Directions: For each of the following questions, decide which of the choices is best and fill in the corresponding space on the answer document.

3.C • 9ERT152

1. Intrusive igneous rocks with large crystal structures form through

   A. sedimentation and compaction.

   B. rapid cooling at Earth's surface.

   C. slow cooling underground.

   D. heat and extreme pressure.

3.C • 9ERT130

2. Gabbro is an igneous rock with large, visible crystals. This description implies that the rock formed when

   A. sediments were compacted and cemented.

   B. pre-existing rock was exposed to heat and pressure.

   C. magma cooled rapidly on Earth's surface.

   D. magma cooled slowly below Earth's surface.

3.C • 9ERT123

3. Sedimentary rocks are formed when sediments are

   A. exposed to heat and pressure.

   B. compacted and cemented.

   C. cooled rapidly within Earth.

   D. cooled slowly within Earth.

3.C • 9ERT124

4. The Sierra Nevada mountain range is mostly composed of granite, a coarse-grained igneous rock. Based on this description, this rock formed when

   A. sediments were compacted and cemented.

   B. pre-existing rock was exposed to heat and pressure.

   C. magma cooled rapidly on Earth's surface.

   D. magma cooled slowly below Earth's surface.

3.C • 9ERT132

5. Which rocks would most likely be found where two continental plates are coming together?

   A. a metamorphic rock with parallel layers of minerals

   B. a sedimentary rock with round pebbles cemented together

   C. an igneous rock with large, visible crystals

   D. an igneous rock with smooth, glassy texture

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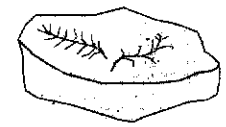
3.C • 9ERT191

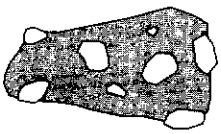
6.



Sample A

Sample B

Sample C



Sample D

Which of these rock samples formed by regional metamorphism?

A. Sample A

B. Sample B

C. Sample C

D. Sample D

3.D • 9ERT133

7. Which scale is used to measure the intensity of an earthquake?

A. magnitude scale

B. Richter scale

C. modified Mercalli scale

D. Mohs hardness scale

3.D • 9ERT200

8. The magnitude of an earthquake is measured using the

A. intensity scale.

B. Mohs hardness scale.

C. spring scale.

D. Richter scale.

3.D • 9ERT056

9. The amount of energy released by an earthquake is measured by units on the _____ scale.

A. Mohs hardness

B. Richter

C. modified Mercalli

D. seismic

4.B • 9ERT108

10. Approximately 6% of incoming solar radiation is

A. reflected by Earth's atmosphere.

B. absorbed by Earth's atmosphere.

C. reflected by Earth's oceans.

D. absorbed by Earth's surface.

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4.B • 9ERT065

11. Most of the incoming solar radiation reflected back into space is reflected from

A. the land surface of Earth.

B. the water surface of Earth.

C. the clouds in the atmosphere.

D. air molecules and dust in the atmosphere.

4.B • 9ERT067

12. Approximately _____ of incoming solar radiation is absorbed by land and water on Earth's surface.

A. 15%

B. 30%

C. 50%

D. 75%

4.B • 9ERT304

13. Some of the incoming solar radiation is used for

A. respiration.

B. outgassing.

C. photosynthesis.

D. fossilization.

4.B • 9ERT289

14. Approximately 50% of incoming solar radiation is

A. reflected by Earth's atmosphere.

B. reflected by Earth's surface.

C. absorbed by Earth's atmosphere.

D. absorbed by Earth's surface.

4.B • 9ERT109

15. The scattering of solar radiation entering Earth's atmosphere causes a decrease in the

A. wavelength of the incoming radiation.

B. frequency of the incoming radiation.

C. total amount of radiation reaching Earth's surface.

D. amount of pollution in the atmosphere.

0455-9ERT-5E

16. In general, what type of climate is found at 30° latitude?

A. cold and wet

B. cold and dry

C. hot and dry

D. hot and wet

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5.E • 9ERT249

17. _____ are found along the equator at 0° latitude.

A. Rain forests
B. Deserts
C. Grasslands
D. Glaciers

5.E • 9ERT234

18. Desert climates are usually found

A. along the equator at 0° latitude.
B. above the equator at about 30° latitude.
C. above the equator at about 60° latitude.
D. at the North Pole at 90° latitude.

7.A • 9ERT261

19. Which processes increase both the amount of carbon (C) and nitrogen (N) in the atmosphere?

A. photosynthesis
B. respiration
C. burning fossil fuels
D. dissolving limestone

7.A • 9ERT084

20. Photosynthesis and respiration are part of the

A. carbon cycle.
B. nitrogen cycle.
C. water cycle.
D. energy cycle.

7.A • 9ERT264

21. In the nitrogen cycle, nitrogen gas (N_2) is returned to the atmosphere through

A. bacterial decomposition of soil.
B. photosynthesis of plants.
C. the greenhouse effect.
D. acid rain.

7.A • 9ERT262

22. How does the process of respiration affect the atmosphere?

A. It increases carbon dioxide (CO_2).
B. It decreases carbon dioxide (CO_2).
C. It increases sulfur dioxide (SO_2).
D. It decreases sulfur dioxide (SO_2).

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7.A • 9ERT263

23. Which rocks plays an important role in the carbon cycle?

A. basalt
B. obsidian
C. sandstone
D. limestone

7.B • 9ERT283

24. Which of these would remove carbon (C) from the atmosphere?

A. plants and shellfish
B. coal-burning factories
C. gasoline-powered cars
D. large groups of animals

7.B • 9ERT284

25. Many marine organisms have shells made out of calcium carbonate ($CaCO_3$). What is the primary source of the material used to make their shells?

A. carbon dioxide dissolved in ocean water
B. carbon monoxide released during respiration
C. erosion of limestone rock
D. photosynthesis of plant material

7.B • 9ERT267

26. The burning of fossil fuels transfers carbon (C) from the

A. atmosphere to the biosphere.
B. biosphere to the atmosphere.
C. atmosphere to the hydrosphere.
D. hydrosphere to the atmosphere.

7.B • 9ERT265

27. In the atmosphere, carbon (C) is usually present in the form of

A. sugar ($C_6H_{12}O_6$).
B. coal (C).
C. carbon dioxide (CO_2).
D. limestone ($CaCO_3$)

7.B • 9ERT331

28. Photosynthesis transfers carbon (C) from the

A. atmosphere to the biosphere.
B. biosphere to the atmosphere.
C. atmosphere to the hydrosphere.
D. hydrosphere to the atmosphere.

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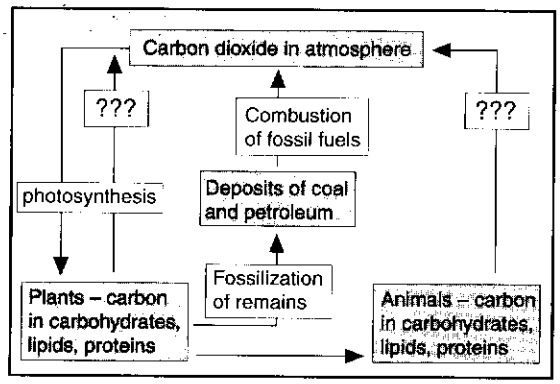
7.B • 9ERT089

29. Name the process that returns carbon dioxide to the atmosphere from plants and animals as modeled in the chart below.



A. cellular respiration

B. condensation

C. photosynthesis

D. denitrification

9.A • 9ERT165

30. The California Gold Rush began in 1849. Where did the gold come from?

A. igneous rock injected into older rocks

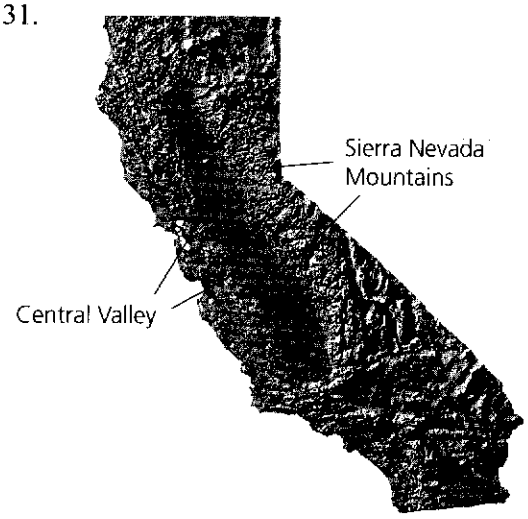
B. chemical reactions in riverbeds

C. radioactive hot spots beneath Earth's crust

D. mineral deposits exposed during earthquakes

9.A • 9ERT100

31.



The fertile farmland soils of California's Central Valley were formed from

A. frequent lava flows.

B. metamorphism of coastal rocks.

C. flows from volcanic eruptions.

D. thick sedimentary deposits.

9.A • 9ERT101

32. In the past, Califonia's fertile Central Valley was a

A. seafloor.

B. desert.

C. mountain range.

D. plateau.

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9.A • 9ERT099

33. Oil reserves in California were formed from

A. release of magma from seafloor spreading.

B. decay of dinosaurs.

C. decay of plant and animal matter.

D. upwelling of petroleum from seafloor spreading.

9.A • 9ERT147

34. What mineral most changed the economic development of California in the 1800s?

A. gold

B. serpentine

C. cinnabar

D. silver

End of test ■