

Unit B Quiz

Part A: Modified True/False

Indicate whether each statement is true or false. If false, change the underlined word or phrase to make the statement true.

1. The behaviour of a substance as it changes into a new substance is a physical change. _____
2. Metals share the properties of lustre, electrical and heat conductivity, malleability, and ductility. _____
3. Electrons have no charge, have the same mass as protons, and are located in the nucleus of the atom. _____
4. When an ion is formed, protons will be gained or lost to form negatively or positively charged atoms. _____

Part B: Sentence Completion

Complete the sentence.

5. A group of elements with similar properties is called a _____.
6. When the outer shell of an atom is _____, the atom will have become an ion.
7. The atomic theory of _____ takes into account the unique emission spectra of the elements.
8. A chocolate treat is left too close to a stove element and melts. This is a _____ change.
9. Our atmosphere is matter that is best classified as a _____, because components like clouds and dust are visible.

Part C: Multiple Choice

Circle the letter beside the answer that best completes the statement or answers the question.

10. The two instances of pure substances are
 - (a) homogeneous mixtures and compounds
 - (b) elements and heterogeneous mixtures
 - (c) elements and solutions
 - (d) elements and compounds

Unit B Quiz (continued)

11. Soda pop is an example of a(n)
- (a) compound (c) element
(b) homogeneous mixture (d) heterogeneous mixture
12. An object has a mass of 1200 g and a volume of 2.0 L (2000 cm³). What is its density?
- (a) 0.6 g/cm³ (b) 2400 g/cm³ (c) 6.0 g/cm³ (d) 167 g/cm³
13. Which property of matter is related to the following experiment: small amounts of sugar are each weighed and then added, one at a time, to 100 mL of water until no more can dissolve?
- (a) density (b) malleability (c) reaction with water (d) solubility
14. Which of the following is an example of a chemical change?
- (a) water evaporating (c) compost decaying
(b) rain precipitating (d) candle wax melting
15. When frost forms on the grass on a cold morning, this is because of which change of state?
- (a) deposition (b) freezing (c) melting (d) condensing
16. Evaporation is best described as
- (a) the gradual change of state between a liquid and a gas
(b) the rapid change of state between a gas and a liquid
(c) the change of state between a solid and a gas
(d) the rapid change of state between a liquid and a gas
17. Strontium is a shiny element that conducts heat and electricity. It is classified as a
- (a) non-metal (b) metal (c) metalloid (d) solid
18. This man showed that compounds are formed because of the electrical attraction between charged atoms.
- (a) Ernest Rutherford (c) Michael Faraday
(b) John Dalton (d) Benjamin Franklin
19. Ions are formed when
- (a) Atoms lose electrons and become positively charged.
(b) Atoms lose protons and become negatively charged.
(c) Atoms gain electrons and become positively charged.
(d) Atoms gain protons and become positively charged.

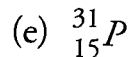
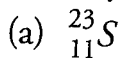
Name: _____ Date: _____

Unit B Quiz (continued)

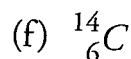
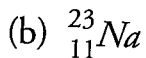
Part D: Matching

Chose the letter of the standard notation symbol that matches each of the following:

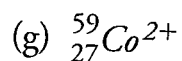
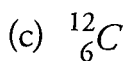
____ 20. sodium



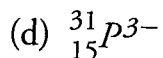
____ 21. phosphorous ion



____ 22. cobalt ion



____ 23. carbon-12



Part E: Short Answer

Use sentences, formulas or diagrams to answer the following questions.

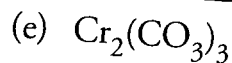
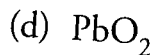
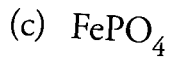
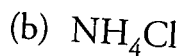
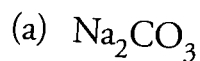
24. Look up magnesium in the Periodic Table, and list the following information: the atomic number, the atomic mass, and the ion charge.

25. Draw a Bohr diagram for silicon.

26. Explain why neon does not normally form ions.

Unit B Quiz (continued)

27. Write the names of the following compounds:



28. Write the formula for each of the following compounds:

(a) ammonium hydroxide _____

(b) magnesium hydrogen sulfide _____

(c) iron(III) dichromate _____

(d) potassium chloride _____

(e) tin(II) oxide _____

29. Magnesium sulfide does not dissolve easily in water. Predict the solubility of calcium sulfide, and explain your answer.

30. List the members of the alkali metals chemical family, and give three distinguishing properties of the family.

