

Part I. Do not write on this booklet; use the answer sheet provided. When a list of choices is given, pick the best of these choices. Note that a choice may be used more than once, or not at all.

Match these with a choice from list at right.

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|---|-----------------------|--------------------------|
| 1. covers about 70% of earth's surface | A. inner core | D. mantle |
| 2. is thickest beneath continents | B. outer core | E. aesthenosphere |
| 3. second layer of earth, going down from surface | C. lithosphere | |

Match these with a choice from list at right.

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|--|----------------------------|
| 4. mineral which contains two or more elements | A. no choice listed |
| 5. ability of a mineral to make a permanent scratch on another mineral | B. compound mineral |
| 6. economically valuable mineral | C. native mineral |
| 7. attractive mineral | D. gem |
| 8. SiO ₂ , found in nature | E. ore |
| 9. mixture of minerals | |
| 10. sulfur and diamond are examples | |

Regarding the properties of minerals,

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| 11. shiny appearance of some minerals | A. hardness |
| 12. tendency of a mineral to break along crystal lines | B. streak |
| 13. ability of a mineral to make a permanent scratch on another mineral | C. lustre |
| 14. color of the scratch of a mineral on a porcelain plate | D. fracture |
| | E. cleavage |

Regarding the wearing down of earth's surface,

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|---|-------------------------------|
| 15. all processes which wear down earth's surface | A. solifluction |
| 16. refers to wearing down in which there is no movement of materials | B. rockslide |
| 17. refers to action of such things as water, carbon dioxide and oxygen | C. gradation |
| 18. a type of slow movement | D. chemical weathering |
| | E. all weathering |

Regarding soils,

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|---------------------------------------|----------------------------|
| 19. good soil contains 65% of this | A. no choice listed |
| 20. another word for organics in soil | B. air |
| 21. a good soil contains 45% of this | D. humus |
| | C. regolith |
| | E. water |

What part of gradation does each process below represent?

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|---|-------------------------------|
| 23. cracking of rocks due to freezing and thawing | A. mass wasting |
| 24. a mudslide | B. physical weathering |
| 25. formation of deltas and alluvial fans | C. chemical weathering |
| | D. erosion |
| | E. none of these |

Match these with a form of rock from list at right.

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|------------------------------|---|-----------------------|-----------------|
| 26. 'regional' or 'contact' | 28. 'foliated' or 'non-foliated' | A. sedimentary | D. magma |
| 27. 'chemical' or 'detrital' | 29. molten rock <u>on</u> earth's surface | B. igneous | E. lava |
| | | C. metamorphic | |

What rock at right does each substance below become?

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|-------------------------------|---------------|---------------------|-------------------------|
| 30. mud, clay | 32. sandstone | A. marble | D. limestone |
| 31. shells, dissolved calcite | 33. limestone | B. shale | E. none of these |
| | | C. quartzite | |

What does each of these describe?

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|--|--------------------|
| 34. a winding ridge of glacially-deposited, sorted rock | A. talus |
| 35. a large crack on the surface of a glacier | B. sill |
| 36. an imaginary line separating two river drainage basins | C. crevasse |
| 37. large boulders that form due to weathering and mass movement | D. divide |
| | E. esker |

What kind of river valley at right has these features?

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|-----------------------------|---|------------------|-----------------------|
| 38. has entrenched meanders | 41. little erosion, mostly deposition | A. young | D. rejuvenated |
| 39. ox-bow lakes, cut-offs | 42. broad, many tributaries, moderate slope | B. mature | E. glaciated |
| 40. U-shaped valley | 43. narrow V-shaped valley | C. old | |

Match the following with a zone from list at right

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|--|------------------------------|------------------------------|
| 44. area in which glacial ice behaves similar to a plastic | 48. an artesian aquifer | A. zone of aeration |
| 45. artesian wells are dug into this layer | 49. crevasses are found here | B. zone of saturation |
| 46. the top 150 or so feet of a glacier | 50. is below the water table | C. zone of fracture |
| 47. is above the water table | | D. zone of flow |
| | | E. none of these |

Match these statements with an erosional agent from the list at right.

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| 51. deposition may be in a flood plain or a delta | 59. erosion is by abrasion or plucking |
| 52. forms blowouts, with desert pavement surface | 60. deposit is till or drift |
| 53. erosion smooths rock, forms potholes | 61. erosion may form sinkholes |
| 54. able to transport largest pieces of rock | 62. only one that <u>does not</u> erode by abrasion |
| 55. solution is only mode of erosion | |
| 56. main erosional agent in the desert | |
| 57. erosion forms hanging valleys, horns | |
| 58. erosion forms alluvial fans and caves | |

- A. running water
- B. ground water
- C. glaciers
- D. wind
- E. none of these

Match these descriptions with a choice from the list at right.

(C = continental, O = oceanic)

- 63. likely source of a coastal mountain chain
- 64. the Hawaiian islands formed as a result of this
- 65. a place where crustal plates slide past one another horizontally
- 66. sea-floor spreading happens at this kind of boundary

- A. O/C convergent boundary
- B. O/O convergent boundary
- C. C/C convergent boundary
- D. divergent boundary
- E. transform boundary

Match these statements with a principle listed at right.

- 67. "Older sedimentary rocks are found below younger ones."
- 68. "The present is the key to the past."
- 69. "Matchable noncontinuous strata represent the same strata."

- A. original continuity of strata
- B. original horizontal orientation
- C. uniformitarianism
- D. superposition
- E. igneous intrusion

Match these with a choice from the list at right.

- 70. an instrument used to measure earthquake intensity
- 71. system of evaluating earthquake intensity
- 72. a tsunami
- 73. the underground source of an earthquake

- A. a seismic sea wave
- B. a tidal wave
- C. Richter scale
- D. a seismograph
- E. none of these

Match these with a choice from the list at right.

- 74. a volcano formed from both lava and pyroclastics
- 75. the least steep kind of volcano
- 76. depression of a collapsed old volcano; Crater Lake is an example
- 77. a volcano formed entirely from lava

- A. shield
- B. cinder cone
- C. composite
- D. crater
- E. caldera

Match these with a choice from the list at right.

- 78. a type of fold in the earth's crust
- 79. a large igneous intrusive formation
- 80. a horizontal igneous intrusive formation
- 81. a crack in earth's crust

- A. fault
- B. dike
- C. sill
- D. batholith
- E. anticline

END OF PART I