Unit 3: Divergent Plate Boundaries Class Worksheet

Unit 3: Part 5 Discussion Questions Grading

1. Compare and contrast divergent plate boundaries on land and the ocean floor (slide 10)
   Grading: Students can address this using information in Table 1 (key on slide 10 of Instructor's ppt)
   Discussion/written format Grading:
   3 points: Answers include descriptions of divergent plate boundaries in *both* settings (land and sea) *and* includes similarities *and* differences of each

   2 points: Answers include descriptions of divergent plate boundaries in *both* settings (land and sea) *and* includes *either* similarities *or* differences of each

   1 point: Answers include descriptions of divergent plate boundaries in *either* setting (land *or* sea) and does not discuss similarities and/or differences of each *OR*
   1 point: Answers do not include descriptions of divergent plate boundaries in *either* setting (land *or* sea) but does discuss similarities and/or differences of each

2. Explain how geologists use multiple types of data to characterize geologic activity associated with volcanic eruptions (slide 10)
   Grading: Students can address this using information in Table 2 (key on slide 10 of Instructor's ppt)
   Discussion/written format Grading:
   3 points: Students answers include all three of the following:
   - List two or more types of data
   - Describe how of the data types listed are used to characterize volcanic activity
   - Discuss why multiple data types are useful when used in combination

   2 points: Students answers include two of the following:
   - List two or more types of data
   - Describe how of the data types listed are used to characterize volcanic activity
   - Discuss why multiple data types are useful when used in combination

   1 point: Students include only one of the following:
   - List two or more types of data
   - Describe how of the data types listed are used to characterize volcanic activity
   - Discuss why multiple data types are useful when used in combination

3. What geologic data is most likely to provide geologists the ability to forecast activity at divergent plate boundaries? (slide 11)
   Grading: Students can address this using information in Table 2 (key on slide 10 of Instructor's ppt)
   Discussion/written format Grading:
   3 points: Students answers include all three of the following:
   - Earthquake data represent magma moving towards the surface and occur prior to the eruption
   - Aligned volcanoes (chains) in a region of extensional fractures/divergent plate boundary may be a sign that volcanoes could erupt

The combination of all data types (earthquakes, aligned vents or fractures) is the best way to forecast volcanic activity at a divergent plate boundary

2 points: Students answers include two of the following:

Earthquake data represent magma moving towards the surface and occur prior to the eruption

Aligned volcanoes (chains) in a region of extensional fractures/divergent plate boundary may be a sign that volcanoes could erupt

The combination of all data types (earthquakes, aligned vents or fractures) is the best way to forecast volcanic activity at a divergent plate boundary

1 point: Students answers include one of the following:

Earthquake data represent magma moving towards the surface and occur prior to the eruption

Aligned volcanoes (chains) in a region of extensional fractures/divergent plate boundary may be a sign that volcanoes could erupt

The combination of all data types (earthquakes, aligned vents or fractures) is the best way to forecast volcanic activity at a divergent plate boundary