

## Chapter 6.2 Periodic Table Self-Assessment

Name: \_\_\_\_\_

1. An element that is a very reactive nonmetal is most likely a member of the \_\_\_\_.
- noble gases.
  - alkali metals.
  - halogens.
  - actinides.

2. Which statement is true?
- Alkali metals are generally found in their uncombined form.
  - Alkali metals are Group 1 elements.
  - Alkali metals should be stored under water.
  - Alkali metals are unreactive.

3. Which statement about the periodic table is NOT true?
- There are more metals than nonmetals.
  - The metalloids are located in Groups 13 through 16.
  - The elements at the far left of the table are nonmetals.
  - Elements are arranged by increasing atomic number.

4. One property of most nonmetals is that they are \_\_\_\_.
- shiny.
  - poor conductors of electric current.
  - flattened when hit with a hammer.
  - solids at room temperature.

5. Most of the elements in the periodic table are \_\_\_\_.
- metals.
  - metalloids.
  - poor conductors of electric current.
  - nonmetals.

6. Moseley rearranged the elements in Mendeleev's periodic table in terms of \_\_\_\_.
- chemical symbols.
  - atomic mass.
  - density.
  - atomic number.

7. Alkaline-earth metals \_\_\_\_ than alkali metals.
- are more reactive
  - have greater density
  - have lower atomic numbers
  - are more explosive

8. The element \_\_\_\_ is a metalloid.
- silicon, Si
  - carbon, C
  - lead, Pb
  - phosphorus, P

9. The elements in Groups 3–12 \_\_\_\_.
- have unstable atoms.
  - are poor conductors of electric current.
  - have the same physical and chemical properties.
  - are solids at room temperature, except for mercury.

10. \_\_\_\_ is a gas at room temperature, and its atoms have six electrons in their outermost energy level.
- Nitrogen
  - Bromine
  - Oxygen
  - Sulfur

11. When an element seemed to be missing from his periodic table, Mendeleev \_\_\_\_.
- predicted that the element would be discovered.
  - predicted the properties of the missing element.
  - left a gap in his table for the missing element.
  - All of the above

12.

80  
Hg  
Mercury  
200.6

The atomic mass of mercury is \_\_\_\_.

- 80 amu.
- 80 g.
- 200.6 amu.
- 200.6 g.

13. The elements in a period on the periodic table become \_\_\_\_.
- more metallic moving from top to bottom.
  - less metallic moving from left to right.
  - less metallic moving from top to bottom.
  - more metallic moving from left to right.

14. Which of the following statements is NOT true of elements on the periodic table?
- Elements are arranged by increasing atomic number.

- b. Elements to the left of the zigzag line are metalloids.
- c. Elements that are in the same group tend to have similar properties.
- d. Elements in the column farthest to the right are unreactive.

- 1 5. On the periodic table, a column of elements is called \_\_\_\_.
- a. an atomic line.
  - b. a period.
  - c. a group or family.
  - d. a transition.

- 1 6. In the periodic table, elements are classified as \_\_\_\_ according to their properties.
- a. solid, liquid, or gas
  - b. neutral or ionized
  - c. metals, nonmetals, and metalloids
  - d. bondable or not bondable

- 1 7. The wires in your home's electrical devices demonstrate a metal's property of \_\_\_\_.
- a. conductivity.
  - b. malleability.
  - c. ductility.
  - d. Both (a) and (b)

- 1 8. Atoms of most nonmetals have \_\_\_\_ electrons in their outermost energy level, and this is why they are, in general, reactive.
- a. few
  - b. about a half-complete set of
  - c. an almost complete set of
  - d. a complete set of

- 1 9. Atoms of most metalloids have \_\_\_\_ electrons in their outermost energy level, and this is why they can have multiple oxidation states (valence electrons).
- a. few
  - b. about a half-complete set of
  - c. an almost complete set of
  - d. a complete set of

- 2 0. Atoms of one group of nonmetals, the noble gases, have \_\_\_\_ electrons in their outermost energy level (have filled its octet).
- a. few
  - b. about a half-complete set of
  - c. an almost complete set of
  - d. a complete set of

- 2 1. The group of metals that are soft enough to be cut with a knife are \_\_\_\_.
- a. alkali metals.
  - b. alkaline-earth metals.
  - c. transition metals.
  - d. lanthanides.

- 2 2. Elements in a family or group in the periodic table often share similar properties because \_\_\_\_.
- a. they look alike.
  - b. they are found in the same place on Earth.
  - c. they have the same physical state.
  - d. their atoms have the same number of electrons in their outermost energy level.

- 2 3. Which of the following are properties of alkali metals?
- a. poor conductor, very reactive
  - b. low density, shiny, soft
  - c. unreactive, not shiny, gaseous
  - d. very dense, somewhat shiny, brittle

- 2 4. Which of the following groups is used in neon lights?
- a. halogens
  - b. noble gases
  - c. nitrogen group
  - d. oxygen group

- 2 5. All atoms of actinides \_\_\_\_.
- a. are radioactive.
  - b. have a half-complete set of electrons in their outer level.
  - c. have a complete set of electrons in their outer level.
  - d. are very stable.

- 2 6. Titanium is a transition metal that can be used in artificial bones because it is \_\_\_\_.
- a. very reactive.
  - b. not very reactive.
  - c. radioactive.
  - d. naturally found in the body.

- 2 7. Rust is an example of how some transition metals \_\_\_\_.
- a. are very reactive.
  - b. are not very reactive.
  - c. are radioactive.
  - d. are not shiny.

- 2 8. Unlike most transition metals, mercury \_\_\_\_.
- a. is gold-colored.
  - b. is in the liquid state at room temperature.
  - c. is very reactive.
  - d. is not very reactive.