

**VOLCANIC STORM:** Lightning flashed within this Japanese volcano's plume for about 20 seconds.

EARTH: NATURAL DISASTERS

# ELECTRIC ERUPTION!

**W**hen Sakurajima volcano in Japan erupted in February, lightning bolts tore through the dark ash plume. Scientists don't know exactly why this phenomenon occurs, but rare images like this one are helping them figure it out.

Volcanic lightning probably starts when ash, dust, and *magma*—molten rock—collide during an eruption. The friction between these materials causes their atoms to lose or gain

electrons, creating *electric charge*.

While the dust and ash billow upward, the magma, which is denser, falls down. Although these materials are now far apart, their charged particles are attracted to each other. As a result, electricity—lightning—jumps across the gap, says Martin Uman, a scientist at the University of Florida. Sometimes these bolts even shoot straight out of a volcano's mouth!

—Rachelle Burk



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EARTH: ASTRONOMY

# MOON SMASH-UP

**S**cientists have long been puzzled as to why the two sides of the moon look so different. The side facing Earth contains mostly rocky plains, whereas the far side is mountainous. A new theory, dubbed the “Big Splat,” could provide the answer.

About 4 billion years ago, our moon may have had a sister moon that shared the same *orbit*, or path, around Earth, says Erik Asphaug, a planetary scientist at the University of California, Santa Cruz. His computer simulations show that a collision between the moons caused the companion to flatten out and stick to our moon. The crash could have created the different lunar landscapes. “This would mean that part of our moon may actually be made of a smaller moon that went SPLAT,” says Asphaug.

—Rachelle Burk

**LUNAR MAKEOVER:** Did two moons collide to create the moon we see today?

