

Metamorphic Rock Worksheet

Determine whether each of the following statements is true or false. Circle the word "true" or "false." If the sentence is false, rewrite it so that it is true.

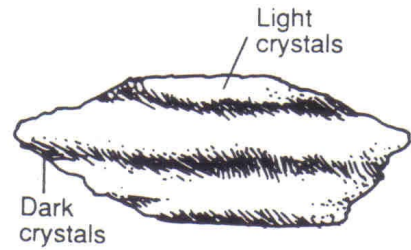
- | | | |
|---|---|---|
| A | B | 1. Metamorphic rocks are rocks that have been changed by <u>temperature and pressure</u> . |
| A | B | 2. <u>Nonfoliated</u> rock will separate easily into layers. |
| A | B | 3. Pressure <u>does not</u> play a role in the formation of metamorphic rocks. |
| A | B | 4. A <u>metamorphic</u> rock with a foliated texture has bands of minerals. |
| A | B | 5. Metamorphic rocks <u>can be</u> formed from changes in igneous, sedimentary, or other metamorphic rocks. |
| A | B | 6. Sandstone is a <u>metamorphic</u> rock. |
| A | B | 7. A metamorphic rock with no banding is <u>nonfoliated</u> . |
| A | B | 8. The mineral grains in <u>metamorphic</u> rocks may be flattened. |
| A | B | 9. Most <u>metamorphic</u> rock forms near the earth's surface. |
| A | B | 10. Metamorphism can change the mineral <u>composition</u> of rock. |
| A | B | 11. Most metamorphic rock is formed by <u>tectonic activity</u> . |
| A | B | 12. <u>Metamorphism</u> results from heat, pressure, and chemical processes. |
| A | B | 13. Metamorphism can create a <u>hard and durable</u> rock from a softer sedimentary rock. |

Metamorphic Rock Worksheet

Complete each statement by writing the correct term or phrase in the space provided.

14. Quartzite is produced by the metamorphism of?
 a. GRANITE
 b. LIMESTONE
 c. BITUMINOUS
 d. SANDSTONE
15. The type of metamorphism that results from the heat of magma is called which one?
 a. CONTACT
 b. REGIONAL
 c. HYDROTHERMAL
 d. CATACLASTIC

16. The appearance of the metamorphic rock in the diagram to the right, indicates that it should be classified as which one:



- a. INTRUSIVE
 b. EXTRUSIVE
 c. DETRITAL
 d. NONFOLIATED
 e. FOLIATED

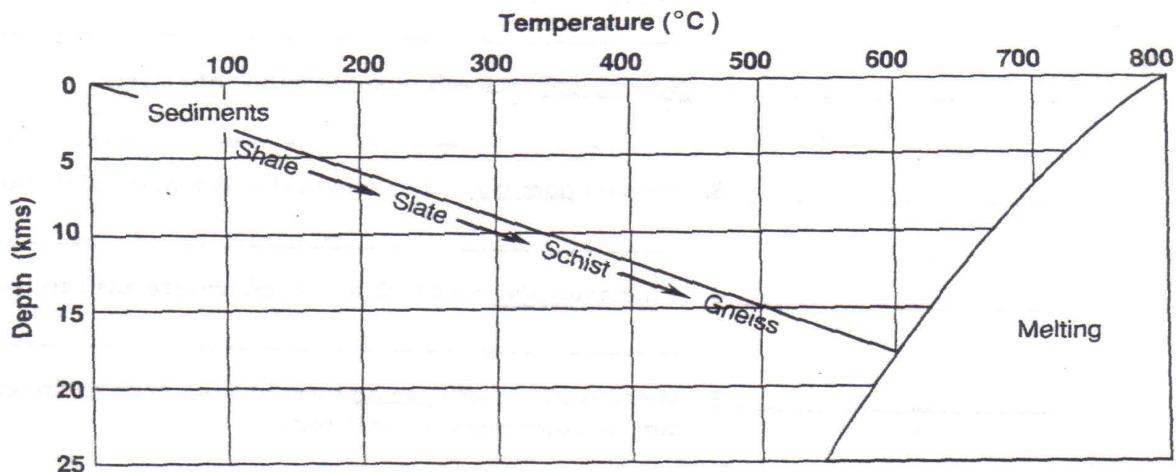
17. Slate is formed when great pressure acts on the sedimentary rock called?
 a. SANDSTONE
 b. SILTSTONE
 c. SHALE
 d. GRANITE
18. Metamorphism that occurs over large areas is called which one?
 a. CONTACT
 b. REGIONAL
 c. HYDROTHERMAL
 d. CATACLASTIC

Complete the chart by SELECTING the BEST metamorphic rock that the Protolith changes into:

TYPE of ROCK	<i>Can change into</i>	METAMORPHIC ROCK		
<i>Sedimentary Rx</i>				
19. Shale	—————→	a. Schist	b. Gneiss	c. Quartzite
20. Sandstone	—————→	a. Schist	b. Gneiss	c. Quartzite
<i>Igneous Rx</i>				
21. Basalt	—————→	a. Schist	b. Gneiss	c. Quartzite
22. Granite	—————→	a. Schist	b. Gneiss	c. Quartzite
<i>Metamorphic Rx</i>				
23. Slate	—————→	a. Schist	b. Gneiss	c. Quartzite

Metamorphic Rock Worksheet

Use the graph to answer question about the formation of metamorphic rocks



24. What is the relationship between rock temperature and depth beneath the surface?
 - a. Temperature INCREASES with DEPTH
 - b. Temperature DECREASES with DEPTH
 - c. Temperature REMAINS THE SAME with DEPTH

25. At a depth of 10 kilometers, what would the starting temperature be for metamorphism?
 - a. 3°C
 - b. 300°C
 - c. 325°C
 - d. 400°C

26. Which metamorphic rock shown forms at the highest temperature?
 - a. SHALE
 - b. SLATE
 - c. SCHIST
 - d. GNEISS

27. How many kilometers beneath the surface does gneiss occur?
 - a. 5Km
 - b. 10Km
 - c. 15Km
 - d. 500Km

28. As depth increases, what happens to the temperature at which rock melts?
 - a. Temperature INCREASES which rock melts
 - b. Temperature DECREASES which rock melts
 - c. Temperature REMAINS THE SAME which rock melts

29. Suppose you knew that a certain metamorphic rock begins to form at about 300°C. How many kilometers beneath the surface might this rock temperature occur?
 - a. 5Km
 - b. 8Km
 - c. 10Km
 - d. 300Km

30. How far beneath the surface does shale metamorphose to slate?
 - a. 5Km
 - b. 7.2Km
 - c. 8.4Km
 - d. 500Km