**Emery APES: Chapter 14 Exam Version E 7 April 2015**

*May the force be with you.*

**Multiple Choice**: Select the one correct answer for each question. Do not write on this exam.

1. The severity of an earthquake is a measure of its seismic waves, and is called

|  |  |
| --- | --- |
| a. | epicenter |
| b. | focus |
| c. | magnitude |
| d. | ridges |
| e. | Valleys |

1. A common form of extracting gold from rock used in Australia and North America is

|  |  |
| --- | --- |
| a. | power flushing |
| b. | cyanide heap leaching |
| c. | sulfuric acid leaching |
| d. | hydraulic scouring |
| e. | yellow-cake extraction |

1. The *zone* of hot, partly melted rock that flows and can be deformed is called the

|  |  |
| --- | --- |
| a. | crust |
| b. | asthenosphere |
| c. | core |
| d. | magma |
| e. | lithosphere |

1. When an oceanic plate collides with a continental plate the continental plate usually slides up and over the denser oceanic plate, pushing it down into the mantle, a process called

|  |  |
| --- | --- |
| a. | production |
| b. | subduction |
| c. | induction |
| d. | convection |
| e. | trenching |

1. Tectonic plates can move in opposite but parallel directions along a fracture or fault at a boundary called a

|  |  |
| --- | --- |
| a. | divergent plate boundary |
| b. | convergent plate boundary |
| c. | subduction zone |
| d. | mantle fault |
| e. | transform fault |

1. The physical/mechanical, chemical, and biological activities that wear down the Earth (part of the **external** geologic processes driven by energy from the sun) is called…?

|  |  |
| --- | --- |
| a. | decomposition |
| b. | wind erosion |
| c. | weathering |
| d. | water erosion |
| e. | glacial erosion |

1. About 71% of the earth’s crust is considered…?

|  |  |
| --- | --- |
| a. | oceanic crust |
| b. | asthenosphere |
| c. | lithosphere |
| d. | continental crust |
| e. | geosphere |

1. Huge sections of the earth's crust, called \_\_\_\_\_\_\_\_\_\_\_\_\_\_, move slowly on the mantle below them.

|  |  |
| --- | --- |
| a. | asthenosphere |
| b. | mantle |
| c. | tectonic plates |
| d. | core |
| e. | oceanic ridges |

1. Minerals and rocks take a long time to form and are called

|  |  |
| --- | --- |
| a. | unusable resources |
| b. | waste products |
| c. | nonrenewable resources |
| d. | degraded capital |
| e. | renewable resources. |

1. A series of large waves generated in the ocean by an earthquake, landslide, or volcanic activity are called

|  |  |
| --- | --- |
| a. | pipe waves |
| b. | quake waves |
| c. | seismic waves |
| d. | rollers |
| e. | tsunamis |

1. Although often covered by other kinds of rock, which type of rock forms most of the earth's crust?

|  |  |
| --- | --- |
| a. | igneous |
| b. | mineral |
| c. | metamorphic |
| d. | sedimentary |
| e. | organic |

1. The gradual change of rocks from one type to another type is known as

|  |  |
| --- | --- |
| a. | metamorphism |
| b. | the rock cycle |
| c. | petrography |
| d. | consolidation |
| e. | hydrogeology |

1. Which of the following is *not* a type of metallic mineral?

|  |  |
| --- | --- |
| a. | iron |
| b. | lead |
| c. | copper |
| d. | aluminum |
| e. | coal |

1. Which of the following is *not* a part of the life cycle of a metal?

|  |  |
| --- | --- |
| a. | recycling |
| b. | mining |
| c. | using |
| d. | transformation to another element |
| e. | processing  |

1. Waste soil and rock removed during surface mining is called

|  |  |
| --- | --- |
| a. | hazardous waste |
| b. | gangue |
| c. | spoil |
| d. | tailings |
| e. | smelt |

1. The slowest of the earth’s cyclic processes is the

|  |  |
| --- | --- |
| a. | hydrological cycle |
| b. | carbon cycle |
| c. | rock cycle |
| d. | phosphorus cycle |
| e. | nutrient cycle |

1. In the transportation industry, switching to high-strength plastics and composite materials strengthened by lightweight carbon and glass fibers in place of metals, have all of the following advantages, *except*

|  |  |
| --- | --- |
| a. | they serve as the best catalysts available |
| b. | they cost less to produce |
| c. | they involve less pollution by not needing painting |
| d. | they can be molded into virtually any shape |
| e. | they increase fuel efficiency by reducing weight |

1. Which of the following is associated with *surface* mining rather than subsurface mining?

|  |  |
| --- | --- |
| a. | It is more dangerous. |
| b. | It is more expensive. |
| c. | It produces less waste material. |
| d. | It disturbs more land. |
| e. | It causes land subsidence. |

1. Which of the following does mining *not* cause?

|  |  |
| --- | --- |
| a. | forest fires |
| b. | water pollution |
| c. | toxic chemical emissions |
| d. | land subsidence |
| e. | respiratory diseases |

1. If consumers paid the full market cost of mineral extraction and processing, all of the following would occur, *except*

|  |  |
| --- | --- |
| a. | Harmful environmental effects would be reduced. |
| b. | Economies would collapse. |
| c. | Recycling would increase dramatically. |
| d. | Minerals would be replaced with less harmful substitutes. |
| e. | Reuse would increase. |

1. Which of the following is *true* concerning the possible mining of the ocean floor?

|  |  |
| --- | --- |
| a. | Working around deep ocean vents is too dangerous |
| b. | Countries cannot come to an agreement about who owns the minerals. |
| c. | Disturbance of the sea floor may release dangerous chemicals. |
| d. | No one has the ability to mine the deep ocean floor. |
| e. | Giant squid may interfere with the mining. |

1. In 1975, which company began a Pollution Prevention Pays program that saved them well over $1 billion?

|  |  |
| --- | --- |
| a. | DuPont |
| b. | BP |
| c. | IBM |
| d. | 3M |
| e. | Exxon |

1. Some analysts suggest we can increase supplies of some minerals by extracting lower-grade ore. Which of the following is *not* a factor that limits the mining of lower-grade ores?

|  |  |
| --- | --- |
| a. | increased cost of mining and processing the larger volumes of ore |
| b. | increasing shortage of freshwater needed to mine and process ore |
| c. | the lack of new earth-moving equipment and mining techniques |
| d. | more substantial environmental impact of increased land disruption |
| e. | more pollution produced during the mining and processing of ore |

1. The United States, Germany, and Russia, with only 8% of the world's population, consume about \_\_\_\_ of the world's most widely used metals.

|  |  |
| --- | --- |
| a. | 25% |
| b. | 33% |
| c. | 50% |
| d. | 67% |
| e. | 75% |

1. Of the 20 key nonrenewable mineral resources it needs, what percentage does the U.S. import?

|  |  |
| --- | --- |
| a. | 15% |
| b. | 25% |
| c. | 40% |
| d. | 80% |
| e. | 100% |

1. The advantages of using microorganisms for mining include all of the following, *except*

|  |  |
| --- | --- |
| a. | reduced land disturbance |
| b. | reduced air pollution |
| c. | faster removal of the mineral |
| d. | reduced use of hazardous chemicals |
| e. | reduced water pollution |

1. Which of the following is *not* a long-term harm to the environment caused by mining?

|  |  |
| --- | --- |
| a. | scarring and disruption of the land surface |
| b. | large amounts of radioactivity |
| c. | land subsidence/sinkholes |
| d. | large amounts of solid waste |
| e. | toxic chemical releases into the atmosphere |

1. When a resource has been economically depleted, we have the option of doing all of the following, *except*

|  |  |
| --- | --- |
| a. | Use other supplies of the resource |
| b. | Recycle existing supplies. |
| c. | Waste less. |
| d. | Use less. |
| e. | Do without. |

1. Recycling aluminum beverage cans and scrap aluminum produces \_\_\_\_ less air pollution than mining and processing aluminum ore.

|  |  |
| --- | --- |
| a. | 5% |
| b. | 20% |
| c. | 40% |
| d. | 60% |
| e. | 95% |

*Congratulations, you have finished the Chapter 14 exam! Please turn in your answer sheet and exam copy on lab station 7. Did you write Version E on your answer sheet?*