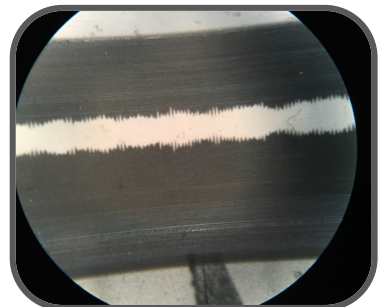
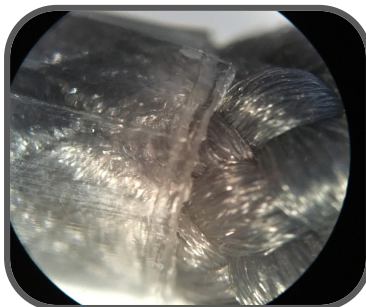


bit.ly/4k8a2wd or how it's repaired bit.ly/41eLE3y

Mystery Photos

Can you identify the mystery items under the Microscope?

Decode the answers using $z=a, y=b, x=c, w=d$:
hslvoz xv, nlmklob nlmvb, nlnrv uron



STEM Career: Wildfire Aeronautics

Did you ever wonder how firefighters can see how big a fire is, especially when its a forest fire? A **Wildfire Aeronautics Researcher** uses technology like drones to help make firefighting easier. When there is too much smoke for planes or helicopters to fly over a fire, a drone can fly and transmit video to help the firefighters make decisions.



And when fires are in hilly areas, drones can act as cell phone towers to increase communication. Wildfire aeronautics also includes flying a variety of planes and helicopters to drop supplies, water, or firefighters into fire zones. Some planes can even drop 8000 gallons of water on a fire! To prepare for a career in wildfire aeronautics, you'll definitely need to study math and science in school. It's also a good idea to learn about computer science and drones. You can also study engineering or aeronautics in college and look for opportunities in your local community to volunteer in firefighting or learn to fly aircraft. If this sounds like a career you'd be interested in, learn more: **watch** bit.ly/41fQQ74, **read** bit.ly/43as6js or **try a drone simulation coding activity from NASA** bit.ly/3QvM6p3

The Puzzle

Suppose you're riding on a train to visit a relative. If the train is traveling at a speed of 1 mile per minute, how long would it take the train to go through a 1 mile long tunnel?

Decode the answers using $z=a, y=b, x=c, w=d$:
gdl nrmfgh