Honors PS Chemistry Chapter 3 Review Test Date_____

Key Concepts

- pure substances vs. mixtures
- types of mixtures
- physical change vs. chemical change
- law of conservation of mass
- law of definite proportions

Matching: Match the following definitions to the correct term and/or concept.

____1. Matter	A. Two or more atoms that are chemically combined.
____2. Mixture	B. Substance made up of only one type of atom.
____3. Homogeneous Mixture	C. The change of a substance into another substance, by reorganization of the atoms, i.e. by the making and breaking of chemical bonds.
____4. Heterogeneous Mixture	D. Mixture in which the properties and composition are not uniform throughout the sample.
____5. Pure Substance	E. Mixture in which the properties and composition are uniform throughout the sample.
____6. Element	F. Anything that takes up space and has mass. Can be divided into mixtures and pure substances.
____7. Compound	G. Two or more substances that are physically (not chemically) combined.
____8. Solution	H. A change in the form of a substance, for instance, from solid to liquid or liquid to gas or solid to gas, without changing the chemical composition of the substance.
____9. Suspension	I. Matter with constant composition. Can be divided into compounds or elements.
____10. Physical Change	J. A type of homogeneous mixture where the parts are physically combined. The solvent of the solution dissolves the solute.
____11. Chemical Change	K. Mixture that will eventually settle.

Identify each of the following as an element (E), compound (C), homogeneous mixture (M), or heterogeneous mixture (T).

____ 12. mercury

____ 13. table salt, sodium chloride

____ 14. (pure) water

____ 15. vinegar

____ 16. air

____ 17. tap water

____ 18. oxygen

____ 19. carbon dioxide

____ 20. vegetable soup

____ 21. iron

____ 22. concrete

____ 23. copper

____ 24. pizza loaded with toppings

____ 25. dry soup mix

____ 26. granite

____ 27. soft drink

____ 28. muddy water

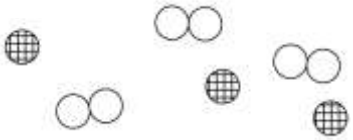
____ 29. salt water solution

____ 30. gold

State whether each of the following diagrams represents an element (E), compound (C), homogeneous mixture (M), or heterogeneous mixture (T).

31.

32.



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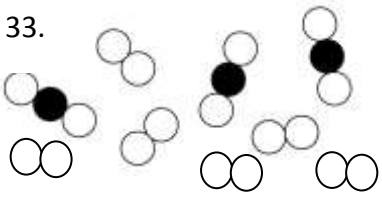

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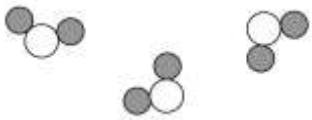

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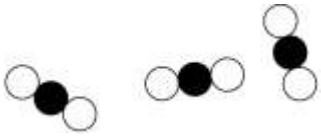


Multiple Choice:

36. Fog is an example of a ____.
A. Colloid B. Compound C. Substance D. Solution

37. A ____ is NOT a mixture.
A. Colloid B. Compound C. Substance D. Solution

38. Pure Substances are either elements or ___.
A. Mixtures B. Compounds C. Solutions D. Suspensions

39. A fruit salad is a _____
A. Heterogeneous mixture B. Homogeneous mixture C. Substance D. Solution

40. Which of the following is not a physical property?
A. Density B. Buoyancy C. Flammability D. Melting Point

41. A _____ is a substance in which all the atoms are the same.
A. mixture B. compound C. solution D. element

42. ____ is another name for a homogeneous mixture.
A. Suspension B. Substance C. Solution D. Liquid

43. Which of the following is not a physical property?
A. Volume of ink in a pen B. Reactivity of sodium C. Shape of an apple D. Taste of sugar

State whether each of the following changes would be physical (P) or chemical (C) change.

____breaking glass

____burning propane

____burning wood

____melting ice

____painting wood

____copper wire bending

____iron rusting

____sugar dissolving in water

____silver spoon tarnishing

____water evaporating

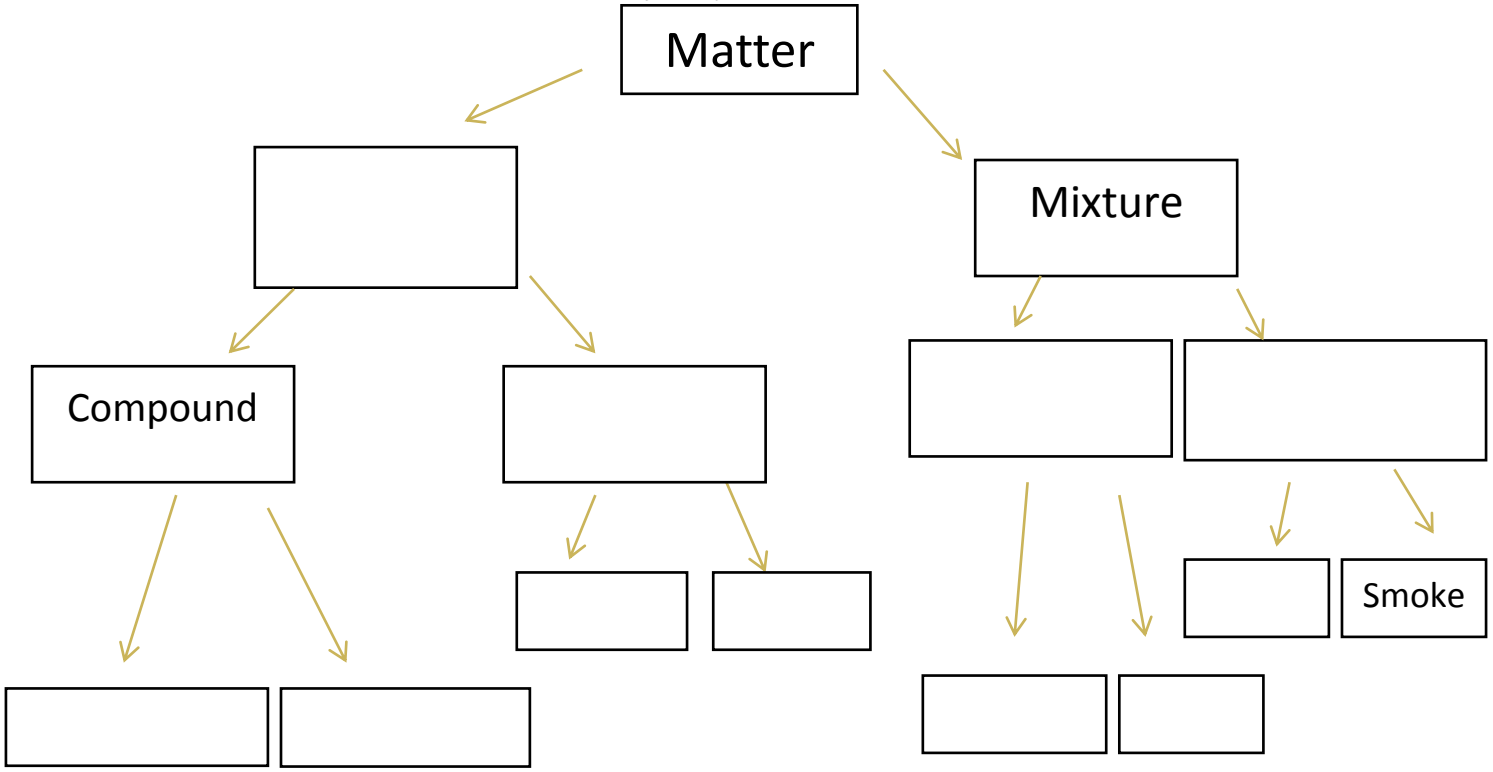
____crushing an antacid table

44. What is chromatography?

Directions: Complete the concept map below about matter.

Word Bank: Pure Substance, Air, Oatmeal with Raisons, Carbon Dioxide, Tap Water, Oxygen, Element, Salt, Heterogeneous Mixture, Hydrogen, Homogeneous Mixture, Pure Water.

Be careful…I switched some things up a bit!



Directions: Complete the problems. To receive credit answers should show work, have labels and be in significant digits.

45. A 17 gram sample of ammonia (NH_3) contains 3 g of hydrogen.
    a) What percentage of ammonia is hydrogen?

    b) How many grams of nitrogen does the sample contain?

47. Fluorine and xenon combine to form two compounds. In one compound, 0.853 g of fluorine combines with 1.472 g of xenon. In the other compound, 0.624 g of fluorine combines with 2.16 g of xenon.
    a) Are these two compounds the same or different?
    b) Explain your answer.

46. A sample of baking soda contains 34.48 g of sodium, 1.51 g of hydrogen, 18.02 g of carbon and 72.00 g of oxygen.
    a) What is the total mass of the sample?

    b) What is the mass by percent of each element in baking soda?

    sodium:

    hydrogen:

    carbon:

    oxygen: