

Name: Key

Date: _____

Pd: _____

ELEMENTS, COMPOUNDS & MIXTURES

Classify each of the pictures below by placing the correct label in the blanks below:

E = Element (atoms)

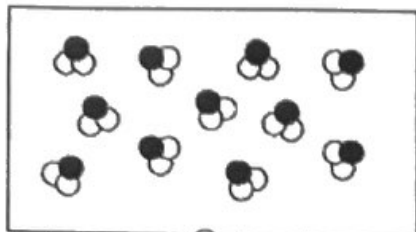
C = Compound (molecule)

MOE = Mixture of Elements

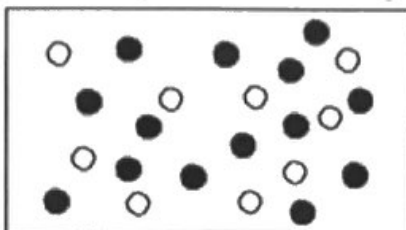
MOC = Mixture of Compounds

MOEAC = Mixture of Elements AND Compounds

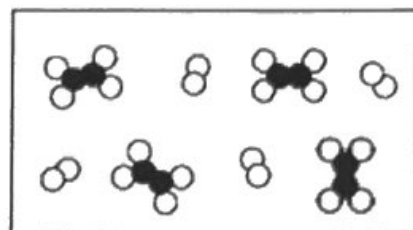
****HINT: Each circle represents an atom and each different color represents a different kind of atom. If two atoms are touching then they are bonded together.****



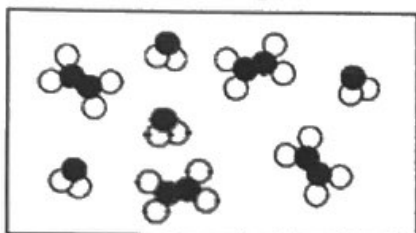
1) C (just molecules)



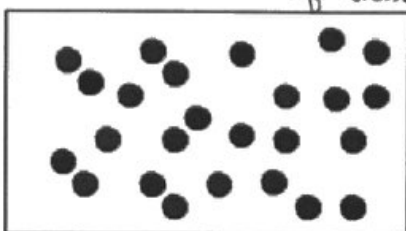
2) MOE (2 kinds of atoms)



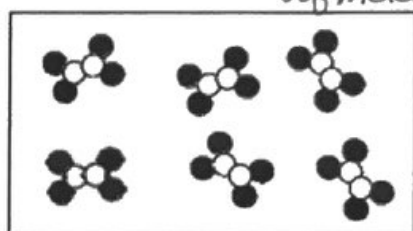
3) MOC (2 kinds of molecules)



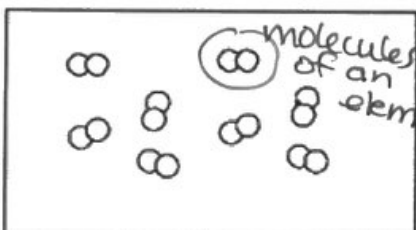
4) MOC (2C)



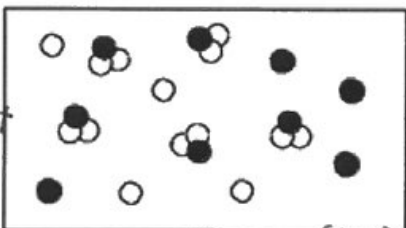
5) E



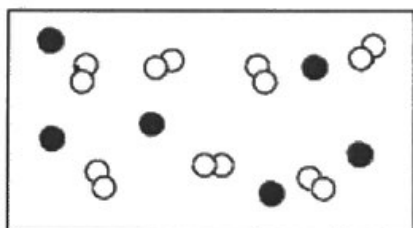
6) C



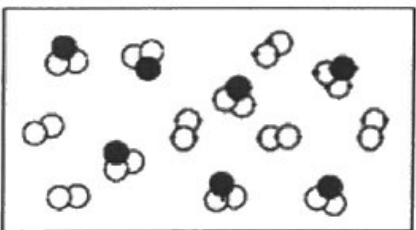
7) E



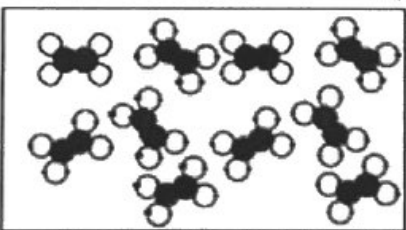
8) MOEAC (1C / 2E)



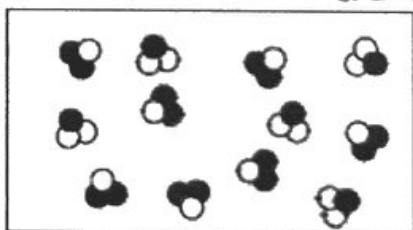
9) MOEAC (1C / 1E)



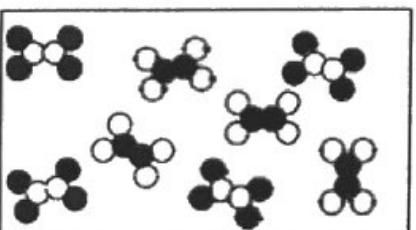
10) MOC (2C)



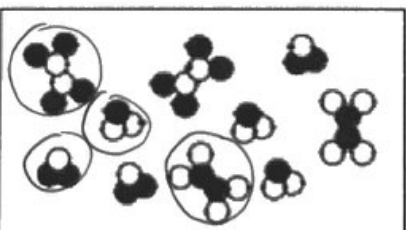
11) C (1C)



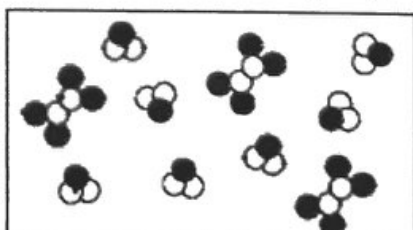
12) MOC (2C)



13) MOC (2C)



14) MOC (4C!)



15) MOC (2C)

Key

Properties

Physical properties can be observed without producing new substances. Chemical properties describe how a substance interacts (or fails to interact) with other substances to produce new substances.

^{EP} **Extensive properties** depend on the amount of matter in a sample. ^{IP} **Intensive properties** do not depend on the amount of matter in the sample. **All chemical properties are intensive. Physical properties can be intensive or extensive.** C

Classify each of the following properties as extensive physical, intensive physical, or chemical.

Color	IP
Combustibility	C
Hardness	IP
Density	IP
Mass	EP
Melting point	IP
Ductility	IP
Volume	EP
Failure to react with other substances	C
Odor	IP
Weight	EP
Malleability	IP
Tendency to corrode	C
Flammability	C
Solubility	IP
Reacts with acids to form hydrogen gas	C
Sour taste	IP
Texture	IP
Hardness	IP
Luster	IP

* Key *

Practice: Elements, Compounds and Mixtures/Physical and Chemical Changes

Classify each of the following as an element, compound, heterogeneous mixture or homogeneous mixture.
 parts not evenly distributed look the same throughout
 E C M = mixture

Water		C
Salt (sodium chloride)		C
Carbon		C
Air		M (Solution = homo. mix)
Sugar dissolved in water		M (Solution = homo. mix)
Milk		homogenized milk M-homo
Granite		M-heterogeneous
Oxygen	O	E
Sea water		M-?
Soda water/soft drink		M-?
Sugar	C ₁₂ H ₂₂ O ₁₁	C
Silver	Ag	E
Brass	* Alloy - mix. of metals	M-homogeneous
Chlorine	Cl	E
Carbon dioxide	CO ₂	C
Steel	* Alloy - Fe and C	M-homogeneous
Asphalt		M-heterogeneous
Sterling silver	Alloy *	M-homogeneous
Gasoline		M-homogeneous
Alcohol	C ₃ H ₈ OH	C

Classify each of the following as physical change or a chemical change.

A pellet of sodium is cut into 2 pieces	P
Water is heated and changed to steam	P
Potassium chlorate decomposes to potassium chloride and oxygen (gas)	C gas formed
Iron rusts	C color change.
When placed in water, a sodium pellet catches on fire and hydrogen gas is released	C gas, light
Evaporation	P
Ice melting	P
Milk sours	C
Wood rotting	C
Grass growing in a lawn	C
Food is digested in the stomach	C
Water is absorbed by a paper towel	P
A tire is inflated with air	P
A piece of wax is melted	P phase change.
A candle burns	C
Copper and tin are combined to make bronze	P Bronze is an alloy *
Iron and carbon are combined to make steel	P Steel is an alloy *

Alloys (homogeneous mixtures) {
 Steel → C + Fe (iron)
 Bronze → Cu + Sn (tin)
 Brass → Cu + Zn (zinc)
 ↳ solid solutions!