

Key

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			✓	✓	✓	✓			

**Key**  
 ✓ = Mineral is present

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

- (1) ~~Most rocks are monomineralic.~~ *one mineral*
- (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

## ROCK CYCLE and FORMATION

6. Most New York State sandstone bedrock was formed *Sedimentary*
- (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? *calcite*
- (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 *where they came from*
  - (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