

Metamorphic Rocks Pretest

Name _____

Date _____ Block _____

For Each Item you must put the correct answer along with the page number from which you found the answer in your textbook.

MULTIPLE CHOICE.

- _____ 1. Metamorphism may result from _____.
- A. chemical action
 - B. pressure (stress)
 - C. heat
 - D. any of the above
 - E. only heat and pressure
- _____ 2. Through metamorphic activity _____.
- A. sandstone can change to marble
 - B. limestone can change to quartzite
 - C. granite can change to clay minerals
 - D. granite can change to gneiss
 - E. slate can change to shale
- _____ 3. This dense, nonfoliated metamorphic rock is produced most often from sandstone.
- A. quartzite
 - B. gneiss
 - C. marble
 - D. mica schist
 - E. phyllite
- _____ 4. The metamorphic gradation between slate and schist is _____.
- A. phyllite
 - B. very high
 - C. gneiss
 - D. very low
 - E. none of the above
- _____ 5. This metamorphic rock is particularly prized as a building stone.
- A. phyllite
 - B. gabbro
 - C. gneiss
 - D. marble
 - E. mica schist
- _____ 6. The process of metamorphism involves _____.
- A. mass movement of rock material
 - B. formation of rock from magma
 - C. transformation of pre-existing rock
 - D. decomposition of pre-existing rock
 - E. only Precambrian rocks

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- _____ 7. Many minerals that contain water within their crystalline structures are said to be _____.
A. desiccated
B. hydrated
C. wet
D. hydraulic
E. disassociated
- _____ 8. The agents of metamorphism are _____.
A. foliation and deposition
B. uplifting and folding
C. heat, pressure, and chemical fluids
D. contact and regional deformation
E. slaty and platy cleavage
- _____ 9. Which of the following changes may occur during metamorphism?
A. The rock becomes more compact.
B. Certain minerals may recrystallize.
C. Crystals may grow larger.
D. all of the above
E. both A and B
- _____ 10. Many of the most important metamorphic ore deposits are produced by _____ metamorphism.
A. contact
B. thermal
C. regional
D. all of the above
E. none of the above
- _____ 11. Many metamorphic rocks _____.
A. are unaltered sedimentary rocks
B. have a linear orientation of minerals
C. are extremely fossiliferous
D. all of the above
E. none of the above
- _____ 12. Temperatures within Earth increase with depth at a rate known as the _____ gradient.
A. isostatic
B. metamorphic
C. temperature
D. heat
E. geothermal
- _____ 13. This metamorphic rock is composed of alternating bands of light and dark silicate minerals.
A. mica schist

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- B. quartzite
- C. phyllite
- D. gneiss
- E. marble

- _____ 14. What type of metamorphic rock will shale normally become following low-grade metamorphism?
- A. gneiss
 - B. marble
 - C. mica schist
 - D. slate
 - E. none of the above
- _____ 15. Most of the heat for contact metamorphism is supplied by _____.
- A. a nearby mass of magma
 - B. heat trapped by cap rock
 - C. radioactive elements
 - D. deep burial within Earth
 - E. frictional heating along a fault
- _____ 16. The primary agent of contact metamorphism is _____.
- A. strain
 - B. stress
 - C. sheer
 - D. heat
 - E. folding
- _____ 17. Extensive areas of metamorphic rocks are exposed on every continent in the relatively flat regions known as _____.
- A. shields
 - B. plains
 - C. trenches
 - D. cores
 - E. interiors
- _____ 18. When certain minerals recrystallize with a preferred orientation that is perpendicular to the direction of the compressional force, the rock is said to exhibit _____.
- A. aureole
 - B. foliation
 - C. shear
 - D. all of the above
 - E. none of the above
- _____ 19. The common rock produced by the metamorphism of limestone is _____.
- A. gneiss
 - B. phyllite

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- C. hornfels
- D. marble
- E. mica schist

- _____ 20. Most often the directional stresses that occur during mountain building are _____ forces.
- A. expansional
 - B. magnetic
 - C. compressional
 - D. extensional
 - E. none of the above

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 21) The property whereby a rock splits easily along layers of mica grains into rather flat sheets is referred to as _____ cleavage, or slaty cleavage.
- 22) When large igneous masses are involved in contact metamorphism, _____ solutions that originate within the magma can migrate great distances and alter the surrounding rock.
- 23) Rocks that fall into a category somewhere between "true" igneous rocks and "true" metamorphic rocks are referred to as _____.
- 24) The zone of alteration surrounding an emplaced magma is called a(n) _____.
- 25) Metamorphism that occurs because of close proximity to a mass of magma is called _____ metamorphism.
- 26) List three agents of metamorphism.
- 27) In high-temperature, high-pressure environments, slate will turn into _____ and then into _____ schist.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- _____ 28. Metamorphism can affect only sedimentary rocks.
- _____ 29. Marble has a texture similar to that of a coarse-grained igneous rock.
- _____ 30. Red slate gets its color from carbonaceous material.
- _____ 31. During metamorphism the material undergoing deformation remains a solid.
- _____ 32. The term *schist* describes the texture of a rock regardless of composition.
- _____ 33. Sphalerite and galena are important metallic minerals associated with contact metamorphism.
- _____ 34. The largest quantity of metamorphic rock is produced by contact metamorphism.

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_____ 35. Slate is associated with high-grade metamorphism.

_____ 36. In some environments, new minerals may form during the metamorphic process.

_____ 37. Metamorphism is commonly associated with mountain building.

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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) D

2) D

3) A

4) A

5) D

6) C

7) B

8) C

9) D

10) A

11) B

12) E

13) D

14) D

15) A

16) D

17) A

18) B

19) D

20) C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

21) rock

22) hydrothermal

23) migmatites

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24) aureole

25) contact

26) heat, pressure (stress), chemical fluids

27) phyllite, mica

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

28) FALSE

29) TRUE

30) FALSE

31) TRUE

32) TRUE

33) TRUE

34) FALSE

35) FALSE

36) TRUE

37) TRUE