

Chapter 2 Test Bank

Completion

1. A/an _____ is a naturally occurring inorganic solid with a characteristic chemical composition and a crystalline structure.
2. A positively charged ion is a _____.
3. A/an _____ _____ is a planar surface that develops if a crystal grows freely without obstructions.
4. The tendency of some minerals to break along flat surfaces is called _____.
5. _____ _____ is the characteristic shape of an individual crystal.
6. A scale that compares the resistance of the surfaces of minerals to scratching is _____ _____ _____.
7. _____ is the color of a fine powder of a mineral.
8. _____ _____ are a small class of minerals, including gold and silver.
9. Minerals whose chemical elements include carbon and oxygen as a major part of their chemical composition are called _____.
10. _____ _____ is the weight of a substance relative to that of an equal volume of water.
11. Every silicon atom surrounds itself with _____ oxygens in a silica tetrahedron.
12. Ninety-two percent of the Earth's crust is composed of _____ minerals.
13. A/an _____ is a mineral that is prized for its rarity and beauty.
14. From _____ _____, metals or other elements can be recovered profitably.
15. A group of minerals that crystallize as long, thin fibers and are carcinogenic is called _____.

Fill-in-the-Blank

1. A synthetic diamond is not a true mineral because it _____.
 - a. is not a solid
 - b. does not have a crystalline structure
 - c. is not formed by natural processes
 - d. does not have a definite chemical composition
2. Feldspar is a _____ mineral.
 - a. silicate
 - b. clay
 - c. oxide
 - d. carbonate
3. A mineral that is valued for its beauty rather than for industrial use is a/an _____.
 - a. accessory mineral
 - b. ore mineral
 - c. gem
 - d. rock-forming mineral
4. The silicate tetrahedron consists of _____ surrounded by _____.
 - a. four central silicon ions, one oxygen ion
 - b. four central oxygen ions, four silicon ions
 - c. one central oxygen ion, three silicon ions
 - d. one central silicon ion, four oxygen ions
5. Two ore minerals that are commonly comprised of pure metals and contain only a single element are native _____ and _____.
 - a. gold, silver
 - b. galena, silver
 - c. quartz, gold
 - d. silver, olivine
6. Two common carbonate minerals are _____ and _____.
 - a. calcite, feldspar
 - b. calcite, dolomite
 - c. quartz, galena
 - d. dolomite, quartz
7. Quartz is composed of _____.
 - a. silicon and oxygen
 - b. silicon and iron
 - c. iron and oxygen
 - d. silicon and aluminum

8. The two most abundant elements in Earth's crust are _____.
 - a. oxygen (O) and silicon (Si)
 - b. oxygen (O) and lead (Pb)
 - c. silicon (Si) and nickel (Ni)
 - d. lead (Pb) and nickel (Ni)

9. Halite (table salt) is composed of _____.
 - a. silicon and oxygen
 - b. sodium and chlorine
 - c. iron and oxygen
 - d. silicon and sodium

10. _____ is the weight of a substance relative to that of an equal volume of water.
 - a. Specific volume
 - b. Specific gravity
 - c. Specific luster
 - d. Specific composition

11. The basic unit of all silicates is the _____.
 - a. oxygen chamber
 - b. silicate triangle
 - c. silicate chain
 - d. silicate tetrahedron

12. Quartz makes up _____ percent of the Earth's crust.
 - a. more than 50
 - b. 32
 - c. 12
 - d. 0.1

13. On the Mohs hardness scale, diamond has the value _____.
 - a. 1
 - b. 5
 - c. 10
 - d. 100

14. Ninety-two percent of the Earth's crust is composed of _____ minerals.
 - a. silicate
 - b. sulfide
 - c. oxide
 - d. carbonate

15. Radon forms by the radioactive decay of _____.
 - a. gold
 - b. sodium
 - c. platinum
 - d. uranium

Multiple Choice

1. Which of the following does *not* describe a mineral?
 - a. a fundamental form of matter that cannot be broken into simpler substances by ordinary chemical processes
 - b. the building blocks of rocks
 - c. a naturally occurring inorganic solid with a characteristic chemical composition and a crystalline structure
 - d. natural gems
2. How many chemical elements occur naturally in the Earth's crust?
 - a. 8
 - b. 40
 - c. 88
 - d. 108
3. Which of the following best describes an element?
 - a. a small, dense, positively charged subatomic particle
 - b. a fundamental form of matter that can be broken into simpler substances by ordinary chemical processes
 - c. a fundamental form of matter that cannot be broken into simpler substances by ordinary chemical processes
 - d. a naturally occurring inorganic solid with a characteristic chemical composition and a crystalline structure
4. Which of the following describes a crystal?
 - a. a substance whose atoms are arranged irregularly
 - b. a substance whose atoms are arranged in a regular, orderly, periodically repeated pattern
 - c. any pure substance
 - d. any solid containing randomly oriented sodium and chlorine ions
5. Which physical properties distinguish a particular mineral from all others?
 - a. fracture and faceting
 - b. specific gravity
 - c. chemical composition and crystalline structure
 - d. streak and luster
6. Calcite is a/an:
 - a. silicate mineral.
 - b. clay mineral.
 - c. oxide mineral.
 - d. carbonate mineral.
7. Hardness is:
 - a. the resistance of a mineral to fracture.
 - b. the resistance of a mineral to shattering.
 - c. dependent on a mineral's flexibility.
 - d. the resistance of a mineral to scratching.

8. Which of the following is *not* a rock-forming mineral?
 - a. pyroxene
 - b. feldspar
 - c. galena
 - d. quartz

9. Which of the following is *not* an ore mineral?
 - a. feldspar
 - b. galena
 - c. gold
 - d. copper

10. Minerals are classified according to their:
 - a. streak.
 - b. chemical elements.
 - c. specific weight.
 - d. luster.

11. Limestone is a:
 - a. sulfide mineral.
 - b. phosphate mineral.
 - c. silicate mineral.
 - d. carbonate mineral.

12. Feldspar makes up:
 - a. about 50 percent of the Earth's crust.
 - b. 10 percent of the Earth's crust.
 - c. about 35 percent of the Earth's crust.
 - d. 0.05 percent of the Earth's crust.

13. On the Mohs hardness scale, the hardest mineral is:
 - a. gypsum.
 - b. feldspar.
 - c. quartz.
 - d. diamond.

14. Which one of the following is *not* a mineral?
 - a. synthetic diamond
 - b. feldspar
 - c. ice crystal
 - d. quartz

15. Copper, lead, and zinc commonly form:
 - a. native elements.
 - b. gems.
 - c. sulfide ore minerals.
 - d. carbonate minerals.

True/False

1. It is not necessary for a substance to be a solid to be a mineral.
2. Ice is a mineral.
3. Synthetic diamond is a mineral.
4. An element cannot be broken into smaller substances by ordinary chemical processes.
5. Halite (table salt) is composed of sodium and chlorine ions.
6. Only eight elements—oxygen, silicon, aluminum, iron, calcium, magnesium, potassium, and sodium—make up more than 98 percent of the Earth's crust.
7. Quartz consists of silicon and calcium.
8. Only atoms with a positive charge are called ions.
9. A substance in which atoms are arranged without a regular, orderly, periodically repeated pattern is called a crystal.
10. Cleavage is the tendency of some minerals to break along flat surfaces.
11. Fracture is the resistance of a mineral to scratching.
12. Calcite is the hardest mineral.
13. Most rock-forming minerals are silicates.
14. Gold and silver are examples of native elements.
15. Rocks and minerals in their natural state are never harmful to humans and other organisms.

Answer Bank

Completion	Fill-in-the-Blank	Multiple Choice	True/False
1. mineral; p. 18	1. c; p. 18	1. a; p. 18	1. F; p. 18
2. cation; p. 18	2. a; p. 25	2. c; p. 18	2. T; p. 18
3. crystal face; p. 19	3. c; p. 27	3. c; p. 18	3. F; p. 18
4. cleavage; p. 21	4. d; p. 25	4. b; p. 19	4. T; p. 18
5. Crystal habit; p. 21	5. a; p. 23	5. c; p. 18	5. T; p. 19
6. Mohs hardness scale; p. 22	6. b; p. 27	6. d; p. 27	6. T; p. 18
7. Streak; p. 23	7. a; p. 25	7. d; p. 22	7. F; p. 19
8. Native elements; p. 23	8. a; p. 18	8. c; p. 25	8. F; p. 18
9. carbonates; p. 23	9. b; p. 19	9. a; p. 27	9. F; p. 19
10. Specific gravity; p. 22	10. b; p. 22	10. b; p. 23	10. T; p. 21
11. four; p. 25	11. d; p. 25	11. d; p. 27	11. F; p. 21
12. silicate; p. 25	12. c; p. 25	12. a; p. 25	12. F; p. 22
13. gem; p. 27	13. c; p. 22	13. d; p. 22	13. T; p. 25
14. ore minerals; p. 27	14. a; p. 25	14. a; p. 18	14. T; p. 23
15. asbestos; p. 29	15. d; p. 30	15. c; p. 27	15. F; p. 28