

Name _____ **VOLCANIC ERUPTION LAB**
per. _____

INTRODUCTION

Problem/Objective: Can you construct a working model of an explosive volcanic eruption from common household items?

Research: Working with your group, you will construct a model of an explosive volcano using common household objects. Your teacher might choose assign each person in your group a different role to play in your group. Please use the following resources to research how explosive eruptions occur as well as what types of materials you might use to construct your own volcanic eruption:

- <http://www.youtube.com/watch?v=joJbBahgoSY>
- <http://www.scientificamerican.com/article.cfm?id=what-causes-a-volcano-to>
- <http://volcanoes.usgs.gov/hazards/gas/index.php>
- http://vulcan.wr.usgs.gov/Outreach/AboutVolcanoes/how_do_volcanoes_erupt.html
- <http://chemistry.about.com/cs/howtos/ht/buildavolcano.htm>
- http://www.beloit.edu/sepm/Earth_Works/Modeling_a_Volcano.html
- <http://www.stevespanglerscience.com/experiment/volcano-eruptions>
- Volcano!: The Icelandic Eruption of 2010 and Other Hot, Smoky, Fierce, and Fiery Mountains (National Geographic Kids): by Judith Fradin, Dennis Fradin
- Volcano: The Eruption and Healing of Mount St. Helens by Patricia Lauber

Brainstorm:

Now that you've done some research, work with your group to **brainstorm** ideas for creating an original model of an explosive volcanic eruption! **Be sure your group:**

- Is **CLEAR** about what you are creating
- Comes up with **AS MANY IDEAS** as possible
- Does **NOT change, criticize, or comment** on each others' ideas- just get them on paper
- **ENCOURAGES** each member to participate
- **CONTINUES** working until everyone has completely run out of ideas

Our Ideas (use more paper if necessary):

Once you've got your ideas written down, look at them all and do the following:

- Make sure each idea is **CLEARLY STATED** (easy to understand)

- Put similar ideas into categories with each other (example: all ideas that use baking soda)
- Give each idea a rank (#1 is best, #2 is second, etc., etc.)
- Choose the final idea your group wants to work on
- Get Teacher Approval: **Teacher Signature**_____

Materials:

Make a list here of all of the materials your group will need (use more paper if needed):

Hypothesis:

Students should formulate a testable hypothesis, such as “A model of an explosive eruption can be constructed with _____.”

Prediction:

If we _____ **then**
_____ **will happen, Because**

Procedure:

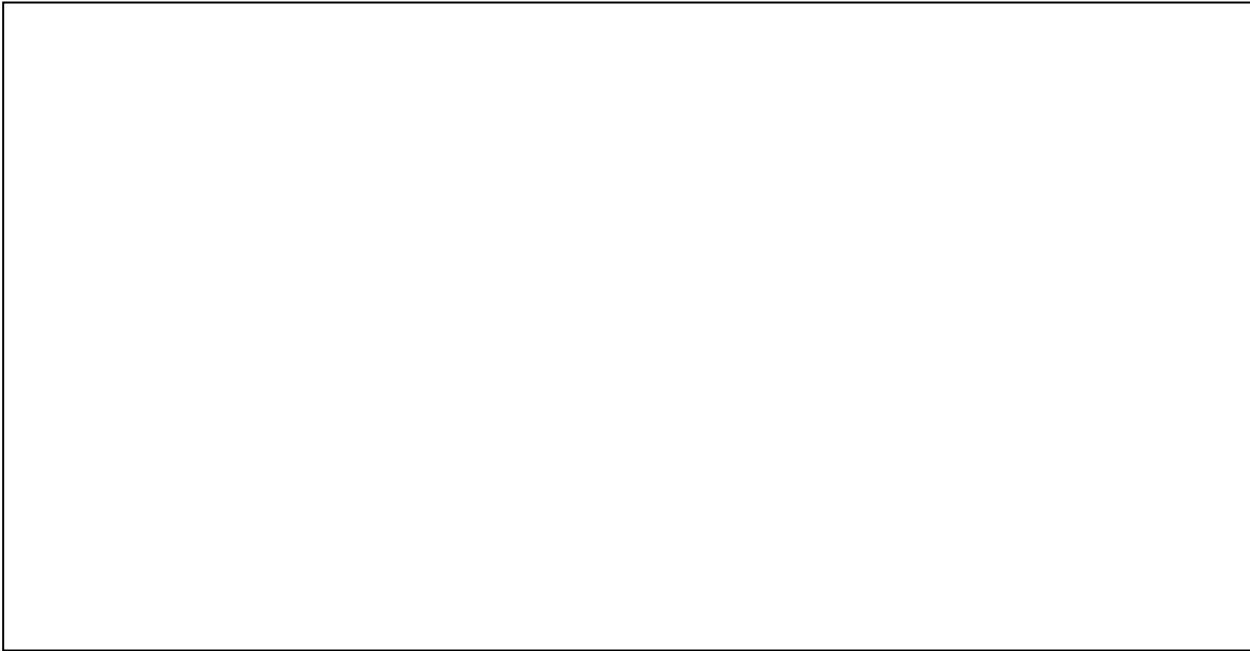
Create a set of procedures (Steps that you will follow) to create your explosive volcano. Remember that your procedures should be **clear and easy to follow**. Get **TEACHER APPROVAL**: _____

Data Collection:

After you have TEACHER APPROVAL, follow your own procedures to set off your explosive volcano!

1. Describe your eruption- what happened when you tried your eruption?

2. Draw and label your model using scientific vocabulary: crater, vent, lava, etc.



3. Explain **what worked best** about your model. **What didn't work?** **What would you change** if you had time to try this lab again?

4. If there's enough time, use your ideas from #3 to make a new volcano and try it again!

Conclusion:

Make a scientific claim: Our model did/did not (circle one) erupt like a real explosive volcano.

Now you need to support the claim you just made with **valid reasoning**. Thei means you must use **evidence** from books, internet sources, etc. Be sure to tell which sources you got your evidence from. Tell why you think those sources are reliable (why we can trust that what they say is true).
