

# Student-based Research Inquiry Project Summary

Student-based Inquiry Projects involve fun classroom research designed to address new National “Science as Inquiry” standards. The following is an overview of the project.

1. As a class, students will select one local volcanic feature on their island to study, then travel to the feature, documenting their trip with notes and artwork. Geologists assigned to each school may be invited to travel to the feature with the students. Airfare for the Geologists will be paid for by the grant. Each school will receive \$1,500 to cover student transportation by bus to the volcanic feature.
2. Before the field trip, students will research the cultural, historical and geologic significance of the feature and write individual one or two-page reports based on their research. Students can determine the feature’s geophysical significance by interviewing Geologists by email, exploring the Internet, and reviewing science journals. Students can interview kūpuna to discover local mo’olelo and cultural aspects of the feature.
3. Each student will need to turn in (a) individual research reports and (b) some kind of artwork (sketches, paintings, maps, video footage, photos, etc.) documenting the field trip.
4. The teacher will then synthesize student research findings into a two-page text document that will be used as the overall Project Summary. This overall Project Summary will be used as the basis for text in a classroom brochure or field guide to the volcanic feature. This text also will be posted on a Program Website highlighting student-based inquiry at all schools involved in Volcanoes Alive. Students on all islands will be able to view the Program Website.
5. The teacher also must look through all the student artwork, and then select specific artwork to accompany their Project Summary text. This artwork also will be used in the brochure or field guide to the volcanic feature, and it will be posted on the Program Website.
6. The Park Ranger or Naturalist assigned to each school can offer advice to the teacher and the class on how to prepare an effective informational field guide or brochure.
7. Finally, teachers will work with local kupuna to host an Annual Community Presentation designed to feature the research results of the student-based inquiry project. At Annual Community Presentations, students will be able to present their individual work as well as their classroom informational field guide or brochure.
8. Every year of the grant, new classes will choose new volcanic features. By grant end, 15 entries (3 per island) will be posted on the Program Website. In Yr 3, the 15 Classroom Field Guides will be bound into the Field Guide Supplement, and become part of the Volcanoes Alive curriculum.

# **\*Sample\* Student-based Inquiry Research Report Ideas**

## **Dear Volcanoes Alive Teacher:**

Each student is required to complete an individual research report related to the topic of your Student-based Inquiry Project. Students with writing difficulties may present an oral report to you or a classroom aide. This report should not be an overview of the entire project. Each student should select one aspect of the project, and research this aspect in magazines, books, on the Internet, and on the Volcanoes Alive CD-ROM. They should also participate in interviews with local Kupuna and Scientist Mentors to learn more about their chosen aspect of the project. Finally, they should write a one to two page research report, or present their findings orally.

Below is as list of suggested student research report topics for the Sample Student-based Inquiry Project regarding Cinder Cone, a volcanic formation in Lassen Volcanic Park, California. You may wish to ask your students to brainstorm a similar list related to the volcanic feature they choose as their topic of inquiry.

## **Classroom Topic of Inquiry: Cinder Cone—A volcanic formation in Lassen Volcanic Park, California**

### **Ideas for Student Research Report Topics:**

How Cinder Cone was Formed

Stories about Cinder Cone (local or distant)

Geologists who Studied Cinder Cone (broad or specific)

Cultural Significance of Cinder Cone

Kupuna Interview

Artwork Depicting Cinder Cone (broad or specific artist)

Scientist Interview

The Age of Cinder Cone

The Geologic Composition of Cinder Cone

Using Tree-ring Measurements to Date Volcanic Eruptions

Using Radiocarbon Dating to Learn about Volcanic Eruptions

The Establishment of Lassen Volcanic National Park

The First Eruption of Cinder Cone

The Latest Eruption of Cinder Cone