

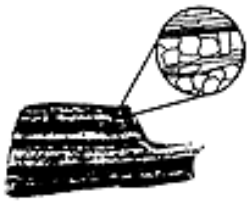
RM7 JRQ

Name _____

1. Which sedimentary rock is most likely to be changed to slate during regional metamorphism?

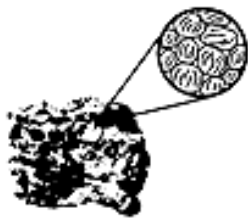
1. breccia
2. conglomerate
3. dolostone
4. shale

2. Base your answer on the pictures of four rocks shown. Magnified views of the rocks are shown in the circles. Which rock is metamorphic and shows evidence of foliation?



Rock 1

Bands of coarse
intergrown crystals
of various sizes



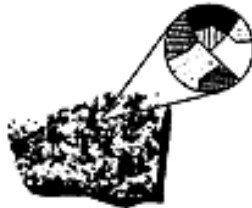
Rock 2

Particles of
0.01-cm to 1.0-cm size
cemented together



Rock 3

Intergrown crystals
less than 0.1 cm in size



Rock 4

Intergrown crystals,
mostly 2.0 cm in size

3. Which sequence of change in rock type occurs as shale is subjected to increasing heat and pressure?

- (1) shale → schist → phyllite → slate → gneiss
- (2) shale → slate → phyllite → schist → gneiss
- (3) shale → gneiss → phyllite → slate → schist
- (4) shale → gneiss → phyllite → schist → slate

4. Base your answer on the "Properties of Common Minerals" chart in the Earth Science Reference Tables.

Minerals from this chart are found in several different rocks. Which two rocks are primarily composed of a mineral that bubbles with acid?

- | | |
|--------------------------|----------------------------|
| 1. limestone and marble | 3. sandstone and quartzite |
| 2. granite and dolostone | 4. slate and conglomerate |

5. Which rock is foliated, shows mineral alignment but not banding, and contains medium-sized grains of quartz and pyroxene?

- | | |
|-------------|--------------|
| 1. phyllite | 3. gneiss |
| 2. schist | 4. quartzite |

6. During the intrusion of the Palisades Sill, contact metamorphism changed sandstone and shale into

- | | |
|------------|--------------|
| 1. diorite | 3. limestone |
| 2. marble | 4. hornfels |

7. Which nonfoliated rock forms only in a zone of contact metamorphism?

- | | |
|-----------------|--------------|
| 1. conglomerate | 3. pegmatite |
| 2. hornfels | 4. quartzite |

8. During the Permian Period, sedimentary bedrock in the Appalachian Region was subjected to high temperature and pressure. Calcite deposits that had existed in this environment would most likely have formed

- | | |
|-----------|-----------|
| 1. schist | 3. marble |
| 2. gabbro | 4. gneiss |

9. The rock shown has a foliated texture and contains the minerals amphibole, quartz, and feldspar arranged in coarse-grained bands.

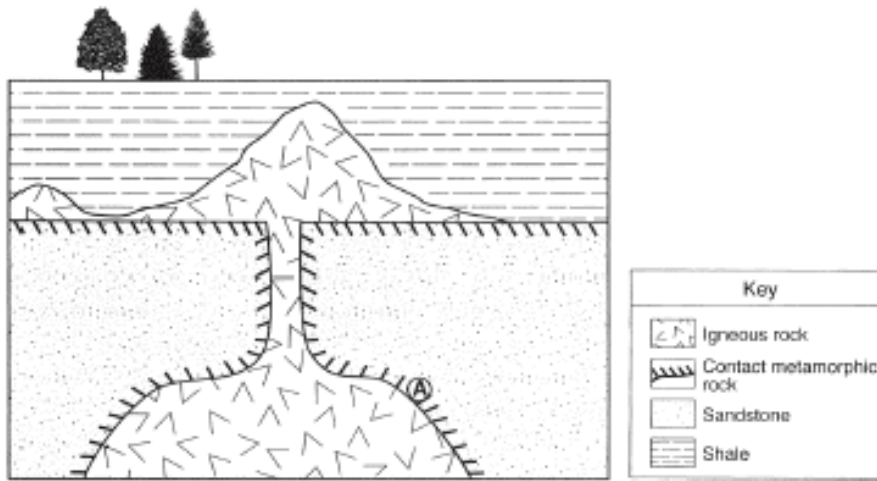
Which rock is shown?



1. slate
2. dunite
3. gneiss
4. quartzite

10. Base your answer on the accompanying geologic cross section. Location A is within the metamorphic rock.

The metamorphic rock at location A is most likely



1. marble
2. quartzite
3. phyllite
4. slate

11. Which two kinds of adjoining bedrock would most likely have a zone of contact metamorphism between them?

1. shale and conglomerate
2. shale and sandstone
3. limestone and sandstone
4. limestone and granite

12. Wavy bands of light and dark minerals visible in gneiss bedrock probably formed from the

1. cementing together of individual mineral grains
2. cooling and crystallization of magma
3. evaporation of an ancient ocean
4. heat and pressure during metamorphism