Smith's Integrated Science Name: _____

Unit 4: The Geosphere Date: _____ Period: _____

Examining Volcanic Gases

Answer the following questions regarding volcanic gases based on the introductory information in the reading, information presented in the data table, and also background info from your previous notes.

1. Why is it necessary to collect and analyze samples of volcanic gases?

2. Explain 2 different ways in which samples of volcanic gases can be collected.

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3. The introductory reading explains 3 specific times in which detection of gases were related to volcanic eruptions. What happened with gas levels, or how was the data used, in each situation?

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4. Explain the difference between convergent and divergent plate boundaries. Include the difference in terms of what happens to the crust.

5. List all convergent-plate volcanoes from the data table, and their corresponding average temperatures.

6. List all divergent-plate volcanoes from the data table, and their corresponding average temperatures.

7. Which type of plate boundary tends to give rise to the hotter volcanoes?

8. List all convergent-plate volcanoes from the data table, and their corresponding concentrations of CO_2 and SO_2 released.

9. List all divergent-plate volcanoes from the data table, and their corresponding concentrations of CO_2 and SO_2 released.

10. Which type of plate boundary tends to give rise to higher concentrations of released gases?

11. Based on your knowledge of what occurs at these plate boundaries, make an educated guess as to why your answer to questions #7 and #10 are the types of boundaries that they are. (There's not just one right answer to this complicated question. Just be sure to support the answer that you give.)