104

Name: _____ Date of test: _____

Answers on back!

Rocks and Minerals: Test Review

Answer the questions below. You will need a reference table. Check all your answers with the correct answers on the last page. This will be good review for the upcoming test.

Matching

1. _____ When a mineral breaks with clean, flat areas
2. _____ Igneous rock texture that is due to very quick cooling of lava; the atoms do not have time to arrange into crystals
3. _____ How the atoms are arranged in a mineral
4. _____ Plutonic igneous rock; solidified below ground
5. _____ When a parent rock is changed by being "cooked" by lava or magma
6. _____ Sedimentary rock composed of pieces of once-living organisms
7. _____ A rock formed when water becomes saturated with a dissolved mineral and that mineral comes out of solution and forms a solid
8. _____ High grade metamorphism creates this; minerals are aligned, often in layers of alternating colors
9. _____ Texture of igneous rocks where the rock has small holes from gas that was trapped as the lava cooled
10. _____ Dolomite fizzes only when powdered because it has more of this compared to when it is solid
11. _____ Layers in a metamorphic rock
12. _____ These sediments compose shale

a. surface area
b. vesicular
c. clay
d. banding
e. atomic structure
f. bioclastic
g. precipitate
h. regional metamorphism
i. contact metamorphism
j. fracture
k. cleavage
l. mica
m. glassy
n. olivine
o. foliation
p. hardness
q. silt
r. intrusive
s. extrusive

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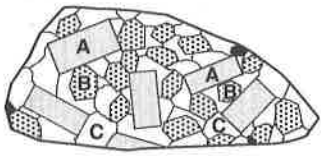
Base your answers to questions 13 through 15 on the diagram and table below. The diagram represents a felsic igneous rock. Letters *A*, *B*, and *C* represent three different minerals in the rock sample. The table describes the physical properties of minerals *A*, *B*, and *C* found in the igneous rock sample.



(Actual size)

Mineral	Key	Physical Properties
A		pink, cleaves in two directions at 90°
B		white, cleaves in two directions, striations visible
C		colorless or clear with a glassy luster

13. State the texture of this igneous rock. _____

14. state the names of minerals *A*, *B*, and *C*.

A _____
B _____
C _____

15. State *two* processes responsible for the formation of an igneous rock.

_____

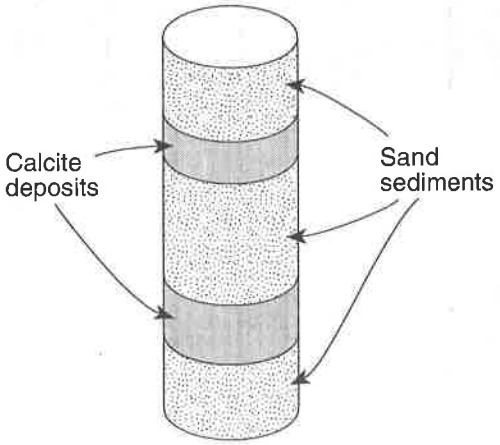
_____ 16. The photograph below shows the intergrown crystals of a pegmatite rock.

(Actual size)

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

_____ 17. The diagram below shows a drill core of sediment that was taken from the bottom of a lake.

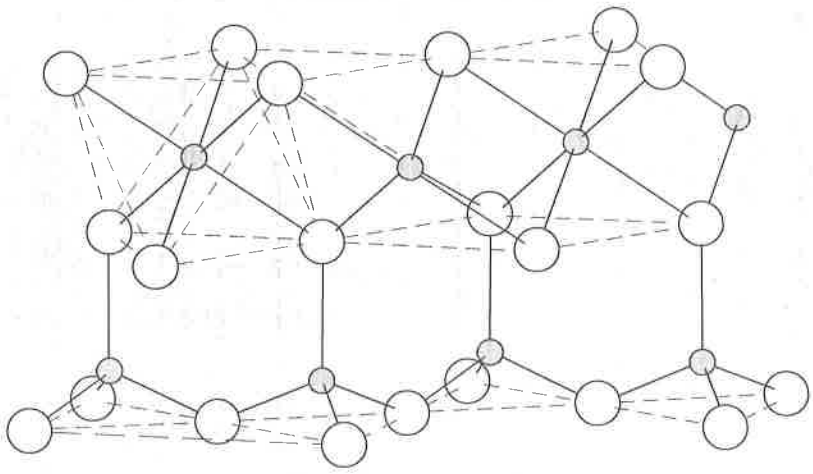


Which types of rock would most likely form from compaction and cementation of these sediments?

(1) sandstone and limestone
(2) shale and coal
(3) breccia and rock salt
(4) conglomerate and siltstone

_____18. The diagram below represents a part of the crystal structure of the mineral kaolinite.

Structure of Kaolinite



An arrangement of atoms such as the one shown in the diagram determines a mineral's

(1) age of formation
(2) infiltration rate
(3) physical properties
(4) temperature of formation

_____19. Which physical characteristic best describes the rock phyllite?

(1) glassy texture with gas pockets
(2) clastic texture with angular fragments
(3) bioclastic texture with cemented shell fragments
(4) foliated texture with microscopic mica crystals

_____20. The two most abundant elements by mass in Earth's crust are oxygen and

(1) potassium
(2) hydrogen
(3) nitrogen
(4) silicon

_____21. Which home-building material is made mostly from the mineral gypsum?

(1) plastic pipes
(2) window glass
(3) drywall panels
(4) iron nails

_____22. Which type of rock most likely contains fossils?

(1) scoria
(2) gabbro
(3) schist
(4) shale

_____23. Which intrusive igneous rock could be composed of approximately 60% pyroxene, 25% plagioclase feldspar, 10% olivine, and 5% amphibole?

(1) granite
(2) rhyolite
(3) gabbro
(4) basalt

_____24. The rock shown below 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

_____25. Which process could lead directly to the formation of pumice rock?

(1) precipitation of minerals from evaporating seawater
(2) metamorphism of unmelted rock material
(3) deposition of quartz sand
(4) explosive eruption of lava from a volcano

_____26. Biotite mica and muscovite mica have different chemical compositions. Compared to the magma from which biotite mica forms, the magma from which muscovite mica forms is usually

(1) more mafic and less dense
(2) more mafic and more dense
(3) more felsic and less dense
(4) more felsic and more dense

The table below shows some observed physical properties of a mineral.

Physical Property	Observation
color	white
hardness	scratched by the mineral calcite
distinguishing characteristic	feels greasy
cleavage/fracture	shows some definite flat surfaces

27. Based on these observations, the elements that make up this mineral's composition are

(1) sulfur and lead
(2) sulfur, oxygen, and hydrogen
(3) oxygen, silicon, hydrogen, and magnesium
(4) oxygen, silicon, aluminum, and iron

28. A human fingernail has a hardness of approximately 2.5. Which two minerals are *softer* than a human fingernail?

(1) calcite and halite
(2) sulfur and fluorite
(3) graphite and talc
(4) pyrite and magnetite

Answers

1. K
2. M
3. E
4. R
5. i
6. F
7. G
8. D
9. B
10. A
11. O
12. C
13. coarse + non-vesicular
14. A Potassium feldspar
B Plagioclase feldspar
C Quartz
15. melting or solidification or cooling
16. 4
17. 1
18. 3
19. 4
20. 4
21. 3
22. 4
23. 3
24. 3
25. 4
26. 3
27. 3
28. 3