Chemistry in Context 10th edition American Chemical Society Test Bank

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Chemistry in Context 10th Edition by American Chemical Society CH01

ANSWERS ARE LOCATED IN THE SECOND PART OF THIS DOCUMENT

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

1) The quantity 0.0000064 g expressed in scientific notation.

1) _____

A) 6.4×10^{6} g
B) 6.4×10^{-6} g
C) 6.4×10^{7} g
D) 6.4×10^{-7} g

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.04
Topic : Study of Chemistry
Chapter : 01
Subtopic : Scientific Notation

2) The quantity 8.7×10^{5} g expressed in standard decimal notation.

2) _____

A) 0.000087 g
B) 870.000 g
C) 0.0000087 g
D) 870,000 g

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.04
Topic : Study of Chemistry
Chapter : 01
Subtopic : Scientific Notation
Subtopic : Measurements

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3) A substance that can be broken down into two or more simpler substances by chemical methods is called a(n)

3) _____

A) compound.
B) mixture.
C) element.
D) isotope.

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Classification of Matter
Subtopic : Fundamental Definitions

4) On a periodic table, the columns of elements with similar properties are

4) _____

A) periods.
B) groups.
C) rows.
D) metals.

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Periodic Table

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5) The most numerous of the elements are the

5) _____

A) metals.
B) nonmetals.
C) metalloids.
D) noble gases.

Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Periodic Table

6) Which is not a mixture?

6) _____

A) A jar filled with rocks and sand
B) Seawater
C) A glass of Kool-Aid
D) Sodium chloride

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Fundamental Definitions
Subtopic : Properties of Matter

7) Which is not a pure substance?

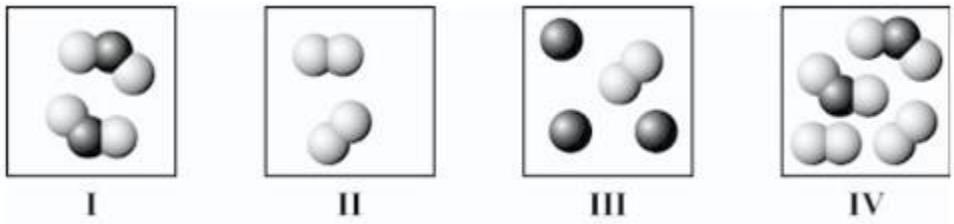
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7) _____

A) Helium
B) Copper wire
C) Air
D) Sucrose

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Properties of Matter

8) Which squares contain mixtures?



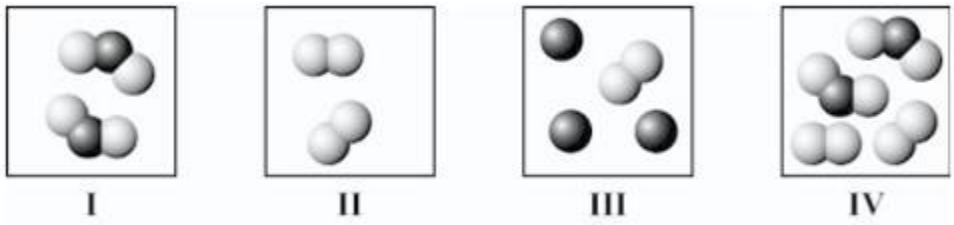
8) _____

A) II and III only
B) III and IV only
C) I, III, and IV only
D) I and IV only

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Properties of Matter
Subtopic : Molecules

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9) Which square(s) contain(s) only an element?

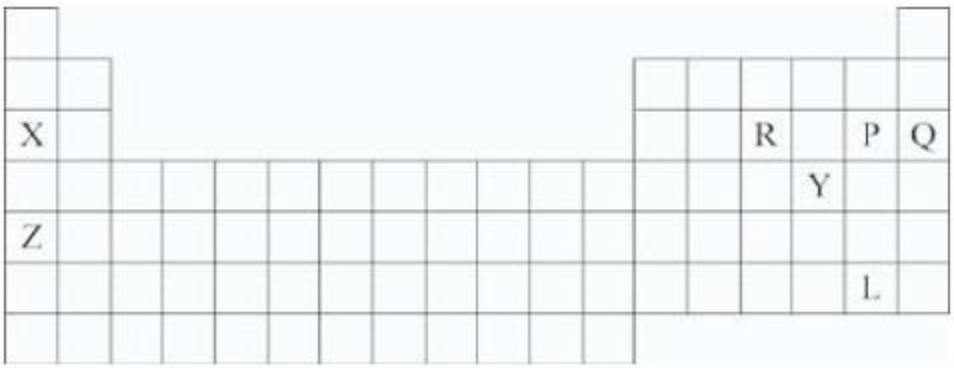


9) _____

A) I only
B) II only
C) I and II only
D) III and IV only

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Fundamental Definitions
Subtopic : Elements

10) Which symbols represent only elements that are metals?



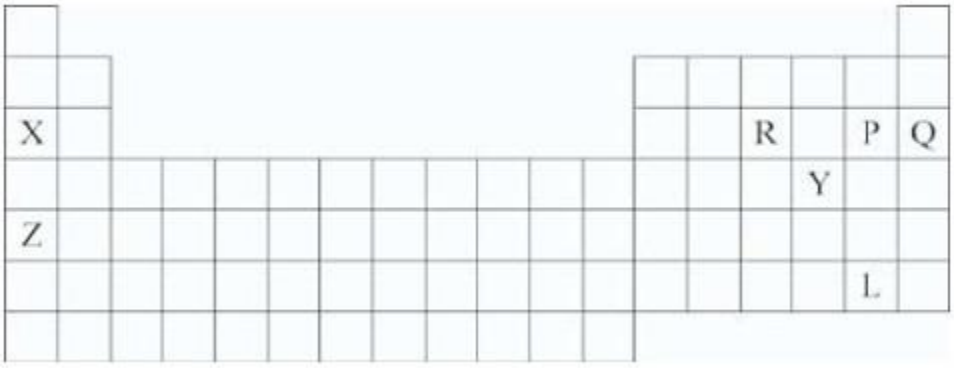
10) _____

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A) X and Z
B) X and Q
C) P and L
D) X, R, P, and Q

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Periodic Table

11) Which symbol(s) represent(s) elements in the noble gas family?



11) _____

A) X and Z
B) P and L
C) Q
D) Y

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Scientific Method

12) Which differentiates a compound from a mixture of two or more elements?

12) _____

A) The elements in a compound may be present in varying proportions
B) A compound does not exhibit the individual properties of the elements of which it is composed
C) A compound is made up of only one element
D) A compound cannot be made up of more than two elements

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Classification of Matter
Subtopic : Fundamental Definitions

13) Which substance is an element?

13) _____

A) NO_2
B) NaCl
C) N_2
D) CH_4

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Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Elements

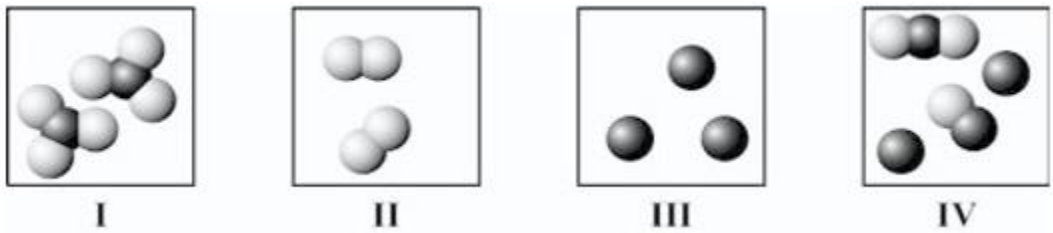
14) A(n) _____ is a fixed number of atoms held together by chemical bonds in a certain spatial arrangement.

14) _____

A) element
B) ion
C) molecule
D) mixture

Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Fundamental Definitions
Subtopic : Molecules

15) Which diagram(s) best represent(s) only diatomic molecules?



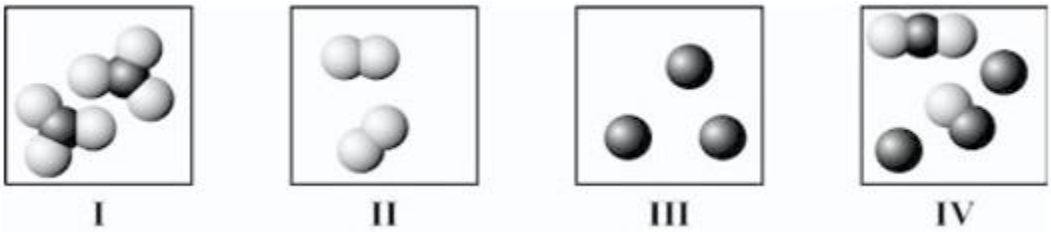
15) _____

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A) I only
B) II only
C) I and II only
D) II and IV only

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Molecules
Subtopic : Elements

16) Which diagram(s) best represent(s) only molecules?



16) _____

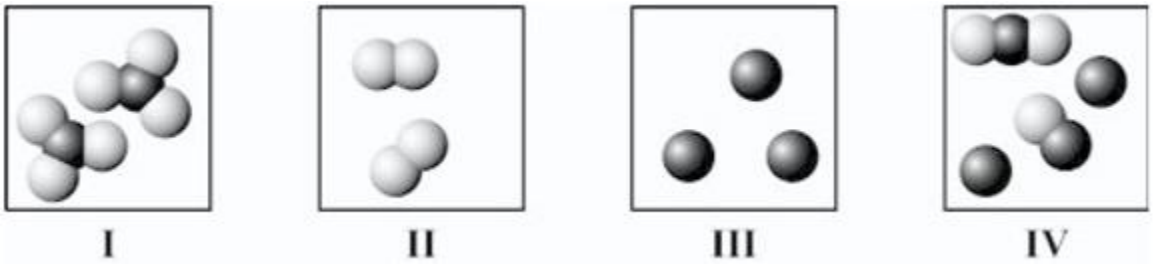
A) I only
B) II only
C) III only
D) I and II only
E) IV only

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Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Classification of Matter
Subtopic : Molecules
Subtopic : Elements

17) Which diagram(s) best represent(s) only individual atoms?



17) _____

A) I only
B) II only
C) III only
D) IV only
E) II and III only

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Molecules
Subtopic : Elements

18) Which of the following is the chemical symbol for silver?

18) _____

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A) Au
B) Pb
C) Ag
D) Fe

Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Section : 01.02
Topic : Components of Matter
Chapter : 01
Subtopic : Periodic Table

19) Which of the following is a pure substance?

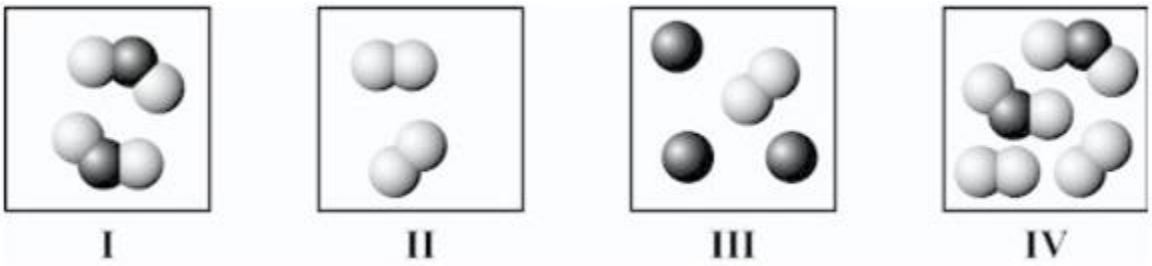
19) _____

A) Lemonade
B) Concrete
C) Gasoline
D) Silver wire

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Classification of Matter

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20) Which square(s) contain(s) only one or more compounds?



20) _____

A) I only
B) II only
C) I and IV only
D) II and III only

Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : Molecules
Subtopic : Elements
Subtopic : States of Matter

21) In the periodic table, which elements typically have similar properties?

21) _____

A) Those in the same rows
B) Those related diagonally
C) Those in the same columns
D) Those on opposite sides

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Question Details
Accessibility : Keyboard Navigation
Section : 01.02
Topic : Components of Matter
Bloom's : 2. Understand
Chapter : 01
Subtopic : The Periodic Table

22) The nucleus of an atom contains

22) _____

A) electrons and protons only.
B) protons only.
C) electrons, protons, and neutrons.
D) protons and neutrons only.

Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Topic : Components of Matter
Section : 01.05
Chapter : 01
Subtopic : Atomic Structure

23) What distinguishes the atoms of one element from another?

23) _____

A) The number of neutrons
B) The number of protons plus neutrons
C) The number of protons
D) The number of neutrons plus electrons

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Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 2. Understand
Section : 01.05
Chapter : 01
Subtopic : Atomic Number
Subtopic : Atomic Symbol

24) The atomic number is the

24) _____

A) same as the mass number of an atom.
B) number of protons in a nucleus.
C) number of protons and neutrons in a nucleus.
D) number of neutrons in a nucleus.

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.05
Chapter : 01
Subtopic : Atomic Number

25) The majority of new smartphones being released have displays that are at least 5 inches in size. What is this size in centimeters? (There are 2.54 cm in one inch.)

25) _____

A) 1.97 cm
B) 6.10 cm
C) 12.7 cm
D) 60.0 cm

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Chemistry in Context 10th Edition by American Chemical Society CH01

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.04
Topic : Study of Chemistry
Chapter : 01
Subtopic : Unit Conversion

26) One common class of minerals are aluminosilicates, with a general formula of Al_2SiO_5. What is the atomic percentage composition of aluminum in an aluminosilicate?

26) _____

A) 12.5 percent Al
B) 25 percent Al
C) 33.3 percent Al
D) 62.5 percent Al

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Components of Matter
Section : 01.03
Chapter : 01
Subtopic : Chemical Formulas

27) Which one of the following is a subatomic particle located in the center of the atom and has a positive charge?

27) _____

A) Protons
B) Neutrons
C) Electrons
D) Photons

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Topic : Components of Matter
Section : 01.05
Chapter : 01
Subtopic : Atomic Structure

28) Which one of these materials is most likely to conduct heat?

28) _____

A) A titanium rod
B) A sample of chlorine gas
C) A silicon wafer
D) A chunk of phosphorus

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.08
Chapter : 01
Subtopic : Properties of Matter

29) What type of material is defined as having a well-ordered atomic structure?

29) _____

A) Amorphous
B) Crystalline
C) Transparent
D) Opaque

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Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.08
Chapter : 01
Subtopic : Properties of Matter

30) What are the three pillars of sustainability?

30) _____

A) Reduce, reuse, recycle
B) Equitability, justice, quality of life
C) Diversity, efficiency, toxicity
D) Environmental, social, economic

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.09
Chapter : 01
Subtopic : Fundamental Definitions

31) Which country is the world's leading producer of rare earth elements?

31) _____

A) USA
B) China
C) South Africa
D) Brazil

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Topic : Components of Matter
Section : 01.10
Chapter : 01
Subtopic : Elements

32) A recent set of advertisements has a picture of an aluminum can with an aluminum-frame bicycle, along with a hypothetical quote from the can that reads: "I want to be a bike. Recycle me." The analysis of the life cycle of an item starting with its raw materials and ending with the used item becoming the raw material for new products is called

32) _____

A) cradle-to-grave.
B) reusability.
C) cradle-to-cradle.
D) cost-benefit analysis.

Question Details
Accessibility : Keyboard Navigation
Bloom's : 1. Remember
Section : 01.09
Topic : Environmental Chemistry
Chapter : 01
Subtopic : Elemental Cycling

33) Which one of the following is an example of a homogeneous mixture?

33) _____

A) A chocolate chip cookie
B) A glass of pulp-free lemonade
C) A carbonated beverage
D) A bowl of cereal in milk

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.02
Chapter : 01
Subtopic : Classification of Matter

34) What is the density of a block of material that is 12 cm × 6 cm × 2 cm and has a mass of 356 g?

34) _____

A) 1.00 g/cm^3
B) 2.47 g/cm^3
C) 3.56 g/cm^3
D) 4.95 g/cm^3

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.09
Chapter : 01
Subtopic : Dimensional Analysis/Unit Conversion

35) How many cm are in 0.129 m?

35) _____

A) 1.29 cm
B) 12.9 cm
C) 129 cm
D) 1290 cm

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Section : 01.04
Topic : Study of Chemistry
Chapter : 01
Subtopic : Dimensional Analysis/Unit Conversion

36) What term is defined as the flow of electrons from one location to another?

36) _____

A) Resistance
B) Transparency
C) Density
D) Electricity

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.08
Chapter : 01
Subtopic : Properties of Matter

37) A sample of silicon rejected for use in an electronic circuit has an impurity of boron at a level of 3 parts per billion. What is the fraction of boron atoms in the silicon sample as written in scientific notation?

37) _____

A) 3×10^{-9}
B) 3×10^{9}
C) 3×10^{-12}
D) 3×10^{-6}

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.07
Chapter : 01
Subtopic : Scientific Notation

38) What is the term used to describe a material that allows light to mostly pass through it?
38) _____

A) Reflective
B) Porous
C) Transparent
D) Absorbtive

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 1. Remember
Section : 01.08
Chapter : 01
Subtopic : Properties of Matter

39) How many protons are in an atom of carbon?
39) _____

A) 2
B) 4
C) 6
D) 12

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Components of Matter
Section : 01.05
Chapter : 01
Subtopic : Atomic Structure

40) Which of the following states of matter has a definite shape?

40) _____

A) Solid
B) Liquid
C) Gas
D) Plasma

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 3. Remember
Section : 01.01
Chapter : 01
Subtopic : Properties of Matter

41) Matter is anything that occupies space and has a _____.

41) _____

A) density
B) volume
C) mass
D) color

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Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 3. Remember
Section : 01.01
Chapter : 01
Subtopic : Properties of Matter

42) In which of the following phases are the particles farthest from each other?

42) _____

A) Solid
B) Liquid
C) Gas
D) Need more information

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 3. Remember
Section : 01.01
Chapter : 01
Subtopic : Properties of Matter

43) Different elemental forms of carbon such as diamond and graphite are referred to as _____.

43) _____

A) isotopes
B) allotropes
C) isomers
D) isotropes

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Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 3. Remember
Section : 01.06
Chapter : 01
Subtopic : Properties of Matter

44) What multistep process is used to separate pure metals from ore?

44) _____

A) Mining
B) Leaching
C) Metallurgy
D) Grinding

Question Details
Accessibility : Keyboard Navigation
Topic : Study of Chemistry
Bloom's : 3. Remember
Section : 01.06
Chapter : 01
Subtopic : Properties of Matter

45) Which of the following is a physical change?

45) _____

A) Melting of ice
B) Burning of gasoline
C) Baking a cake
D) Fermenting of grapes

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Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.06
Chapter : 01
Subtopic : Properties of Matter

46) Which of the following is a chemical change?

46) _____

A) Boiling water
B) Melting wax
C) Cracking glass
D) Souring milk

Question Details
Accessibility : Keyboard Navigation
Bloom's : 3. Apply
Topic : Study of Chemistry
Section : 01.06
Chapter : 01
Subtopic : Properties of Matter

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Answer Key

Test name: CH01

1) B
Negative powers of ten move the decimal to the left.
2) D
Positive powers of ten move the decimal to the right.
3) A
Mixtures are separable by physical means.
4) B
Periods and rows go across.
5) A
These are green in the periodic table in your textbook.
6) D
Mixtures include more than one pure substance.
7) C
Mixtures are not pure substances.
8) B
Mixtures will have different substances in the same box.
9) B
Elements will only have one type of atom in the box.
10) A
Nonmetals reside in the upper right corner of the periodic table.
11) C
Noble gases are in the far-right column of the periodic table.
12) B
Remember that compounds are elements bound together by chemical bonds.
13) C

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Only one has just one symbol in the formula.

14) C

Remember which of these have more than one element that are also bonded together.

15) B

The prefix di- means two.

16) D

Molecules have multiple atom bound together.

17) C

The atoms are not bound to other atoms.

18) C

19) D

Remember that pure substances have only one component.

20) A

Different compounds will have different combinations of different elements.

21) C

Groups are those with similar properties.

22) D

Remember that the massive particles are in the nucleus while the electrons orbit around the outside.

23) C

Remember that the number of protons is the atomic number and that defines who the element is.

24) B

The protons define the element.

25) C

26) C

27) A

28) A

29) B

30) D

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31) B
32) C
33) B
34) B
35) B
36) D
37) A
38) C
39) C
40) A
41) C
42) C
43) B
44) C
45) A
46) D

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