

# HOMEMADE LAVA

By Andrew Grant



## Jeffrey Karson makes his own lava to study how volcanoes erupt

**T**o see lava firsthand, you could travel to places with some of the world's most active volcanoes, like Hawaii, Indonesia, or Ecuador. Or you could visit Syracuse University in New York. There, far from any volcanoes, geologist Jeffrey Karson creates his own fiery lava.

Lava is rock so hot that it has melted into a liquid. It forms deep

within Earth. While underground, it's known as **magma**. It reaches the surface by erupting from volcanoes.

Volcanoes can be dangerous and unpredictable. That makes it hard to study lava up close. So Karson makes lava by heating rocks in a lab instead. "No one else in the world is doing anything like this," he says.

### Meltdown

To whip up homemade lava, Karson teamed up with Robert Wysocki, a sculptor. Wysocki uses a furnace the size of a big bathtub to melt rock. He slowly feeds in crushed **basalt**, a type of volcanic rock. The tiny rock pieces are heated to about 1,200°C (2,200°F).



Jeffrey Karson



# EXPERIMENTING WITH LAVA

“As the lava cooks, it looks like glowing, orange oatmeal,” says Karson.

After about four hours, the team has a bubbling cauldron of lava. The red-hot rock is now ready to flow. They pour it down a track made from dry sand. The lava oozes down the slope just as it would down the side of an actual volcano.

## Hot Science

Karson makes a new batch of lava once a month. He invites college students, teachers, and children from the area to watch. Kids have thrown objects into the lava to see what happens. They’ve also roasted marshmallows and hot dogs over the sizzling rock. “After the lava cools, you can even take a chunk of it home,” says Karson.

The lava shows aren’t just for fun, though. They’re important for science, too. They allow Karson to study how lava acts as it flows and cools. He can also re-create the many types of lava made by volcanoes. He just has to tweak his lava recipe by using different rocks or adjusting the temperature.

Karson’s lava project could help scientists predict how far and fast lava will flow during a real eruption. That knowledge could be useful when gushing lava puts people’s lives and their property in danger.

Photos: © 1 top: andersen\_oystein/iStockphoto; 1 bottom, 2 all: J. Karson and R. Wysocki/Syracuse University.

TM ® & © Scholastic Inc. All rights reserved. “Homemade Lava” by Andrew Grant from *SuperScience* magazine, September 2013. Copyright © 2013 by Scholastic Inc. Used by permission.



**1** Rocks are melted in a furnace. It takes four hours to turn them into lava.



**2** The lava is poured down different tracks to see how it works.



**3** Children from local schools come to see the lava—and to toast marshmallows.