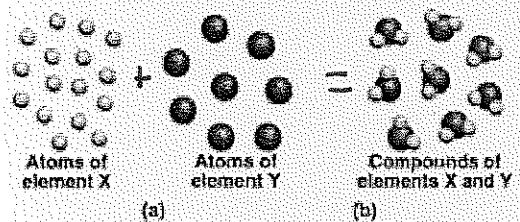
Types of Matter Study Guide

1. Be able to **define** all **vocabulary** terms and provide **examples** of each:

Element*	Substance	Thermal	Metalloids	Brittle	Categories
Pure Substance*	Atom*	Electricity	Compounds*	Nonmetals	Classification
Metals	Mixture*	Ratio*	Reaction	Electrolysis	Dull
Unique Properties	Characteristic Property*	Ductile	Physical Means*	Chemical Means*	Conductor
	Break Down	Malleable		Heterogeneous	Homogeneous

2. What are the three types of matter?
Element, Compound, Mixture
3. What is a list of all the known elements?
Periodic Table
4. How is a compound is different than an element?
Compounds are 2+ elements chemically combined
5. How are compounds formed?
When 2+ elements chemically combine
6. Do compounds have the same properties as the elements that make them up?
NO.
7a. + S.4a. How are compounds broken down?
Chemically
7b. + S.4b. How are mixtures broken down?
Physically
8a. + 10. What are two properties of elements?
Melting point, density, reactivity, conductivity, color, hardness, texture
8b. What are two properties of compounds?
Boiling point, melting point, density, color, reactivity
8c. What are three properties of mixtures?
color, solubility, smell
9. How can you break down elements?
You cannot
What is the difference between the words physical and chemical (as in physical and chemical changes or means)?
Things that are physically changed keep their properties, while chemical changes do not
P.4. How does this image explain the conservation of mass?
The masses of (a) are equivalent to the mass of (b)



S.2a. What are the two different types of mixtures?

Heterogeneous & homogeneous

S.2b. What is a heterogeneous mixture?

Different components are easily seen

S.2c. What is a homogeneous mixture?

Has same appearance & properties throughout

S.3a. How many elements are in Na_2SO_4?

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S.3b. What is the ratio of elements in NH_3?

1:3

S.5a. What are the three categories of elements?

Metals, Nonmetals, Metalloids

S.5b. What are the properties of metals, nonmetals, and metalloids?

P.1a. What are the three categories of mixtures?

Solution, Colloid, Suspension

P.1b. What are the properties of colloids?

Scatters light, cannot be caught by a filter, does not settle out

P.1c. What are the properties of suspensions?

Scatters light, can be caught by a filter, settles out

P.1d. What are the properties of solutions?

Does not scatter light, cannot be caught by a filter, does not settle out

P.1e. What type of mixtures scatter light, are homogeneous, do not filter out, and will never settle out?

Colloids

P.1f. What type of mixtures do not scatter light, are homogeneous, do not filter out, and will never settle out?

Solutions

P.1g. What type of mixtures scatter light, are heterogeneous, filter out, and will settle out?

Suspensions

P.2. What would be the ratio of atoms in water (H_2O)? Also, what would the mass ratio be?

P.3a.) 2 Na + 1 Cl_2 --> 2 NaCl

P.3b.) 2 H_2 + 1 O_2 --> 2 H_2O

P.3c.) 1 Cl_2 + 1 H_2 --> 2 HCl

P.3d.) 1 Zn + 1 Cl_2 --> 1 $ZnCl_2$

P.3e.) 3 H_2 + 1 N_2 --> 2 NH_3