Name _____ Class _____ Date _____

Chapter 5

Deformation of the Crust

Review

Choose the best response. Write the letter of that choice in the space provided.

_____ **1.** The state of balance between the thickness of the crust and the depth at which it rides on the asthenosphere is called

a. stress. **b.** isostasy. **c.** strain. **d.** shearing.

_____ **2.** The increasing weight of mountains causes the crust to

a. sink. **b.** fold. **c.** rise. **d.** fracture.

_____ **3.** The force that changes the shape and volume of rocks is

a. footwall. **b.** isostasy. **c.** rising. **d.** stress.

_____ **4.** The type of stress that squeezes rock together is

a. compression. **b.** tension. **c.** shearing. **d.** faulting.

_____ **5.** The type of stress that pulls rocks apart, making them thinner, is

a. folding. **b.** compression. **c.** tension. **d.** isostasy.

_____ **6.** Shearing

a. bends, twists, or breaks rocks. **b.** squeezes rock together.
c. causes rock to melt. **d.** pulls rock apart.

_____ **7.** High pressure and high temperature will cause rocks to

a. fracture. **b.** adjust. **c.** plateau. **d.** deform.

_____ **8.** Upcurved folds in rock are called

a. anticlines. **b.** monoclines. **c.** fractures. **d.** synclines.

_____ **9.** Downcurved folds in rock are called

a. fractures. **b.** monoclines. **c.** anticlines. **d.** synclines.

_____ **10.** Folds in which both limbs remain horizontal are called

a. monoclines. **b.** fractures. **c.** synclines. **d.** anticlines.

Chapter 5

Choose the best response. Write the letter of that choice in the space provided.

_____ **11.** When no movement occurs along the sides of a break in a rock structure, the break is called a

a. normal fault. **b.** fracture. **c.** fold. **d.** hanging wall.

_____ **12.** When a fault is not vertical, the rock above the fault plane makes up the

a. tension. **b.** footwall. **c.** hanging wall. **d.** compression.

_____ **13.** A nearly vertical fault in which the rock on either side of the fault plane moves horizontally is called a

a. normal fault. **b.** reverse fault. **c.** strike-slip fault. **d.** thrust fault.

_____ **14.** The largest mountain systems are part of still larger systems called

a. continental margins. **b.** ranges.
c. belts. **d.** synclines.

_____ **15.** Mount St. Helens in Washington State is an example of a

a. folded mountain. **b.** volcanic mountain.
c. fault-block mountain. **d.** dome mountain.

Critical Thinking

Read each question or statement and answer it in the space provided.

1. Suppose glaciers, which are vast fields of slow-moving ice, were to cover much of the earth's surface once again. What would you expect to happen to those parts of the continents that were covered by ice? Explain.

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Chapter 5

Read each question or statement and answer it in the space provided.

2. When the Indian plate collided with the Eurasian plate, producing the Himalaya Mountains, which type of stress most likely occurred? Which type of stress is most likely occurring along the Mid-Atlantic Ridge? Which type of stress would you expect to find along the San Andreas Fault? Use your knowledge of stress and plate tectonics to explain your answers.

3. If the force that is causing a rock to be slightly deformed begins to ease, what might happen to the rock? What would happen if the force causing the deformation became greater?

4. Why do you suppose dome mountains do not become volcanic mountains?

Chapter 5

Application

Read each question or statement and answer it in the space provided.

1. Suppose that a new highway is being planned. This proposed road would intersect a transform boundary. What would happen to the highway if a strike-slip fault existed along the boundary? Why?

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2. A geologist discovers that part of a mountain range along the west coast of the United States contains the fossil remains of animals that do not match any other fossils from North America. What is the most likely explanation for this phenomenon?

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3. Construct a **concept map** that illustrates the relationship between crustal deformation and types of mountains.