

Study guide physical science

Part B Write the word or words that correctly complete each sentence.

1. Anything that has mass and takes up space is _____.
2. _____ is the area of physical science that studies energy and how it acts with matter.
3. A(n) _____ is equal to of a meter.
4. Characteristics that are used to help identify an object are called _____.
5. _____ is the measure of how tightly matter is packed into a given volume of a substance.
6. The measure of how hard _____ pulls on an object is called weight.
7. A form of matter with definite volume but no definite shape is a(n) _____.
8. Matter that has only one kind of atom is a(n) _____.
9. _____ are negatively charged particles that move around the nucleus of an atom.
10. Because hydrogen has a single proton, its _____ is equal to 1.
11. An element whose atoms do not react in nature with atoms of other elements is a(n) _____.
12. A(n) _____ takes place when atoms of elements combine to form a compound.
13. A base is a compound that contains the _____ radical.
14. The law of conservation of matter states that matter cannot be created or destroyed in _____ and common physical changes.

15. Two elements combine to form a compound in a(n)
_____ reaction

Choose the best answer. Write the letter on the line

16. What metric unit would you use to measure the length of a pen?

A meter B kilometer C centimeter D millimeter

_____ 17. If you multiply length times width, you are finding an object's _____. A mass B volume C weight D area

_____ 18. What property of matter do scientists measure in newtons?

A shape B weight C volume D density

_____ 19. Water has a density of 1.0 g/cm^3 . Which object will float in water?

A gold with a density of 19.3 g/cm^3 C rubber with a density of 1.1 g/cm^3

B cork with a density of 0.24 g/cm^3 D aluminum with a density of 2.7 g/cm^3

_____ 20. What state of matter is not common on Earth?

A gas B liquid C plasma D solid

_____ 21. The sum of neutrons and protons in an element is equal to what?

A mass number C number of electrons

B atomic number D number of atoms

_____ 22. Which element is a nonmetal and makes up the largest percentage of the air?

A hydrogen B oxygen C nitrogen D neon

_____ 23. A sodium ion has a positive charge because it has _____.

A more electrons than protons C the same number of electrons and protons

B no electrons D more protons than electrons

_____ 24. A group of two or more atoms that act like one atom are called _____.

A electron B subscript C binary compound D radicals

_____ 25. A substance that is formed in a chemical reaction is a _____.

A product B reactant C solvent D mixture

Part C Match each term in Column A with an item in Column B. Write the letter

of the correct answer on the line.

Name Date Period Midterm Mastery Test

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Column A

_____ 26. acid

_____ 27. atom

_____ 28. balance

_____ 29. solute

_____ 30. centi-

_____ 31. chemical bond

_____ 32. coefficient

_____ 33. element

_____ 34. isotope

_____ 35. meniscus

_____ 36. pH

_____ 37. chemistry

_____ 38. potassium

_____ 39. reactants

_____ 40. symbol

_____ 41. liter

_____ 42. solid

_____ 43. solvent

Column B

A the building block of matter

B tells whether a substance is an acid or a base

C form of matter with a definite shape and volume

D basic unit of volume in the metric system

E the substance that is dissolved in a solution

F chemicals on the left side of the arrow in a chemical equation

G matter that has only one kind of atom

H instrument used to measure mass

I compound that reacts with metals to produce hydrogen

J substance that can dissolve other substances

K

L one or two letters that stand for the name of an element

M curved surface of a liquid

N one of a group of atoms of an element with a different number of neutrons

O attractive force that holds atoms together

P study of matter and how it changes

Q number placed before a formula in a chemical equation

R K

Part D Write the answer to each question.

44. What is the volume of a carton that measures 12 cm long, 9 cm wide, and 12 cm high?

45. What is the density of a substance that has a mass of 154.4 g and a volume of 8 cm³?

46. Iodine has an atomic number of 53 and an atomic mass number of 127. How many protons, neutrons, and electrons does it have?

Protons: _____ Neutrons: _____ Electrons: _____

47. Complete the equation and identify the kind of chemical reaction. Then identify

the reactants and products.

**A $2\text{NaBr} + \text{Cl}_2 \rightarrow$ _____
 2NaCl B Reaction: _____**

C Reactants: _____ Products:

Part E Write a short answer to each question.

48. Explain what happens when atoms of elements combine to form compounds.

49. Compare and contrast metals and nonmetals.
