

Earth & Space Science - Chapter 2 Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

Write the letter that best answers the question or completes the statement on the line provided.

- _____ 1. An element is a substance that
- a. exists naturally as a solid, liquid, and gas.
 - b. cannot be broken down into simpler substances.
 - c. is above 86 on the periodic table.
 - d. can be broken down only by chemical means.
- _____ 2. Which particles make up atoms?
- a. protons, neutrons, electrons
 - b. protons, electrons, nuclei
 - c. electrons, neutrons, ions
 - d. neutrons, electrons, molecules
- _____ 3. Which of the following is an element?
- a. water
 - b. hydrogen
 - c. air
 - d. carbon dioxide
- _____ 4. When elements are more stable in a combined form, which of the following forms?
- a. atoms
 - b. metals
 - c. nuclei
 - d. compounds
- _____ 5. A compound contains two or more
- a. elements physically combined.
 - b. simple substances.
 - c. elements chemically combined.
 - d. nuclei combined with electrons.
- _____ 6. Isotopes are atoms of an element
- a. with the same number of electrons but different numbers of protons.
 - b. that are radioactive.
 - c. with a magnetic charge.
 - d. with the same number of protons but different number of neutrons.
- _____ 7. Chemical bonds are likely to form when
- a. two atoms have the same number of electrons.
 - b. an atom's outer energy level doesn't have the maximum number of electrons.
 - c. an atom's nucleus has the same number of protons as neutrons.
 - d. an atom's outer energy level is filled.

- ___ 8. Crystallization from cooling magma describes one way that
- a. atoms bond.
 - b. ions combine.
 - c. protons attract electrons.
 - d. minerals form.
- ___ 9. What process causes dissolved substances to be left behind to form minerals after water in lakes or ponds evaporates?
- a. precipitation
 - b. ionization
 - c. condensation
 - d. sublimation
- ___ 10. Minerals are classified according to their
- a. color.
 - b. origin.
 - c. composition.
 - d. specific gravity.
- ___ 11. Which of these is a mineral?
- a. oxygen
 - b. diamond
 - c. sulfuric acid
 - d. wood
- ___ 12. Major groups of minerals include
- a. oxides and carbonates.
 - b. ions and isotopes.
 - c. silicates and magnetics.
 - d. inorganics and halides.
- ___ 13. A mineral CANNOT be
- a. solid.
 - b. formed from once-living material.
 - c. naturally occurring.
 - d. light in color.
- ___ 14. To what class of minerals do gold, silver, and copper belong?
- a. carbonates
 - b. native elements
 - c. halides
 - d. sulfates and sulfides
- ___ 15. When carbonate minerals come into contact with hydrochloric acid, they
- a. break.
 - b. fizz.
 - c. freeze.
 - d. evaporate.
- ___ 16. Which of the following is a property of minerals?
- a. age
 - b. odor
 - c. hardness
 - d. size
- ___ 17. If a mineral breaks along flat or even surfaces, it has
- a. luster.
 - b. fracture.
 - c. cleavage.
 - d. streak.

31. Halite (NaCl) belongs to the _____ mineral group, while gypsum (CaSO₄) belongs to the sulfates/sulfides mineral group.
32. The words *metallic*, *glassy*, *pearly*, and *vitreous* are used to describe the mineral property known as _____.
33. Density is a property of matter that is the ratio of an object's _____ to its volume.
34. The odor of rotten eggs in the streak of a mineral indicates that it contains _____.
35. The properties of a mineral depend on the _____ that compose it and its structure.

Short Answer

36. Contrast ionic, covalent, and metallic bonds.
37. List the five characteristics of a mineral.
38. Describe how temperature and pressure result in the formation of new minerals.
39. List three of the properties that can be used to identify minerals.