

1. The table below indicates the presence of various minerals in different rock samples.

Rock Sample	Mineral Composition								
	Quartz	Potassium feldspar	Plagioclase feldspar	Biotite	Hornblende	Pyroxene	Olivine	Calcite	Others
Granite	✓	✓	✓	✓	✓				
Rhyolite	✓	✓	✓	✓	✓				
Pumice	✓	✓	✓	✓	✓				
Conglomerate	✓	✓	✓	✓	✓	✓	✓	✓	✓
Slate				✓					✓
Marble								✓	
Limestone								✓	
Basalt			✓		✓	✓	✓		
Gabbro			✓	✓	✓	✓			

<b>Key</b>
✓ = Mineral is present

Which statement is an accurate conclusion based on the information provided in the table?

- (1) Most rocks are monomineralic.
- (2) All rocks are polymineralic.
- (3) Many rocks have a number of minerals in common.
- (4) Only igneous rocks contain quartz.

2. Although more than 2,000 minerals have been identified, 90% of Earth's lithosphere is composed of the 12 minerals listed below.

Rock-Forming Minerals	
feldspar	augite
quartz	garnet
mica	magnetite
calcite	olivine
hornblende	pyrite
kaolinite	talc

The best explanation for this fact is that most rocks

- (1) are monomineralic
- (2) are composed only of recrystallized minerals
- (3) have a number of minerals in common
- (4) have a 10% nonmineral composition

3. Igneous, sedimentary, and metamorphic rocks are usually composed of

- (1) intergrown crystals
- (2) fossils
- (3) minerals
- (4) sediments

4. In which group are all the earth materials classified as minerals?

- (1) feldspar, quartz, and olivine
- (2) granite, rhyolite, and basalt
- (3) cobbles, pebbles, and silt
- (4) conglomerate, sandstone, and shale

5. Which type(s) of rock can be the source of deposited sediments?

- (1) igneous and metamorphic rocks, only
- (2) metamorphic and sedimentary rocks, only
- (3) sedimentary rocks, only
- (4) igneous, metamorphic, and sedimentary rocks

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## Rock Cycle and Formation

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6. Most New York State sandstone bedrock was formed
    - (1) in Earth's interior where temperatures exceeded the melting point of quartz
    - (2) on Earth's surface from the cooling of molten lava
    - (3) in a delta from sand grains deposited, buried, and cemented together by minerals
    - (4) in a desert when heat and metamorphic pressure caused quartz crystals to fuse together
  7. Which statement about the formation of a rock is best supported by the rock cycle?
    - (1) Magma must be weathered before it can change to metamorphic rock.
    - (2) Sediment must be compacted and cemented before it can change to sedimentary rock.
    - (3) Sedimentary rock must melt before it can change to metamorphic rock.
    - (4) Metamorphic rock must melt before it can change to sedimentary rock.
  8. Which two rocks are primarily composed of a mineral that bubbles with acid?
    - (1) limestone and marble
    - (2) granite and dolostone
    - (3) sandstone and quartzite
    - (4) slate and conglomerate
  9. Rocks are classified as igneous, sedimentary, or metamorphic based primarily on their
    - (1) texture
    - (2) crystal or grain size
    - (3) method of formation
    - (4) mineral composition
  10. Rocks can be classified as sedimentary, igneous, or metamorphic based primarily upon differences in their
    - (1) color
    - (2) density
    - (3) origin
    - (4) age
  11. A student obtains a cup of quartz sand from a beach. A saltwater solution is poured into the sand and allowed to evaporate. The mineral residue from the saltwater solution cements the sand grains together, forming a material that is most similar in origin to
    - (1) an extrusive igneous rock
    - (2) an intrusive igneous rock
    - (3) a clastic sedimentary rock
    - (4) a foliated metamorphic rock
  12. Which rock is usually composed of several different minerals?
    - (1) rock gypsum
    - (2) chemical limestone
    - (3) quartzite
    - (4) gneiss
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