

Writer's Model

Research Report

This Writer's Model has been formatted according to the standards of the *MLA Handbook for Writers of Research Papers*, Fifth Edition.

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Controlling Lava

Lava is the red-hot, boiling, melted rock that comes out of an erupting volcano. What would you do if a fiery stream of lava—at least 1,300 degrees Fahrenheit—was aimed at your doorstep? You would probably run fast. People have always done that. But lately scientists have been fighting back. They have tried different ways to stop lava flows or turn them.

First, scientists tried bombing a volcano. In 1935, the volcano Mauna Loa erupted in Hawaii. A wide stream of lava was near the city of Hilo and came a mile closer every day. U.S. Army Officer Lt. Colonel George S. Patton planned a daring operation to stop the flow of lava. Planes dropped powerful bombs on the lava flow high up on the side of Mauna Loa. Several days later, the lava stopped, saving the city of Hilo (United States Geological Survey).

Another plan used seawater to cool a lava flow. On the North Atlantic island of Heimaey, in 1973, a volcano erupted. The eruption went on for more than five months. Lava and ash covered almost four hundred buildings and threatened to fill up the city's harbor. Workers used forty-three giant pumps and 19 miles of pipes to dump 8 million cubic yards of seawater on the lava flow. Eventually, the wall of lava cooled from 1,975 degrees Fahrenheit to 212 degrees. The lava changed from a liquid to a solid—and it stopped (Williams 10-17).

Scientists have also changed a lava flow's direction. They have built barriers at a diagonal to the lava flow. In Sicily in 1983, for example, workers built huge walls of volcanic ash and stone. These walls diverted lava from Mount Etna away from an astrophysics observatory and a tourist area (Chester 334). Again, when Mount Etna erupted in 1991, scientists dynamited the lava flow and built another wall. The lava flow turned away and actually stopped flowing just 700 meters from the village of Zefferana Etnea (Fisher 136-142).

Trying to control lava is difficult and dangerous work. Yet as long as people live in the shadows of volcanoes, scientists will look for new ways to control lava. Bombs, seawater, and barriers are the first attempts. Maybe someone like you will think of a better way someday.

Works Cited

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Williams, Richard S., Jr., and James G. Moore. Man Against Volcano: The Eruption on Heimaey, Vestmannaeyjar, Iceland. USGS. General Interest Publication. Denver: USGS, 1983. 27 July 2000 <<http://pubs.usgs.gov/gip/heimaey/heimaey.pdf>>.

Definition

People write **research reports** to find out about subjects they are curious about and share what they learn with others. A good research report is usually about one focused topic and includes information from a variety of sources.

Many research reports use the structure illustrated in the framework below. Print this framework and use it as a guide when you write your own research report.

Framework

Directions and Explanations

Introduction

- Attention-getting beginning
- Main idea statement

Get your readers interested Ask a surprising question, use a quotation, or describe a vivid image.

State your main idea Clearly identify your topic and the major points in your report.



Body

- Heading 1 facts
- Heading 2 facts and so on

Cover each subtopic Each heading in your informal outline represents a subtopic. Use facts and explanations from your research to support each subtopic.

Elaborate on your support Explain each fact and example thoroughly.



Conclusion

- Restatement of main idea

Restate your main idea Find a new way to state your main idea. Then, leave your readers with a final thought. You might ask them an interesting question that your research did not answer, or you could make a final statement about why your topic is important.



List of Sources

- Alphabetized by author

List your sources You should list all of the sources you used for information in a Works Cited list or bibliography. Your teacher may ask you to use a separate page to list your sources.