

Aerial Geology Lab Part 1: Volcanoes - Cinder Cone, Composite and Shield

Name _____

Volcano Type 1: Go to -> <https://www.google.com/maps/@34.975865,-108.0779757,12z/data=!5m1!1e4> (Opens in 'Map' view.)
Look around. Zoom in and out. Switch to satellite view. Look around. Look to the west of Lost Woman Crater... but put on your hiking boots; this is rough stuff. (Return to the original link above before moving on.)

1. What does this area appear to be? What is all that black stuff? Where did it come from? _____

2. We are in the state of _____ * & a total of 3 / 4-8 / 10-12 / > 20 (CIRCLE ONE) craters are in this area.

3. The latitude is _____° _____ and the longitude is _____° _____

Click me. Zoom (+) to the center twice. Find Lost Woman Crater. (Once you find her, let her use your phone to call home.)

4. This map's contour interval is _____'. The elevation of the top of Lost Woman Crater is _____', the bottom is _____'

Hey! You can measure distance using Google maps by control-clicking. Pretty cool! (You can do other things, too.)

5. The distance between the top & bottom of Lost Woman Crater is _____ feet or _____ miles. (Divide 1st answer by 5280 ft/mi.)

Calculate the gradient by dividing the drop (change in elevation) in feet by the change in distance in miles. (feet/mile)

6. Lost Woman drops _____ feet in _____ miles for a gradient of _____ feet/mile.

7. Measure the diameter of the entire crater, base to base. This crater measures about _____ miles in diameter.

Read briefly about the formations in this area -> http://en.wikipedia.org/wiki/Zuni-Bandera_volcanic_field

8. The soil in this area seems to be missing. What is going on?

9. What does your answer to question 7 suggest about the age of the formations in this area and how long soil takes to form in deserts?

10. Of the three types of volcanoes, Lost Woman seems to be a _____ volcano.

Volcano Type 2: Go to -> <https://www.google.com/maps/@41.4056016,-122.2318016,13z/data=!5m1!1e4>

11. The name of this mountain is _____ and you are in the state of _____

12. The latitude is _____° _____ and the longitude is _____° _____

13. The contour interval is _____', the top is _____', the base is _____' for a drop of _____'. (You can zoom only so far.)

14. The distance between the top & bottom of this volcano is approximately _____ miles. (Use the control click, Luke.)

15. This volcano drops _____ feet in _____ miles for a gradient of _____ feet / mile.



Look to the east and northeast finding those 'toes' that project out from the mountain. Think back to volcanoes.

16. Those 'toes' are probably formed by/from _____

Switch to satellite view and determine where the base of this mountain is on both the west and the east sides.

17. This volcano measures _____ in diameter. (Include the units.)

18. How do the size and gradient of this volcano compare with Lost Woman. Why the differences? (Think of the three volcano types.)

SIZE

GRADIENT

WHY

19. Of the three types of volcanoes, Mt. Shasta seems to be a _____ volcano.

Volcano Type 3: Go to -> <https://www.google.com/maps/@19.8199609,-155.4640628,15z/data=!5m1!1e4>

20. The name of this mountain is _____ and you are in the state of _____

21. The latitude is _____ ° _____ and the longitude is _____ ° _____

22. The contour interval is _____'. The elevation of the top of this one vent is _____'. The base by the ocean at Laupahoehoe far to the NE of this mountain is _____'.

23. This volcano drops _____ feet in _____ miles for a gradient of _____ feet / mile.

Look around. Zoom out. Change views.

24. This one large volcano has about 3 / 4-8 / 10-12 / > 60 (CIRCLE ONE) vents or cinder cones.

25. The part of this volcano **above the water** west-east measures _____ in diameter. (Include the units.)

Switch to satellite view. Zoom out. Put on your goggles. Look under the water.

26. From west to east base, the entire volcano **including the underwater part** is about _____ across. (Include units.)

27. How do the size & gradient compare with Lost Woman & Shasta? Why the differences?

SIZE

GRADIENT

WHY

The next three links are about [Brown's Mt.](#), [Shaw Butte](#), and [Thunderbird Park](#) in the Phoenix area.

28. The basalt from [Brown's Mt.](#) flows to the _____ direction for a distance of _____ miles .

29. Two of the hills at [Shaw Butte Area](#) are volcanic, one isn't. Describe how you can distinguish the difference just from this image.

30. Write any observation or question about the [Thunderbird Park](#) volcanics.

31. Hey, [here is another crater](#). Why isn't there any basalt around this one? What's wrong?

----- WRAP UP -----

32. Look around Arizona Find a cinder cone area. The name of a **cinder cone area in AZ** is _____.

The latitude is _____ (N / S) and the longitude is _____ (E / W).

Wander around to find something interesting. Record your lat & long and write your own geology-related question about this feature.

33. My interesting find is at latitude _____ (N / S) longitude is _____ (E / W).

My question about _____ is...

34 Describe two geologic things you learned or write 2 questions you still have or a combination. This is your lab summary.

A.

B.