



Identifying Types of Volcanoes

Lab Preview

Directions: Answer these questions before you begin the Lab.

1. What two components of magma will you investigate in this lab?

2. What properties of magma are related to these components?

You have learned that certain properties of magma are related to the type of eruption and the form of the volcano that will develop. Do this lab to see how to make and use a table that relates the properties of magma to the form of volcano that develops.

Real-World Question

Are the silica and water content of magma related to the form of volcano that develops?

Materials

Table 1 (thirteen selected eruptions)

paper

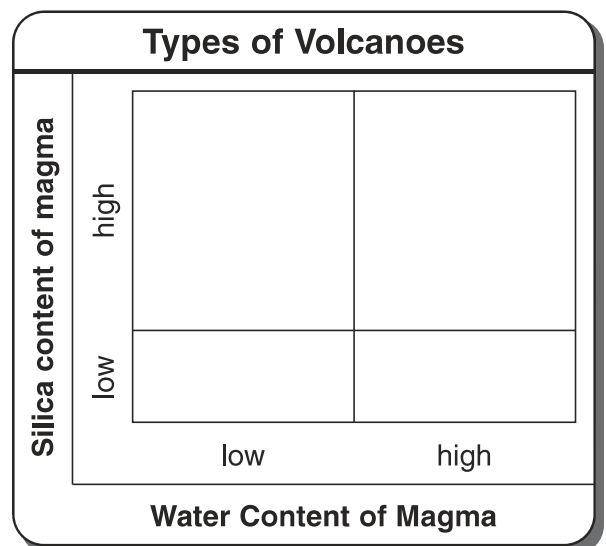
pencil

Goals

- **Determine** any relationship between the ability of magma to flow and eruptive force.
- **Determine** any relationship between magma composition and eruptive force.

Procedure

1. Use the graph shown on this page.
2. Using the information from Table 1, plot the magma content for each of the volcanoes listed by writing the name of the basic type of volcano in the correct spot on the graph.





(continued)

Conclude and Apply

1. What relationship appears to exist between the ability of magma to flow and the eruptive force of the volcano?

2. Which would be more liquidlike: magma that flows easily or magma that flows with difficulty?

3. What relationship appears to exist between the silica or water content of the magma and the nature of the material ejected from the volcano?

4. How is the ability of a magma to flow related to its silica content?

5. **Infer** which of the two variables, silica or water content, appears to have the greater effect on the eruptive force of the volcano.

6. **Describe** the relationship that appears to exist between the silica and water content of the magma and the type of volcano that is produced.

Communicating Your Data

Create a flowchart that shows the relationship between magma composition and the type of volcano formed. **For more help, refer to the Science Skill Handbook.**