Final Revision 2

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LO2

1. Which of the following physical properties is most useful for distinguishing minerals in hand sample identification?

A) Melting point
B) Density
C) Hardness
D) Refractive index

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2. What is the most common method for identifying metallic minerals in hand samples?

A) Luster test
B) Cleavage pattern
C) Density measurement
D) Hardness test

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3. Which of the following is a property of minerals that refers to how they break along specific planes of weakness?

A) Magnetism
B) Hardness
C) Cleavage
D) Transparency

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4. Which of the following minerals is most likely to exhibit metallic luster?

A) Quartz
B) Pyrite
C) Calcite
D) Talc

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5. Which physical property of minerals refers to their ability to resist scratching?

A) Color
B) Streak
C) Hardness
D) Cleavage

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6. What test can be used to identify the metallic luster of a mineral?

A) Streak test
B) Fracture test
C) Magnetism test
D) Color test

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7. What is the primary characteristic of a mineral that allows it to be distinguished from other materials?

A) Chemical composition
B) Hardness
C) Color
D) Density

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8. Which mineral property is best assessed by examining the mineral's ability to reflect light?

A) Luster
B) Color
C) Streak
D) Cleavage

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9. Which of the following is a distinguishing property of minerals with metallic luster?

A) They are opaque
B) They exhibit high transparency
C) They have a non-metallic finish
D) They are always harder than quartz

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10. In hand sample identification, which property would be most useful for identifying a mineral like magnetite?

A) Streak test
B) Color test
C) Magnetism
D) Transparency

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11. Which mineral is most likely to exhibit a red streak when tested?

A) Hematite
B) Quartz
C) Pyrite
D) Mica

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12. What does the term "fracture" refer to in mineral identification?

A) The mineral's tendency to split along specific planes
B) The mineral's resistance to scratching
C) The mineral's ability to break unevenly without a pattern
D) The mineral's ability to conduct electricity

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13. Which of the following minerals is most likely to exhibit perfect cleavage?

A) Halite
B) Quartz
C) Calcite
D) Diamond

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14. What is the main reason why completely unambiguous identification of minerals often requires laboratory analysis?

A) Minerals are too small to see with the naked eye
B) The physical properties of minerals overlap significantly
C) Minerals are too rare to be found in natural environments
D) Laboratory analysis is cheaper than fieldwork

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15. Which of the following is a non-metallic mineral that has a vitreous luster and is commonly used in construction?

A) Gypsum
B) Quartz
C) Galena
D) Graphite

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16. What is the most common method for determining the hardness of a mineral in a field setting?

A) Mohs scale
B) Refractive index
C) Density measurement
D) Crystal system classification

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17. Which of the following materials is most commonly used in construction in its natural, unrefined state?

A) Steel
B) Limestone
C) Glass
D) Concrete

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18. Which of the following properties is most useful in distinguishing between minerals with similar colors, such as pyrite and gold?

A) Streak
B) Luster
C) Hardness
D) Cleavage

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19. The property of a mineral that refers to its ability to transmit light is called:

A) Transparency
B) Luster
C) Cleavage
D) Hardness

20. Which property of a mineral would be most useful for distinguishing between quartz and calcite?

A) Cleavage
B) Color
C) Hardness
D) Streak

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21. What is the reason that metallic minerals, although economically important, are considered uncommon in nature?

A) They have low melting points
B) They are typically found only in igneous rocks
C) They are rare due to their formation conditions and scarcity
D) They are unstable and decay quickly

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22. The process by which minerals crystallize from molten rock is known as:

A) Sedimentation
B) Metamorphism
C) Crystallization
D) Evaporation

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23. Which mineral property refers to how a mineral breaks when it does not have a specific cleavage plane?

A) Hardness
B) Fracture

C) Transparency
D) Streak

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24. Which mineral would be best identified using its distinct magnetic properties?

A) Magnetite
B) Gypsum
C) Feldspar
D) Calcite

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25. The process of refining a natural material to produce a more usable form is most commonly applied to which type of mineral?

A) Non-metallic minerals
B) Metallic minerals
C) Organic materials
D) Opaque minerals

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26. What is the main reason for using sophisticated laboratory analysis in the identification of some minerals?

A) Field identification methods are unreliable
B) Mineral identification often requires chemical composition analysis
C) The minerals are not physically accessible in the field
D) It is necessary to test the mineral's magnetic properties

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27. What is the defining characteristic of a metallic mineral that is not typically shared by non-metallic minerals?

A) High electrical conductivity
B) High density
C) Non-reflective appearance
D) Brittle texture

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28. Which of the following is an example of a highly refined mineral used in construction, especially for ornamental purposes?

A) Marble
B) Salt
C) Granite
D) Coal

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29. Which mineral is used in the production of Portland cement due to its high calcium content?

A) Gypsum
B) Limestone
C) Quartz
D) Clay

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30. What is the term for the powdered form of a mineral when rubbed against a porcelain streak plate?

A) Cleavage
B) Color
C) Streak
D) Texture

1	C	7	A	13	A	19	A	25	B
2	A	8	A	14	B	20	C	26	B
3	C	9	A	15	B	21	C	27	A
4	B	10	C	16	A	22	C	28	A
5	C	11	A	17	B	23	B	29	B
6	A	12	C	18	A	24	A	30	C

1. Many volcanic rocks contain volcanic glass. The glass is made of silica, SiO_2. Why is volcanic glass not considered to be a mineral?

   - a. It is organic.
   - b. Glass can also be manufactured by people.
   - c. It forms on Earth's surface rather than underground.
   - d. The molecules are not arranged in a regular, three-dimensional repeating pattern.

2. Some properties of anthracite coal include:
   1. Organic (made of the remains of plants)
   2. Metamorphic (forms under conditions of high temperature and pressure)
   3. Opaque (not transparent to light)
   4. Not crystalline

   How is coal best classified?

   - a. As a rock but not a mineral
   - b. As a mineral but not a rock
   - c. As both a rock and a mineral
   - d. As neither a rock nor a mineral

3. What is the relationship between rocks and minerals?

   - a. Rocks are aggregates of one or more minerals.
   - b. Rocks are made of specific ratios of particular minerals.
   - c. Minerals are rocks that occur as regular geometric shapes.
   - d. Minerals are rocks that form under certain environmental conditions.

4. Halite and gypsum are both evaporite minerals. A geologist finds a layer of gypsum in a rock outcrop. What can the geologist infer from the existence of this layer?

- a. The area was once volcanically active.
- b. The area was once covered in salt water.
- c. The area was once a region of active mountain building.
- d. The area was once buried deep under layers of other rocks.

5. Earth's ocean crust is dominated by:

- a. Nonsilicates
- b. Sheet silicates
- c. Potassium silicates
- d. Ferromagnesian silicates

6. Silicate minerals are classified as either ferromagnesian or nonferromagnesian based on:

- a. Their presence or absence in the continental crust
- b. The presence or absence of iron and magnesium in the crystal structure
- c. Whether they are common rock-forming minerals or rare accessory minerals
- d. Whether they consist of sheets of silicate tetrahedra or three-dimensional networks of silicate tetrahedral

7. Which is the best description of a silicate tetrahedron?

- a. A pyramidal-shaped silicate crystal with a triangular base
- b. A group of four SiO_4^{-2} ions arranged in a tetrahedral shape
- c. A group of four silicate crystals arranged in the shape of a triangular pyramid
- d. An SiO_4^{-2} ion in which the four oxygen atoms are arranged in a tetrahedral shape around a central silicon atom

8. The hardest mineral known is diamond. What does this mean?

- a. Diamonds cannot be broken.
- b. A diamond can be split apart only by another diamond.
- c. Nothing can scratch the surface of a diamond crystal.
- d. The surface of a diamond crystal can be scratched only by another diamond.

9. A man finds a rock on a beach and asks his geologist friend to identify a white mineral crystal in it. The man sends his friend a photograph, but the geologist says that she can't tell from the picture and instructs him to try scratching the crystal with a knife. What property is the geologist trying to examine?

- a. Luster
- b. Fracture
- c. Hardness
- d. Specific gravity

10. The physical properties of a mineral crystal are related primarily to:

- a. How large the crystal is
- b. Where on Earth the crystal formed
- c. The type of rock in which the mineral exists
- d. The mineral's chemical composition and the bonds between its ions

11. Which best defines "rock-forming minerals"?

- a. All minerals found in all rocks
- b. Minerals that are common in rocks
- c. Minerals that form crystals large enough to be classified as rocks
- d. Minerals that exist in rocks composed of many grains of a single mineral

12. A crystal of galena that is 1 cm across has a cube shape. What is the most likely shape of a crystal of galena that is only 1 mm across?

- a. Cube
- b. Square pyramid
- c. Triangular pyramid
- d. Impossible to know

13. The external form of a mineral crystal is a reflection of:

- a. The arrangement of ions within the mineral
- b. The cooling history of the rock in which the mineral formed
- c. The arrangement of electrons in the atoms that make up the mineral
- d. The weathering and erosion history of the rock in which the mineral is found

14. Many minerals have more than one type of bond that hold the atoms and molecules together. Mica crystals split very easily along flat planes, forming flat hexagonal sheets. What holds these sheets together in the crystal?

- a. Ionic bonds
- b. Metallic bonds
- c. Covalent bonds
- d. Van der Waals forces

1	D	8	D
2	A	9	C
3	A	10	D
4	B	11	B
5	D	12	A
6	B	13	A
7	D	14	D

Minerals must be naturally formed, have a crystalline structure, have a unique chemical composition and _____.

- be in a solid state
- be in a hard state
- be in a liquid state
- have visible crystals

Ans: A

Mineral hardness is a measure of _____.

a. the strength of the mineral

b. how resistant a mineral is to scratching

c. how easily a mineral breaks

d. how much a mineral weighs

Ans: B

Diamonds are ranked at _____ on the Mohs scale of hardness, which means they are _____.

a. 10; very soft

b. 10; very hard

c. 1; very soft

d. 1; very hard

Ans: B

1- Which rock is composed of the mineral halite that formed when seawater evaporated?
A) Limestone
B) Dolostone
C) Rock Gypsum
D) Rock Salt

2- Which element, found in both biotite mica and muscovite mica, makes up the greatest percent by volume of Earth's crust?
A) Nitrogen
B) Oxygen
C) Potassium.
D) Silicon

3- Which mineral can be found in all samples of rhyolite and andesite?
A) Pyroxene
C) Biotite
B) Quartz
D) Potassium feldspar

4- Silicate minerals contain the elements silicon and oxygen. Which list contains only silicate materials?
A) graphite, tale, and selenite gypsum
B) potassium feldspar, quartz, and amphibole
C) calcite, dolomite, and pyroxene
D) biotite mica, fluorite, and garnet.

5- 11. Most rock gypsum is formed by the:

A) heating of previously existing foliated bedrock.

B) cooling and solidification of lava.

C) compaction and cementation of shells and skeletal remains.

D) chemical precipitation of minerals from seawater.

6- The three statements below are observations of the same rock sample:

- The rock has intergrown crystals from 2 to 3 millimeters 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

A) Sandstone

B) Granite

C) Gabbro

D) Phyllite

7- 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

A) Are monomineralic

B) Are composed only of recrystallized minerals

C) Have a number of minerals in common

D) Have a 10% nonmineral composition

8- In which group do the rocks usually have the mineral quartz as part of their composition?

A) Granite, rhyolite, sandstone, hornfels

B) Shale, scoria, gneiss, metaconglomerate

C) Conglomerate, gabbro, rock salt, schist

D) Breccia, fossel limestone, bituminous coal, siltstone

9- Which rock is usually composed of several different minerals?

A) Rock gypsum

B) Chemical limestone

C) Quartzite

D) Gneiss

10- Igneous, sedimentary, and metamorphic rocks are usually composed of

A) Intergrown crystals
B) Fossils
C) Minerals.
D) Sediments

11- Which is an accurate statement about rocks"

A) Rocks are located only in continental areas of the Earth
B) Rocks seldom undergo change
C) Most rocks contain fossils.
D) Most rocks have several minerals in common

12- What do most igneous, salimentury, and metamorphic rocks have in in common?

A) They are formed thom mohen material
H) They are produced by heat and pressure
C) They are composed of minerals.
D) They exhibit crystals, bunding, and distinct layers.

13- In which group are all the earth materials classified us minerals?

A) Feldspar, quartz, and olivine
B) Granite, rhyolite, and basalt
C) Cobbles, pebbles, and silt
D) Conglomerate, sandstone, and shale

14- Of the Earth's more than 2,000 identified minerals, only a small number are commonly found in rocks. This fact indicates that most

A) Minerals weather before they can be identified

B) Minerals have properties that we difficult to identify

C) Rocks have a number of minerals in common

D) Exposed surface rocks are igneous

15- Which statement best describes a general property of rocks?

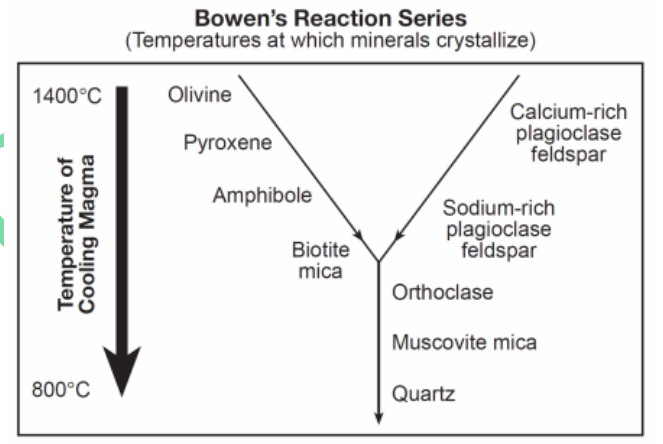
A) Most rucks have a number of minerals in common.

B) Most rocks are composed of a single mineral.

C) All rocks contain fossils

D) All rocks contain minerals formed by compression and cementation.

16- The diagram of Bowen's Reaction Series below indicates the relative temperatures at which specific minerals crystallize as magma cools:

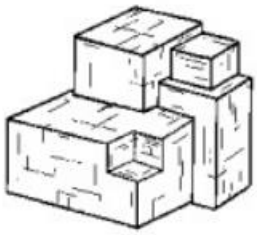


Which statement is best supported by Bowen's Reaction Series?

A) Most minerals crystallize at the same temperature
B) Most felsic minerals usually crystallize before most mafic minerals
C) Muscovite mica and quartz are the last minerals to crystallize as magma cools.
D) Biotite mica is the first mineral to crystallize as magma cools.

17- This fine-grained, dark-colored, igneous rock is most likely
A) Rhyolite
B) Basalt
C) Diorite
D) Gabbro

18- .The diagram below represents a sample of mineral



This mineral is most likely.
A) Garnet
B) Galena
C) Olivine
D) Halite

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

A) Calcite and halite

B) Sulfur and fluorite

C) Graphite and talc

D) Pyrite and magnetite

20- The internal atomic structure of a mineral most likely determines the mineral's

A) Color, streak, and age

B) Origin, exposure, and fracture

C) Size, location, and luster

D) Hardness, cleavage, and crystal shape

21- What is the best way to determine if a mineral sample is calcite or quartz?

A) Observe the color of the mineral.

B) Place the mineral near a magnet.

C) Place a drop of acid on the mineral.

D) Measure the mass of the mineral.

22- Which mineral will scratch glass (hardness = 5.5), but not pyrite?

A) Gypsum

B) Orthoclase

C) Fluorite

D) Quartz

23- Which two rocks are primarily composed of a mineral that bubbles with acid?

A) Limestone and marble

B) Granite and dolostone

C) Sandstone and quartzite

D) Slate and conglomerate

24- Which statement about the minerals plagioclase feldspar, gypsum, biotite mica, and talc can best be inferred from the chart?

A) These minerals have the same time and physical properties.

B) These minerals have different chemical properties, but they have similar physical properties

C) These minerals have different physical and chemical properties, but they have identical uses.

D) The physical and chemical properties of these minerals determine how humans use them.

25- Which mineral leaves a green-black powder when rubbed against an unglazed porcelain plate?

A) Galena
B) Graphite

C) Hematite

D) Pyrite

26- Which mineral is white or colorless, has a hardness of 2.5, and splits with cubic cleavage?

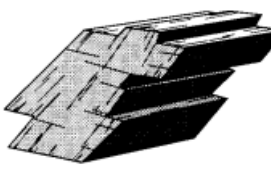
A) Calcite

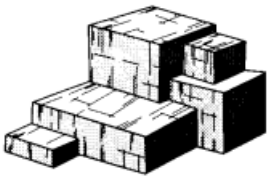
B) Halite

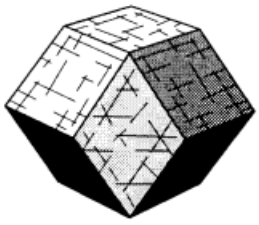
C) Pyrite

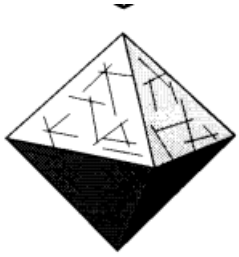
D) Mica

27- Halite has three cleavage directions at 90 deg to each other. Which model best represents the shape of a broken sample of halite?

A) 

B) 

C) 

D) 

28- Scratching a mineral against a glass plate and rubbing a mineral on streak plate are helpful procedures for determining a mineral's

A) Density

B) Identity

C) Cleavage

D) Internal atomic structure

29- Which mineral has a hardness of', and shows cleavage?

A) Olivine

B) Talc

C) Hematite

D) Potassium Feldspar

30- Which mineral bubbles when acid is placed on it?

A) Calcite

B) Pyroxene

C) Potassium Feldspar

D) Garnet

1	D	8	A	15	A	22	B	29	D
2	B	9	D	16	C	23	A	30	A
3	C	10	C	17	B	24	D		
4	B	11	D	18	B	25	D		
5	D	12	C	19	C	26	B		
6	C	13	A	20	D	27	B		
7	C	14	C	21	C	28	B		

LO4

1. Igneous Rocks are generally classified based on their:

A) Color and texture
B) Mineral composition and texture
C) Size and shape
D) Geographical location of formation

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2. Which of the following is most characteristic of an igneous rock formed from lava that cooled quickly on the Earth's surface?

A) Coarse-grained texture
B) Fine-grained texture
C) Presence of large crystals
D) High porosity

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3. Igneous rocks that form beneath the Earth's surface are typically:

A) Phaneritic
B) Aphanitic
C) Vesicular
D) Glassy

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4. The texture of an igneous rock is most influenced by:

A) The pressure during its formation
B) The rate at which the magma or lava cools
C) The amount of minerals present in the magma
D) The location of the rock within a volcanic eruption

5. Which cooling history would produce an igneous rock with large, visible crystals?

A) Slow cooling underground
B) Rapid cooling on the surface
C) Cooling in a volcanic vent
D) Cooling under extreme pressure

---

6. A volcanic eruption that cools very rapidly due to contact with water would likely produce:

A) Aphanitic rocks
B) Phaneritic rocks
C) Porphyritic rocks
D) Glassy rocks

---

7. Which of the following textures is associated with rocks that have both large and small crystals, indicating both slow and fast cooling?

A) Phaneritic
B) Aphanitic
C) Porphyritic
D) Vesicular

---

8. What type of igneous rock texture would you expect from lava that cools rapidly at the surface of a volcano?

A) Coarse-grained
B) Fine-grained
C) Porphyritic
D) Glassy

---

9. Which type of magma is most likely to produce an explosive volcanic eruption?

A) Basaltic
B) Andesitic
C) Rhyolitic
D) Gabbroic

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10. The eruption of which type of volcanic material is most likely to result in pyroclastic flows?

A) Basaltic lava
B) Andesitic lava
C) Rhyolitic lava
D) Ultramafic lava

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11. Which type of magma has the highest viscosity and is most associated with explosive volcanic eruptions?

A) Basaltic
B) Andesitic
C) Rhyolitic
D) Mafic

12. The formation of igneous rocks from magma that has cooled beneath the Earth's surface results in:

A) Glassy textures
B) Aphanitic textures
C) Phaneritic textures
D) Vesicular textures

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13. Which of the following is an igneous rock that commonly forms at volcanic eruption sites and has a glassy texture?

A) Granite
B) Obsidian
C) Basalt
D) Diorite

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14. The differences in eruption explosivity are primarily caused by differences in the:

A) Temperature of the magma
B) Composition of the magma
C) Rate of magma cooling
D) Amount of dissolved gases in the magma

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15. Which of the following factors does NOT influence the texture of an igneous rock?

A) Cooling rate
B) Mineral composition
C) Depth of magma origin
D) Presence of sediment

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16. Which of the following igneous rocks is most likely to have a vesicular texture, formed by gas bubbles trapped during cooling?

A) Basalt
B) Granite
C) Pumice
D) Gabbro

---

17. What type of igneous rock texture is characteristic of slow cooling of magma at great depths, where crystals have time to grow large?

A) Phaneritic
B) Aphanitic
C) Glassy
D) Porphyritic

---

18. Which volcanic rock type is typically formed from the eruption of low-viscosity basaltic magma?

A) Basalt
B) Andesite
C) Rhyolite
D) Pumice

19. Which of the following would most likely occur during a volcanic eruption of highly viscous magma?

A) Quiet lava flows
B) Lava fountains
C) Pyroclastic flows
D) No eruption at all

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20. Which of the following is most likely to form as a result of the slow cooling of magma at great depths?

A) Andesite
B) Granite
C) Basalt
D) Rhyolite

---

21. The cooling of lava in contact with water typically results in the formation of:

A) Igneous textures with fine crystals
B) Obsidian
C) Aphanitic textures
D) Crystalline structures

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22. Which of the following factors is directly responsible for the formation of a pyroclastic flow during volcanic eruptions?

A) High gas content in magma
B) Rapid cooling of magma
C) Large amounts of ash and rock ejected
D) Low viscosity of magma

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23. Which of the following is a characteristic feature of basaltic lava eruptions?

A) Highly explosive eruptions
B) High gas content
C) Low viscosity
D) Formation of large pyroclastic deposits

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24. Which of the following volcanic rocks is typically formed from the eruption of intermediate to high-viscosity magma, often associated with explosive eruptions?

A) Andesite
B) Basalt
C) Pumice
D) Obsidian

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25. In which type of volcanic eruption is magma most likely to cool slowly, allowing for the development of large mineral crystals?

A) Explosive eruptions
B) Lava flows from low-viscosity magma

C) Eruptions that occur underground
D) Eruptions involving tephra

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26. What is the term used to describe the solidified fragments and lava ejected during a volcanic eruption?

A) Lava flow
B) Tephra
C) Ash cloud
D) Lava tube

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27. Which of the following is characteristic of an explosive volcanic eruption?

A) Fast-moving lava flows
B) Ejection of gas and ash
C) Formation of solidified lava sheets
D) Continuous release of basaltic lava

---

28. What volcanic rock is most likely to have a vesicular texture due to gas bubbles trapped in the rock during cooling?

A) Obsidian
B) Granite
C) Pumice
D) Basalt

---

29. The mineral composition of magma determines the eruption characteristics because:

A) It affects the density of the magma
B) It controls the temperature of the eruption
C) It affects the gas content and viscosity of the magma
D) It determines the cooling rate of the magma

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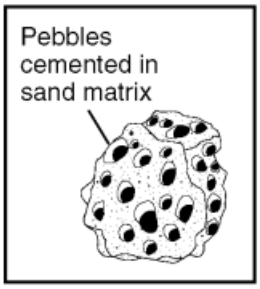
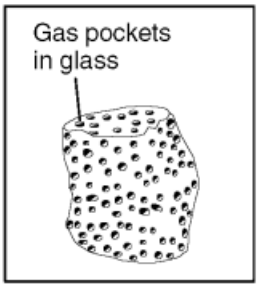
30. The presence of which gas in magma is most responsible for driving explosive volcanic eruptions?

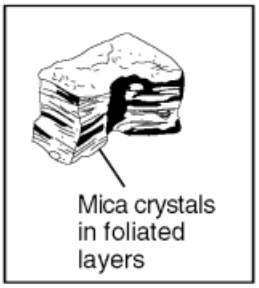
A) Nitrogen
B) Carbon dioxide
C) Water vapor
D) Oxygen

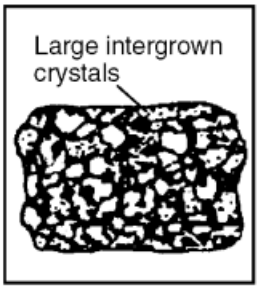
1	B	8	B	15	D	22	A	29	C
2	B	9	C	16	C	23	C	30	C
3	A	10	C	17	A	24	A		
4	B	11	C	18	A	25	C		
5	A	12	C	19	C	26	B		
6	D	13	B	20	B	27	B		
7	C	14	B	21	A	28	C		

1- Which rock most probably formed directly from lava cooling quickly at Earth's surface?

A) 

B) 

C) 

D) 

2- Rhyolite is an example of a

A) monomineralic igneous rock
B) polymineralic igneous rock
C) monomineralic sedimentary rock
D) polymineralic sedimentary rock

3- Analysis of a granite pebble would probably show that the pebble consists mostly of the

A) minerals quartz and feldspar
B) minerals calcite and gypsum
C) elements iron and magnesium
D) elements carbon and hydrogen

4- Which relative concentrations of elements are found in a felsic rock?

A) high concentration of aluminum and a low concentration of iron

B) high concentration of iron and a low concentration of aluminum

C) high concentration of magnesium and a low concentration of iron

D) high concentration of magnesium and a low concentration of aluminum

5- Which property would be most useful for identifying igneous rocks?

A) kind of cement

B) mineral composition.

C) number of minerals present

D) types of fossils present

6- The diagrams below represent four rock samples. Which rock took the longest time to solidify from magma deep within the Earth?

A)

Bands of alternating light and dark minerals

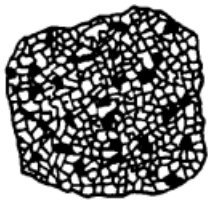
B)

Easily split layers of 0.0001-cm-diameter particles cemented together

C)

Glassy black rock that breaks with a shell-shape fracture

D)



Interlocking 0.5-cm-diameter crystals of various colors

7- The fine-grained texture of most of the igneous rock formed on the surface of Iceland is due to

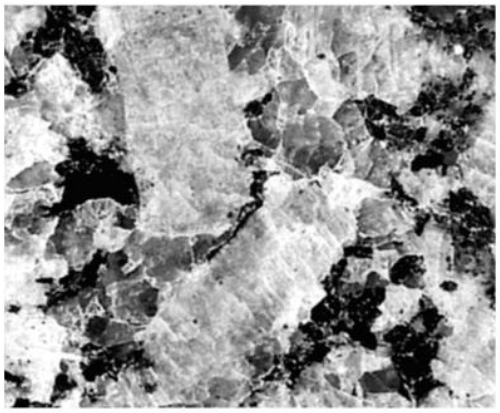
A) rapid cooling of the molten rock

B) high density of the molten rock

C) numerous faults in the island's bedrock

D) high pressure under the island

8- 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?

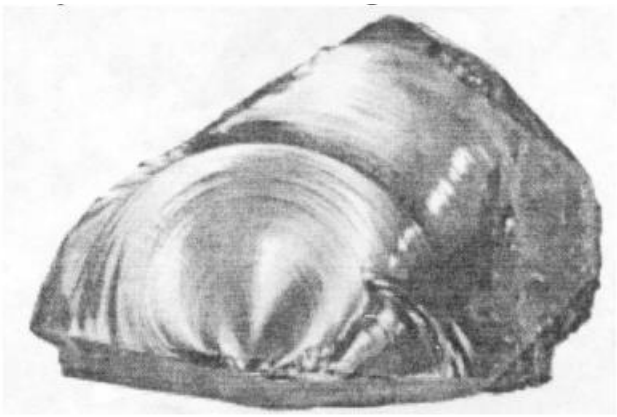
A) low density

B) light color

C) felsic composition

D) very coarse texture

9- The picture below shows the igneous rock obsidian.



The obsidian's glassy texture indicates that it formed.
from a magma that cooled
A) slowly, deep below Earth's surface
B) slowly, on Earth's surface
C) quickly, deep below Earth's surface
D) quickly, on Earth's surface

10- Which rock is of felsic composition, low in density, light in color, and coarse grained?
A) rhyolite
B) basalt
C) granite
D) gabbro

11- The table below provides information about the mineral composition of a sample of beach sand from Hawaii.

Mineral	Composition (%)
Pyroxene	50
Plagioclase feldspar	40
Olivine	3
Amphibole	5
Unidentified minerals	2

If the sand deposited on this beach recently weathered from only one type of igneous rock, the rock was most likely

A) granite
B) diorite
C) peridotite
D) basalt

12- Which property is common to most dark-colored igneous rocks?

A) high density
B) intrusive formation
C) abundant felsic minerals
D) coarse-grained texture.

13- Compared to basalt, granite is

A) lighter in color
B) greater in density
C) more mafic in composition
D) more fine grained in texture

14- The four igneous rocks below are classified into two groups.

Group A	Group B
Granite	Rhyolite
Gabbro	Basalt

What is the basis for this classification?

A) density

B) color

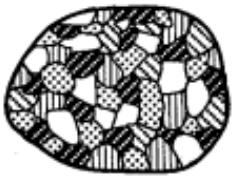
C) crystal grain size

D) mineral content

15- Which granite sample most likely formed from magma that cooled and solidified at the slowest rate?

A) 

B) 

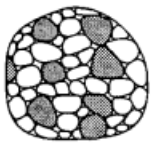
C) 

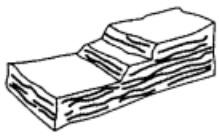
D) 

16- Base your answer to the following question on the table below which provides information about the crystal sizes and the mineral compositions of four igneous rocks, A, B, C, and D.

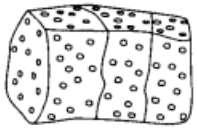
	Coarse Grained		Fine Grained	
	Rock *A*	Rock *B*	Rock *C*	Rock *D*
Mineral	Percent of Rock	Percent of Rock	Percent of Rock	Percent of Rock
Quartz	40	0	0	0
Pyroxene	0	25	0	70
Plagioclase feldspar	20	0	60	10
Potassium feldspar	20	0	0	0
Biotite	10	0	17	0
Hornblende	10	0	23	3
Olivine	0	75	0	17

Which diagram best represents the texture, composition, and intergrown crystals of rock *A*?

A) 

B) 

C) 

D) 

17- Which processes lead directly to the formation of igneous rock?

A) weathering and erosion

B) compaction and cementation

C) heat and pressure

D) melting and solidification.

18- Which two igneous rocks could have the same mineral composition?

A) rhyolite and diorite

B) pumice and scoria

C) peridotite and andesite

D) gabbro and basalt

19- Which three minerals are usually found in granite?
A) biotite, olivine, and hornblende
B) quartz, pyroxene, and olivine
C) potassium feldspar, quartz, and hornblende
D) plagioclase feldspar, biotite, and pyroxene

20- Which three minerals are most commonly found in the igneous rock granite?
A) amphibole, calcite, and hematite
B) amphibole, biotite mica, and gypsum
C) plagioclase feldspar, pyroxene, and olivine
D) plagioclase feldspar, potassium feldspar, and quartz

21- Gabbro is composed mainly of
A) plagioclase feldspars and pyroxene
B) homblende and quartz
C) biotite and olivine
D) potassium feldspar and quartz

22- For an igneous rock to be classified as rhyolite, it must be light colored, be fine grained, and contain
A) quartz
C) pyroxene
B) calcite
D) olivine

23- Which relative concentration of elements is found in a mafic rock?
A) high concentration of silicon and a low concentration of iron
B) high concentration of iron and a low concentration of aluminum
C) high concentration of aluminum and a low concentration of iron.
D) high concentration of aluminum and a low concentration of magnesium

24- Olivine and pyroxene are commonly found in igneous rocks that are
A) felsic, with low density.
B) felsic, with high density
C) mafic, with low density
D) mafic, with high density

25- A fine-grained igneous rock composed mostly of plagioclase feldspar and hornblende and containing no quartz or pyroxene would be classified as
A) granite
B) andesite
C) peridotite
D) scoria

26- Which statement best describes the percentage of plagioclase feldspars in a sample of gabbro?
A) The percentage of plagioclase feldspars in gabbro can vary.
B) Gabbro always contains less plagioclase than pyroxene
C) Plagioclase feldspars always make up 25% of a gabbro sample.
D) Gabbro contains no plagioclase feldspars.

27- Large crystals in an igneous rock most likely form as a result of the

A) mineral composition of the magma

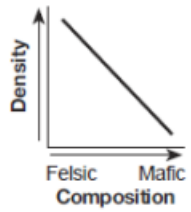
B) cooling rate of the magma

C) fossil content of the rock

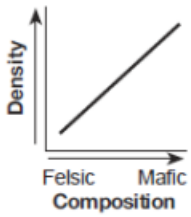
D) color of the rock

28- Which graph best shows the relationship between the compositions of different igneous rocks and their densities?

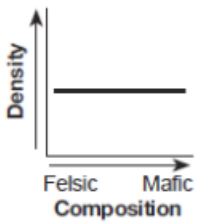
A)



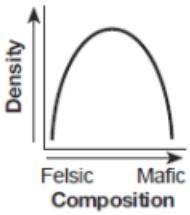
B)



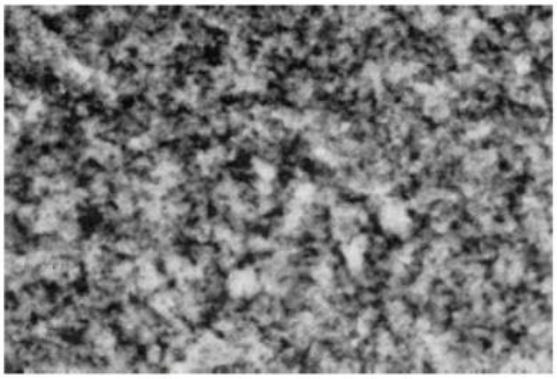
C)



D)



29- The photograph below shows actual crystal sizes in a light-colored igneous rock that contains several minerals, including potassium feldspar, quartz, and biotite mica.



(Shown to actual size)

The rock should be identified as

A) granite

B) gabbro

C) basalt

D) rhyolite

30- Which process could lead directly to the formation of pumice rock?

A) precipitation of minerals from evaporating seawater

B) metamorphism of unmelted rock material

C) deposition of quartz sand

D) explosive eruption of lava from a volcano

1	B	9	D	17	D	25	B
2	B	10	C	18	D	26	A
3	A	11	D	19	C	27	B
4	A	12	A	20	D	28	B
5	B	13	A	21	A	29	A
6	D	14	C	22	A	30	D
7	A	15	D	23	B		
8	D	16	C	24	D		