Test Bank for Environmental Geology 11th Montgomery

Access Complete Test Bank for Environmental Geology 11th Montgomery

Environmental Geology, 11e **(Montgomery)**
Chapter 2 Rocks and Minerals - A First Look

1) Which of the following would not be considered a mineral?
A) a naturally occurring, crystalline, solid chemical element or compound with a definite or range of composition
B) possibly an organic chemical compound
C) necessarily inorganic
D) All of the choices are correct.

Answer: B
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

2) An atom that has 20 protons and 20 neutrons in its nucleus has this atomic number
A) 20.
B) 40.
C) 400.
D) Cannot determine because not enough information is given.

Answer: A
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

3) Atoms of the same element that have different numbers of neutrons are _____ of that element.
A) ions
B) isotopes
C) electrons
D) atomic numbers

Answer: B
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

4) Which of the following physical properties are unreliable and not unique to a particular mineral and so must be used only cautiously when identifying minerals in the absence of scientific instruments?
A) hardness
B) cleavage
C) density
D) color

Answer: D
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

5) The internal regular arrangement of ions or atoms in a material makes it
A) amorphous.
B) non-crystalline.
C) crystalline.
D) None of the options are correct.

Answer: C
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

6) The most common minerals in the crust are
A) carbonates.
B) silicates.
C) sulfates.
D) sulfides.

Answer: B
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

7) Silicates rich in iron and/or magnesium are termed
A) cations.
B) feldspars.
C) ferromagnesian.
D) magnetite.

Answer: C
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

8) Which of the following is a silicate mineral?
A) galena
B) calcite
C) micas
D) pyrite

Answer: C
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

9) Expansive clays
A) expand when wet, shrink when dried out.
B) make a good building foundation because they mold to the structure.
C) are economically useful sulfide minerals.
D) All of the choices are correct.

Answer: A
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

10) Native elements are those elements that
A) do not have more than one isotope.
B) are all those found naturally in the earth.
C) are common in rocks of the United States.
D) occur as minerals consisting of a single element.

Answer: D
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

11) Which of the following are minerals that comprise a native element?
A) sulfur
B) diamond
C) graphite
D) All of the choices are correct.

Answer: D
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

12) Which of the following is not a member of the silicate group of minerals?
A) quartz
B) feldspar
C) mica
D) diamond

Answer: D
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

13) Which of the following is a member of the sulfide mineral group?
A) calcite
B) pyrite
C) gypsum
D) mica

Answer: B
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

14) Rocks that crystallize from magma are
A) igneous.
B) metamorphic.
C) sedimentary.
D) clastic.

Answer: A
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

15) Sedimentary rocks include
A) pieces of other rocks cemented together (sandstone, shale).
B) chemical precipitates (halite, gypsum).
C) organically precipitated components cemented together (shells cemented to form limestone).
D) organically formed materials compressed together (partially decomposed plant material formed into lignite or coal).
E) All of the choices are correct.

Answer: E
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

16) A subgroup of silicates that includes minerals used in ceramics, construction, and drilling for oil is the
A) clay subgroup.
B) ferromagnesian subgroup.
C) mica subgroup.
D) zeolite subgroup.

Answer: A
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

17) Rocks that are formed by the crystallization of new minerals in the solid state (i.e. without melting) due to heat and/or pressure are
A) igneous.
B) sedimentary.
C) ultramafic.
D) metamorphic.

Answer: D
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

18) Magma that is erupted at the earth's surface is
A) lava.
B) coarse-grained.
C) sedimentary.
D) granite.

Answer: A
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

19) Which of the following is an igneous rock?
A) salt
B) limestone
C) granite
D) gneiss

Answer: C
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

20) Which of the following rock is an example of an extremely rapid rate of cooling?
A) granite
B) rhyolite
C) obsidian
D) basalt

Answer: C
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

21) Clastic sedimentary rocks are formed
A) from the broken-up fragments of preexisting rocks.
B) from chemicals dissolved in solution.
C) at very high temperatures because the grains must be fused together to make rock.
D) All of the choices are correct.

Answer: A
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

22) The process by which sediments are converted to sedimentary rocks is called
A) diagenesis.
B) metamorphosis.
C) crystallization.
D) lithification.

Answer: D
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

23) An example of a clastic sedimentary rock is
A) limestone.
B) gypsum.
C) shale.
D) coal.

Answer: C
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

24) An example of a chemical sedimentary rock is
A) sandstone.
B) limestone.
C) shale.
D) conglomerate.

Answer: B
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

25) Of the following rocks, the one that is metamorphic is
A) rhyolite.
B) olivine basalt.
C) garnet schist.
D) granodiorite.

Answer: C
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

26) The concept of the rock cycle is that
A) rocks are moved around the world by geologic processes.
B) rocks are continually undergoing change, being transformed into new rocks.
C) the world changes, but rocks are permanent.
D) rocks must be cycled deep into the crust to be made into different rocks.

Answer: B
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

27) Which of the following statements about asbestos is true?
A) Asbestos is a mineral belonging to the carbonate group of minerals.
B) The type of asbestos most commonly used in construction materials (chrysotile or "white asbestos") is also the most hazardous to health.
C) Asbestos can occur in any one of the three rocks types, igneous, sedimentary or metamorphic.
D) Asbestos is a generic term for any mineral crystal that is a fiber (i.e. thin and flexible).

Answer: D
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

28) Isotopes are atomic nuclei that are radioactive.

Answer: FALSE
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

29) Different isotopes of one element are chemically indistinguishable.

Answer: TRUE
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

30) Anions are negatively charged and cations are positively charged.

Answer: TRUE
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

31) All crystalline materials show well-developed crystal faces.

Answer: FALSE
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

32) The physical properties of a mineral are often closely related to its internal atomic arrangement or crystal structure.

Answer: TRUE
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

33) The term cleavage refers to a mineral's tendency to break preferentially in certain directions of the crystal structure.

Answer: TRUE
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

34) The basic "building blocks" of the silicate minerals are tetrahedra of silicon and carbon.

Answer: FALSE
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

35) Diamond and graphite have the same chemical composition.

Answer: TRUE
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

36) Quartz is the most abundant mineral in the crust.

Answer: FALSE
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

37) The sulfide mineral group includes many valuable ores.

Answer: TRUE
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

38) Plutonic rocks are typically fine grained owing to a faster rate of cooling than volcanic rocks.

Answer: FALSE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

39) Differences in magma composition account for the fact that some volcanoes erupt quietly, others explosively.

Answer: TRUE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

40) The particle grain size of conglomerate is greater than that of sandstone.

Answer: TRUE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

41) Metamorphic rocks are formed at extremely high temperatures, above those required to form plutonic rocks.

Answer: FALSE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

42) Chemical sedimentary rocks are those precipitated from a silicate melt.

Answer: FALSE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

43) Clastic sedimentary rocks are classified or named on the basis of the size of the fragments that form the rock.

Answer: TRUE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

44) The grain size of an igneous rock is generally related to how quickly the melt cooled: the slower the cooling, the coarser the crystals.

Answer: TRUE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

45) Foliation, referring to a preferential parallel orientation of mineral crystals, is a texture that is referred for metamorphic rocks.

Answer: TRUE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

46) Obsidian (volcanic glass) is an example of a clastic rock.

Answer: FALSE
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

47) The silicate tetrahedron is composed of
A) 4 oxygen and 2 silicon atoms.
B) 4 silicon and 1 oxygen atoms.
C) 4 silicon and 2 oxygen atoms.
D) 4 oxygen and 1 silicon atoms.

Answer: D
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

48) Which mineral subgroup is the most abundant in Earth's crust?
A) micas
B) garnet
C) ferromagnesian
D) feldspars

Answer: D
Section: 02.03: Types of Minerals
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

49) Which is not part of the definition of a mineral?
A) naturally occurring
B) aggregate of elements
C) definite chemical composition
D) orderly internal arrangement

Answer: B
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

50) Pure ice is a mineral while pure liquid water is not. Why?
A) Liquid water does not have an orderly internal arrangement of atoms.
B) Liquid water does not occur naturally.
C) Liquid water does not have a definite chemical composition.
D) All of the choices are correct.

Answer: A
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

51) Rock salt and limestone are examples of
A) metamorphic rocks.
B) chemical sedimentary rocks.
C) fragmental sedimentary rocks.
D) igneous rocks.

Answer: B
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

52) Contact metamorphic rocks
A) occur throughout hundreds of square miles.
B) are formed next to igneous intrusions.
C) are usually foliated.
D) are formed along faults.

Answer: B
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

53) Examples of foliated metamorphic rocks are
A) marble and quartzite.
B) shale and andesite.
C) limestone and marble.
D) slate and schist.

Answer: D
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

54) The shape of mineral crystals depends most on
A) chemical composition.
B) internal atomic arrangement.
C) bonding and hardness.
D) chemical purity.

Answer: B
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

55) The number of naturally occurring chemical elements is approximately
A) 36.
B) 90.
C) 106.
D) 200.

Answer: B
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

56) An element's chemical identity is determined by its
A) number of isotopes.
B) atomic number.
C) number of neutrons.
D) atomic mass number.

Answer: B
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

57) Isotopes of the same element
A) differ in atomic number.
B) have different atomic mass numbers.
C) differ in their number of electrons.
D) differ in their chemical behavior.

Answer: B
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

58) Which of the following physical properties is not a reliable guide to mineral identification in hand specimens?
A) hardness
B) cleavage
C) color
D) streak

Answer: C
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

59) In an electrically neutral atom,
A) electrons and protons have no charge.
B) the electron shells are completely filled.
C) the number of protons and the number of electrons are the same.
D) the number of neutrons is equal to the sum of the number of protons and electrons.

Answer: C
Section: 02.01: Atoms, Elements, Isotopes, Ions, and Compounds
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

60) All of the following statements concerning minerals are correct except
A) minerals are crystalline solids.
B) some minerals are produced by biological processes.
C) minerals are naturally occurring substances.
D) minerals exist as elements or compounds.

Answer: B
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

61) The two fundamental characteristics that distinguish a mineral from all other minerals are its
A) color and hardness.
B) hardness and cleavage.
C) chemical composition and crystal structure.
D) density and streak.

Answer: C
Section: 02.02: Minerals--General
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery

62) All of the following are examples of clastic sedimentary rocks except
A) conglomerate.
B) shale.
C) sandstone.
D) limestone.

Answer: D
Section: 02.04: Rocks
Topic: Rocks
Bloom's: Level 1. Remember
Accessibility: Keyboard Navigation
Chapter: 02

Copyright 2019 © McGraw-Hill Education. All rights reserved. No reproduction or distribution without the prior written consent of McGraw-Hill Education.

Access Complete Test Bank for Environmental Geology 11th Montgomery