

ESC 115 Physical Geology

Fall, 2012

Test 2

The first 11 questions refer to the slides we will view together in class. Please use the space provided to answer the questions.

1. (6 pts) Complete the chart shown.

2. (4 pts) Based on the previous chart, Is the rock shown (a) felsic, (b) intermediate, or (c) mafic?

Is it (a) intrusive or (b) extrusive?

(Circle the letter of the answer.)

Where on earth is it most likely to be found?

What is the name of the rock?

Extra credit: Name a national park where it is likely to be found (not Yellowstone.)

3. (4 pts) Based on the previous chart, Is the rock shown (a) felsic, (b) intermediate, or (c) mafic?

Is it (a) intrusive or (b) extrusive?

(Circle the letter of the answer.)

Where on earth is it most likely to be found?

What is the name of the rock that forms from the lava shown?

Extra credit: Name a state where it is likely to be found.

4. (6 pts) What are the three common geologic settings in which volcanoes form?

5. (6 pts) A) Why was the equipment shown originally developed? B) How was it used by Harry Hess? C) What were two of Harry Hess's contributions to plate tectonic theory?

6. (3 pts) Draw and label a figure explaining how the feature shown forms.
7. (4 pts) What is the relationship between the figure shown and the opening of the Gulf of Mexico? How did the opening impact the formation of usable petroleum?
8. (4 pts) What is the relationship between the figure shown and subduction zones? Explain.
9. (7 pts) Which mountain chain formed as shown? What are three other common ways mountains form. Give an example mountain chain for each.
10. (4 pts) How are is Yellowstone like Hawaii in terms of eruptions? How is it different?
11. (6 pts) For each of the three mountain chains circled, tell how they formed.

12. **(8 pts)** What are four types of evidence supporting plate tectonics? Explain briefly each type.
13. **(6 pts)** What are three indicators that show a volcano is soon to erupt?
Extra credit: What is a precursor event for another natural hazard?
14. **(4 pts)** How does the east coast of the U.S. differ from the west coast? How do they both change from south to north?
15. **(6 pts)** Based on the chart in question 1, what type of rock is like to form from an
- (a) eruption at a mid-oceanic spreading center:
 - (b) beneath the volcanic mountains above a subduction zone:
 - (c) eruption at a continental hot spot:
16. **(2 pts)** What is the most common igneous rock at Earth's surface?
17. **(2 pts)** The Earth is 4.6 billion years old. Why hasn't it already cooled off?

18. **(4 pts)** Describe briefly two parts of any of the videos we've seen dealing with this section.
19. **(9 pts)** Give an example of a plate tectonic setting at which each of the following rock types would form. Draw and label a diagram for each.
- (a) igneous:
- (b) sedimentary:
- (c) metamorphic:
20. **(5 pts)** Think of one of the review questions that you prepared for this test that has not been asked. Answer it here.