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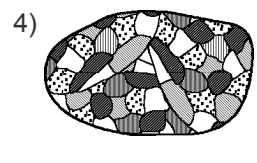
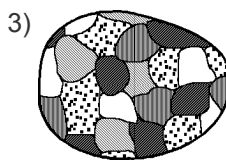
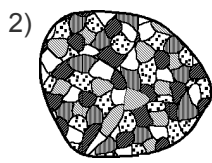
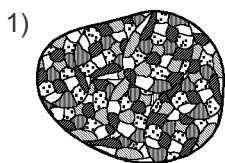
Minerals and Rocks

Earth Science

Minerals and Rocks Practice Test

Note: For each statement or question, choose the word or expression that best completes the statement or answers the question. Some questions may require the use of the 2011 Earth Science Reference Tables.

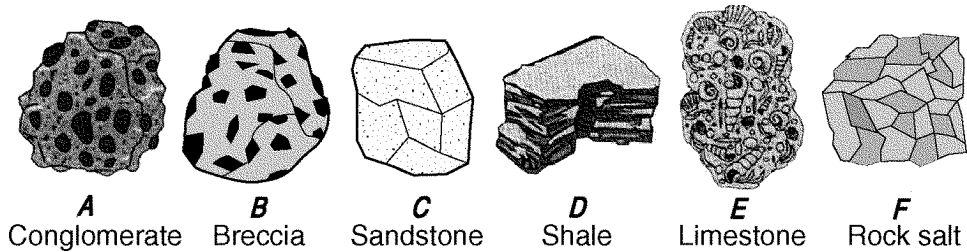
- 1) The physical properties of a mineral sample are most closely related to the
- 1) age of the mineral sample 3) temperature of the mineral sample
2) size of the mineral sample 4) arrangement of the mineral's atoms
- 2) One of the most abundant minerals in beach sand is quartz. Which property of quartz could account for its abundance?
- 1) color 2) hardness 3) texture 4) luster
- 3) Which is an accurate statement about rocks?
- 1) Most rocks have several minerals in common.
2) Rocks are located only in continental areas of the Earth.
3) Rocks seldom undergo change.
4) Most rocks contain fossils.
- 4) Igneous, sedimentary, and metamorphic rocks are usually composed of
- 1) fossils 2) minerals 3) intergrown crystals 4) sediments
- 5) According to the *Earth Science Reference Tables*, particles of which size could have formed shale?
- 1) 0.02 cm 2) 0.002 cm 3) 0.0002 cm 4) 0.2 cm
- 6) Which type of rock is likely to show ripple marks and fossils?
- 1) extrusive igneous 2) metamorphic 3) intrusive igneous 4) sedimentary
- 7) Which rock has never melted, but was produced by great heat and pressure, which distorted and rearranged its minerals?
- 1) metaconglomerate 2) siltstone 3) breccia 4) pegmatite
- 8) Which feature is characteristic of sedimentary rocks?
- 1) distorted structure 2) foliation 3) layering 4) glassy texture
- 9) According to the *Earth Science Reference Tables*, which sedimentary rock formed from the compaction and cementation of fragments of the skeletons and shells of sea organisms?
- 1) conglomerate 2) limestone 3) shale 4) gypsum
- 10) Which property is common to most dark-colored igneous rocks?
- 1) coarse-grained texture 2) high density 3) intrusive formation 4) abundant felsic minerals
- 11) Which granite sample most likely formed from magma that cooled and solidified at the *slowest* rate?



- 12) Scratching a mineral against a glass plate is a method used for determining the mineral's
- 1) cleavage 2) color 3) luster 4) hardness
- 13) Which mineral is commonly used as the "lead" in pencils?
- 1) pyrite 2) galena 3) graphite 4) fluorite
- 14) Which mineral is commonly mined as a source of the element lead (Pb)?
- 1) quartz 2) magnetite 3) gypsum 4) galena
- 15) Part of a gemstone's value is based on the way the gemstone shines in reflected light. The way a mineral reflects light is described as the mineral's
- 1) luster 2) streak 3) hardness 4) fracture

Questions 16 through 18 refer to the following:

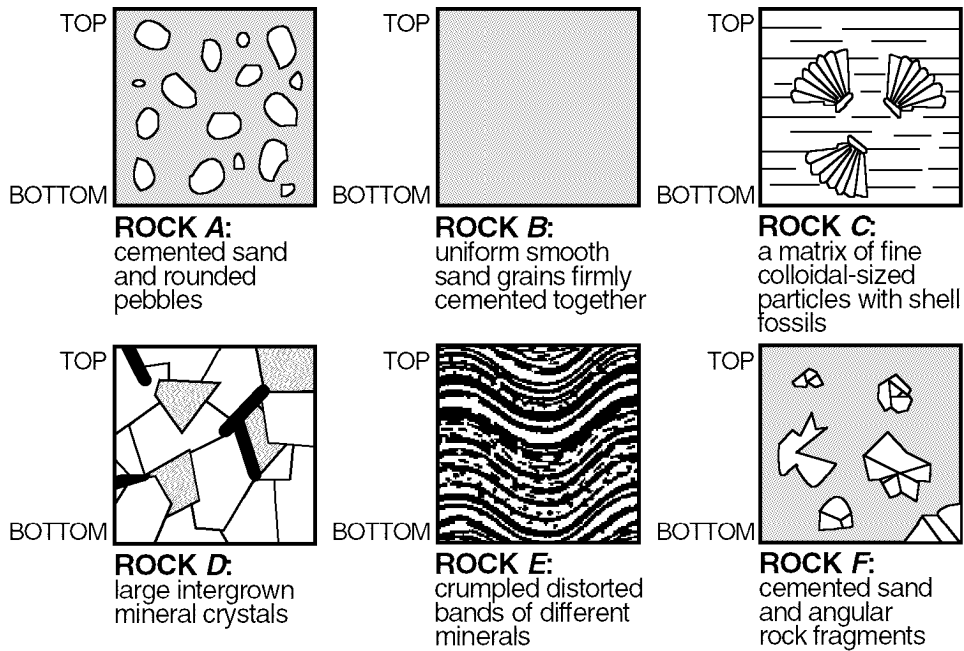
Drawings of six sedimentary rocks labeled *A* through *F* are shown below.



- 16) Most of the rocks shown in the drawings were formed by
- 1) compaction and/or cementation 3) heat and pressure
 2) volcanic eruptions and crystallization 4) melting and/or solidification
- 17) Which two rocks shown in the drawings are composed primarily of quartz, feldspar, and clay minerals?
- 1) rock salt and breccia 3) sandstone and shale
 2) rock salt and conglomerate 4) sandstone and limestone
- 18) Which rock was organically formed and sometimes contains fossilized plant impressions?
- 1) rock gypsum 2) phyllite 3) coal 4) breccia

Questions 19 through 22 refer to the following:

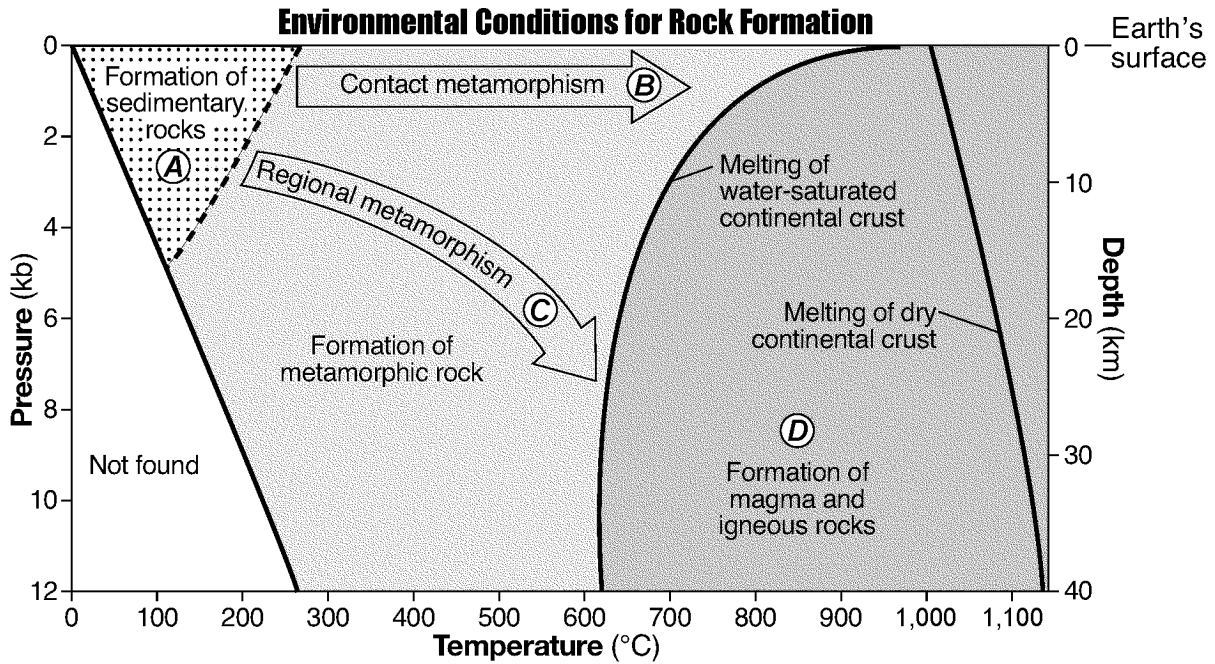
The diagrams below represent six different rock types.



- 19) Which rock consists of sediments with an average diameter of 0.01 centimeter?
1) *A* 2) *B* 3) *C* 4) *D*
- 20) Analysis of rock *D* shows that it is composed of the minerals quartz, feldspar, hornblende, and biotite mica. Rock *D* is probably
1) basalt 2) gabbro 3) rhyolite 4) granite
- 21) Which processes most likely formed rock *F*?
1) heating and application of pressure 3) faulting and volcanic activity
2) melting and solidification 4) burial and cementation
- 22) Which rock was probably formed from a pre-existing rock that was changed by heat and pressure, but *not* melted?
1) *A* 2) *B* 3) *E* 4) *F*

Questions 23 through 25 refer to the following:

The graph below shows the temperature, pressure, and depth environments for the formation of the three major rock types. Pressure is shown in kilobars (kb). Letters A through D identify different environmental conditions for rock formation.



- 23) Which letter in the graph represents the environmental conditions necessary to form gneiss?
- 1) A 2) B 3) C 4) D
- 24) Which rock is most likely to form directly from rock material at a depth of 30 km and a temperature of 1,000°C?
- 1) shale 2) scoria 3) quartzite 4) granite
- 25) Based on the data shown, at what pressure and temperature is sand most likely to be compacted into sandstone?
- 1) 2 kb and 150°C 2) 10 kb and 400°C 3) 12 kb and 900°C 4) 6 kb and 200°C