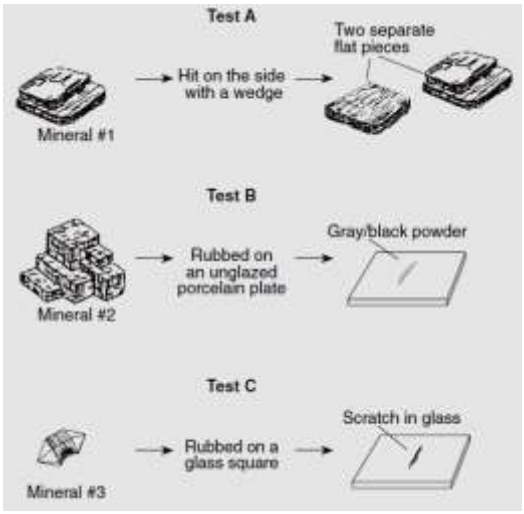
Rocks and Minerals Practice Exam

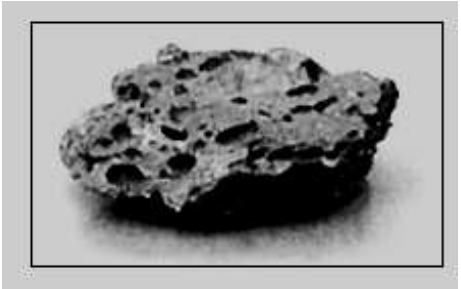
1. Which sequence correctly matches each test, *A, B,* and *C,* with the mineral property tested?
   (1) *A*—cleavage; *B*—streak; *C*—hardness
   (2) *A*—cleavage; *B*—hardness; *C*—streak
   (3) *A*—streak; *B*—cleavage; *C*—hardness
   (4) *A*—streak; *B*—hardness; *C*—cleavage



2. Which process most likely formed a layer of the sedimentary rock, gypsum?
   (1) precipitation from seawater
   (2) solidification of magma
   (3) folding of clay-sized particles
   (4) melting of sand-sized particles

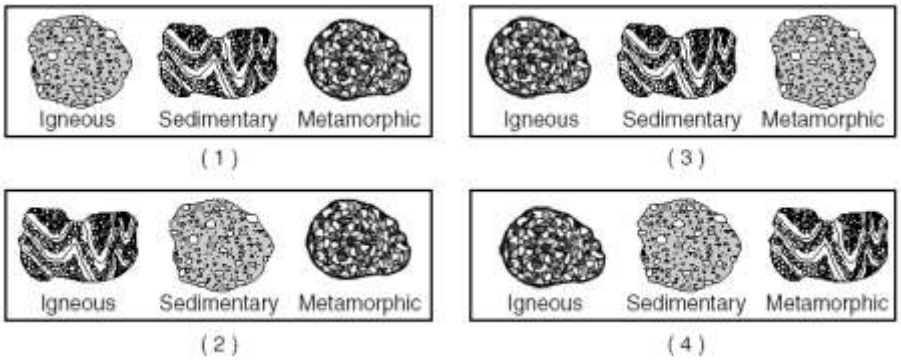
3. The photograph shows an igneous rock with a vesicular texture. What is the origin and rate of formation of this rock?

   (1) intrusive with slow cooling
   (2) extrusive with rapid cooling
   (3) extrusive with slow cooling
   (4) intrusive with rapid cooling

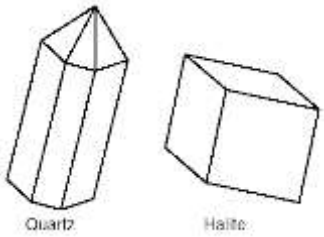


4. Which mineral has lead in its composition?
   (1) hematite
   (2) quartz
   (3) graphite
   (4) galena

5. In which set are the rock drawings labeled with their correct rock types?



6. The diagrams below show the crystal shapes of two minerals.
Quartz and halite have different crystal shapes primarily because
(1) energy is released during crystallization
(2) of the internal arrangement of the atoms surfaces
(3) of impurities that produce surface variations
(4) light reflects from crystal



7. Which igneous rock has a vesicular texture and contains the minerals potassium feldspar and quartz?
(1) andesite
(2) pegmatite
(3) pumice
(4) scoria

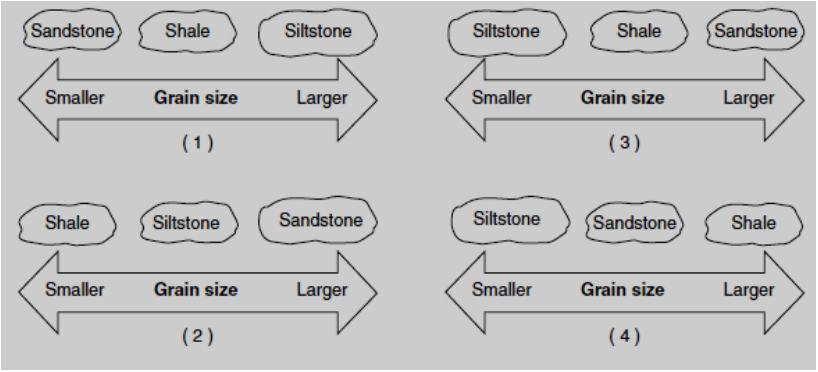
8. Dolostone is classified as which type of rock?
(1) chemically formed sedimentary rock
(2) land-derived sedimentary rock
(3) foliated metamorphic rock
(4) nonfoliated metamorphic rock

9. Which processes most likely formed the shale bedrock found near Ithaca, New York?
(1) burial and compaction
(2) uplift and solidification
(3) heat and pressure
(4) melting and recrystallization

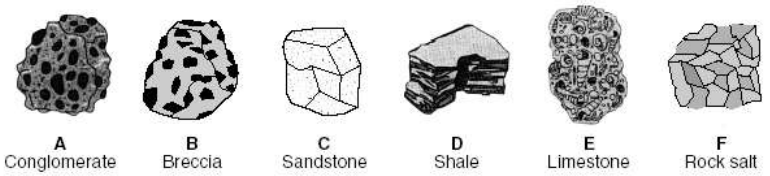
10. Which rock was organically formed from plant remains?
(1) rock gypsum
(2) breccia
(3) coal
(4) phyllite

11. Wavy bands of light and dark minerals visible in gneiss bedrock probably formed from the
(1) cementing together of individual mineral grains
(2) heat and pressure during metamorphism
(3) cooling and crystallization of magma
(4) evaporation of an ancient ocean

12. Which diagram best shows the grain size of some common sedimentary rocks?



Base your answers to **questions 13 through 15** on the drawings of six sedimentary rocks labeled *A* through *F*.



13. The rocks shown were formed by
    (1) melting and/or solidification
    (2) volcanic eruptions and crystallization
    (3) heat and pressure
    (4) compaction and/or cementation

14. Which two rocks are composed primarily of quartz, feldspar, and clay minerals?
    (1) rock salt and conglomerate
    (2) sandstone and limestone
    (3) rock salt and breccia
    (4) sandstone and shale

15. Rock salt is classified as a(n)
    (1) intrusive rock
    (2) clastic rock
    (3) evaporite
    (4) bioclastic rock

16. The three statements below are observations of the same rock sample:
    • The rock has intergrown crystals less than 1 millimeter in diameter.
    • The minerals in the rock are gray feldspar, green olivine, green pyroxene, and black amphibole.
    • There are no visible gas pockets in the rock.

    This rock sample is most likely
    (1) gabbro
    (2) basalt
    (3) granite
    (4) sandstone

17. 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

18. When extreme heat and pressure is added to shale it can become
    (1) granite
    (2) slate
    (3) marble
    (4) quartzite

19. Which mineral has a metallic luster, a black streak, and is an ore of iron?
    (1) pyroxene
    (2) galena
    (3) magnetite
    (4) graphite

20. Which intrusive igneous rock could be composed of approximately 50% potassium feldspar, 20% quartz, 15% plagioclase feldspar, 5% biotite, and 5% amphibole?
    (1) basalt
    (2) rhyolite
    (3) granite
    (4) gabbro

21. What is the best way to distinguish between the inorganic land-derived sedimentary rocks conglomerate, sandstone, and shale?
    (1) composition
    (2) particle size
    (3) color
    (4) number of fossils

22. What is the best way to determine if a mineral sample is calcite or quartz?
    (1) Observe the color of the mineral.
    (2) Place the mineral near a magnet.
    (3) Measure the mass of the mineral.
    (4) Place a drop of acid on the mineral.

23. As the rate of cooling increases, the crystal size of an igneous rock
    (1) increases
    (2) decreases
    (3) remains the same

24. Which of the following lists features associated with sedimentary rocks?
    (1) foliation, distortions, interlocking crystals
    (2) layering, cemented fragments, fossils
    (3) interlocking crystals, banding, gas pockets
    (4) cleavage, luster, streak

25. How can a person tell the difference between quartz and potassium feldspar?
    (1) quartz has fracture and potassium feldspar has cleavage
    (2) quartz can scratch glass and potassium feldspar cannot scratch glass
    (3) quartz is always clear and potassium feldspar is always pink
    (4) quartz is metallic and potassium feldspar is nonmetallic

26. A student finds a rock and identifies some of its physical features:

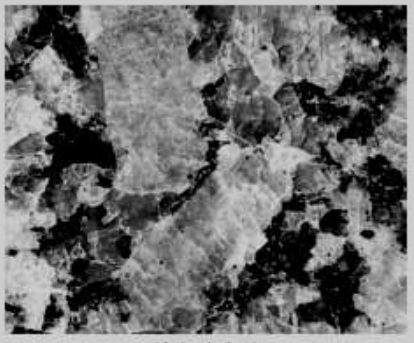
    Color: green-gray
    Texture: foliated
    Unique Feature: platy mica crystals visible

    What is the name of the rock the student found?
    (1) gneiss
    (2) shale
    (3) biotite mica
    (4) schist

27. Which elements would be found in olivine?
    (1) iron, magnesium, silicon, oxygen
    (2) sodium, aluminum, silicon, oxygen
    (3) potassium, aluminum, silicon, oxygen
    (4) calcium, iron, silicon, oxygen

28. The photograph shows the intergrown crystals of a pegmatite rock.

    Which characteristic provides the best evidence that this pegmatite solidified deep underground?
    (1) low density
    (2) light color
    (3) felsic composition
    (4) very coarse texture


(Actual size)

29. Which minerals could be used in the construction industry?
    (1) dolomite, mica, gypsum, olivine
    (2) talc, pyroxene, amphibole, garnet
    (3) quartz, fluorite, sulfur,
    (4) pyrite, graphite, amphibole, galena

30. A clastic sedimentary rock composed of grains that are .01 cm in diameter would be classified as
    (1) sandstone
    (2) siltstone
    (3) conglomerate
    (4) shale

31. Which rock is monomineralic?
    (1) rock salt
    (2) phyllite
    (3) breccia
    (4) diorite

32. If igneous rocks have pyroxene and olivine in their composition they are considered to be
    (1) mafic and low in density
    (2) felsic and low in density
    (3) mafic and high in density
    (4) felsic and high in density

33. Igneous rocks form as a result of
    (1) extreme heat and pressure
    (2) evaporation of seawater
    (3) cementation of rock fragments
    (4) cooling of lava