Name _____ Date _____ Period _____ 71

INTRODUCTION TO VOLCANOES

Activity1 Volcano Lab

Materials: 1 chocolate kiss, 1 vanilla wafer, 1 chocolate chip, metric ruler
Purpose: To introduce a simple model of the 3 main types of volcanoes
Procedure:

1. Measure the diameter and height of each of your items in millimeters and fill in the table below. The diameter is the distance across the circle of the bottom of each object. (1 centimeter = 10 millimeters)

Data Table:

	Diameter (mm)	Height (mm)
Chocolate Kiss		
Vanilla Wafer		
Chocolate chip		

2. Set your three items side to side below and trace their circumference into the table below.

Chocolate Kiss	Vanilla Wafer	Chocolate Chip

3. Which is the tallest?

4. Which has the largest base (bottom circumference)?

5. Which of these best represents the extinct volcanoes by Diamond Valley and Veyo areas in Washington County, UT?

Activity 2 Types of Volcanoes and Eruptions

Directions – use the amazing textbook of knowledge pages 222 - 228 (red textbook) to research some information about volcanoes and their eruptions.

6. What is a volcano?

7. What type of eruption creates a lava flow? Explain why

8. How did nonexplosive eruptions create some of the largest mountains on Earth?

9. At what speed does hot debris fly out of a volcano during an explosive eruption?

10. How are dust sized particles created during an explosive eruption?

11. Why do volcanoes shrink after an explosive eruption?

12. How will a volcano erupt if it has high water content?

13. Why do silica rich magmas create explosive eruptions?

14. What is the difference between pahoehoe and a'a lava?

15. How are volcanic bombs created?

16. Describe how shield volcanoes are created and the type of eruption.

17. Describe how cinder cone volcanoes are created and the type of eruption.

18. Describe how composite volcanoes are created and the type of eruption.

19. What is another name of a composite volcano?

Activity 3 Volcanoes to Scale

Follow the directions to make a scale model (CCC) of the 3 main types of volcanoes. Use your notes from activity 2 to help correctly show the type of eruption.

20. <u>Composite volcano:</u>

- Using your ruler make a horizontal line across this paper (↔) that is 9.0 centimeters long.
- In the middle of the line measure 2.5 centimeters up (↕) and make a small mark. This represents the maximum height of the composite volcano.
- Composite volcanos are tall, have gentle shallow slopes near the bottom, and steep slopes near the top.
- *Sketch* the sides of volcano using your measurements as a guide. **Color** in the volcano and lava eruption in the way that a composite volcano erupts.

21. <u>Shield Volcano:</u>

- Using your ruler make a horizontal line across this paper (↔) that is 18 centimeters long.
- In the middle of the line measure 0.5 centimeters up (↕) and make a small mark. This represents the maximum height of the shield volcano.
- Shield volcanos have broad, gently sloping cones, and resemble a convex warrior's shield.
- *Sketch* the sides of volcano using your measurements as a guide. **Color** in the volcano and lava eruption in the way that a shield volcano erupts.

22. <u>Cinder Cone Volcano:</u>

- Use a ruler make a horizontal line across this paper (↔) that is 1.5 centimeters long.
- In the middle of the line measure 1.5 centimeters up (↕) and make a small mark. This represents the maximum height of the cinder cone volcano.
- Cinder cone volcanos are small, very steep, typically circular, and they have the shape of a conical hill with straight sides. They have a large bowl-shaped crater at the summit.
- *Sketch* the sides of volcano using your measurements as a guide. **Color** in the volcano and lava eruption in the way that a cinder cone volcano erupts.