REVIEW

Chapter 2 : Lesson 2A

1. **List the 4 most commonly recognized States of Matter. List them in order of increasing energy.**

   _____

   _____

   _____

   _____

2. **Drag & Drop each of the following items into the correct box :**

Density	Solubility	Malleability	Texture
Flammability	Conductivity	Mass	Oxidation State
Toxicity	Ductility	Acidity /Basicity	Reactivity

Chemical Properties	Physical Properties

3. Select the correct options from the drop-down boxes to correctly complete the statements below :

A change that alters a substance's chemical identity, or forms an entirely new substance, is a _____ .

Any change in the appearance or shape of a substance, like shredding a sheet of paper, is a _____ .

Any state change, for example solids turning into liquids, or liquids evaporating into gases, is always a _____ .

4. Drag & Drop each of the following items into the correct box :

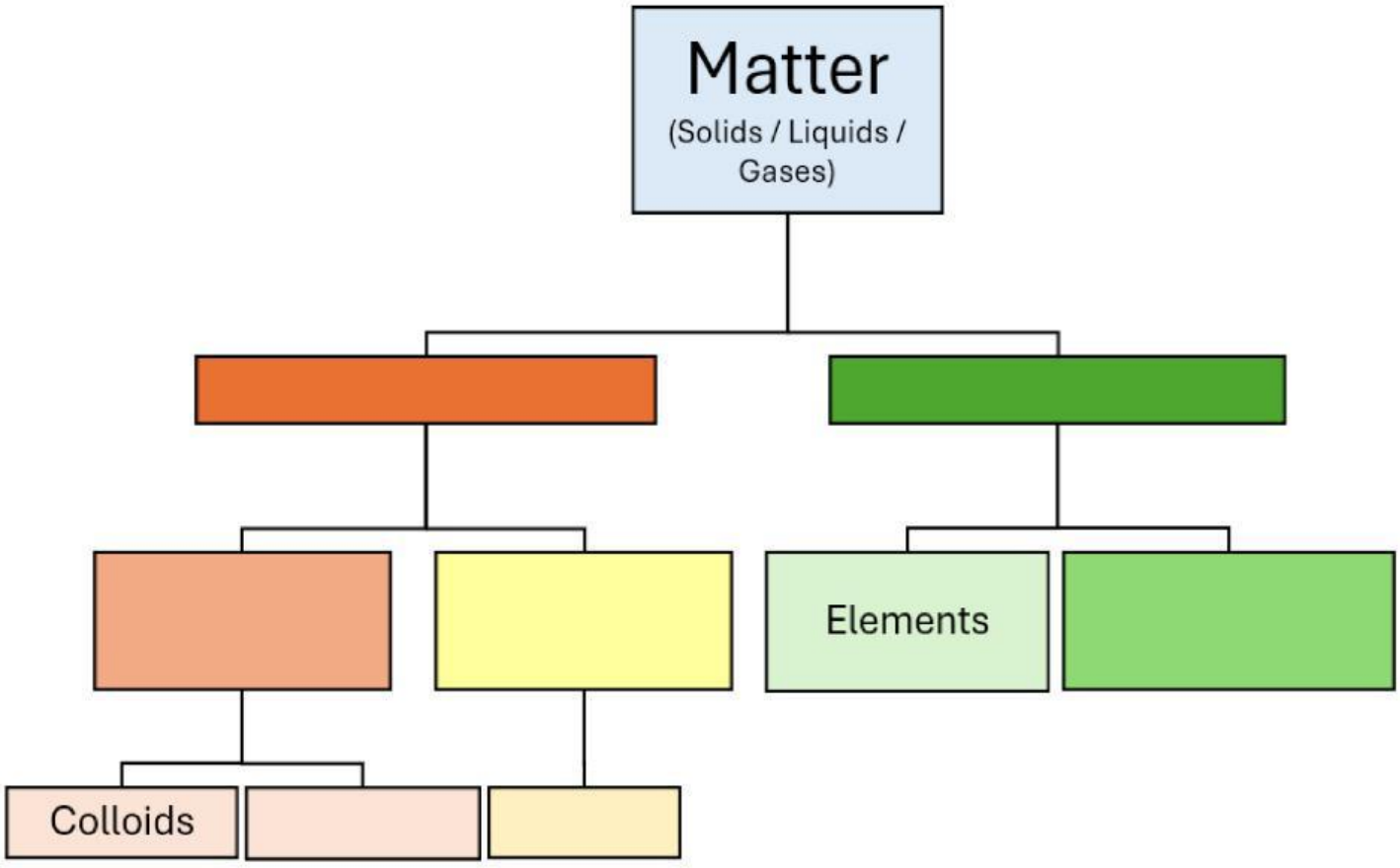
Boiling Water	Food Digestion	Toasting Bread
Metal Rusting	Firewood Burning	Chopping Wood
Leaves Rotting	Painting a wall	Salt dissolving in Water

Physical Changes	Chemical Changes

5. Select the correct options from the drop-down boxes to correctly complete the statements below :

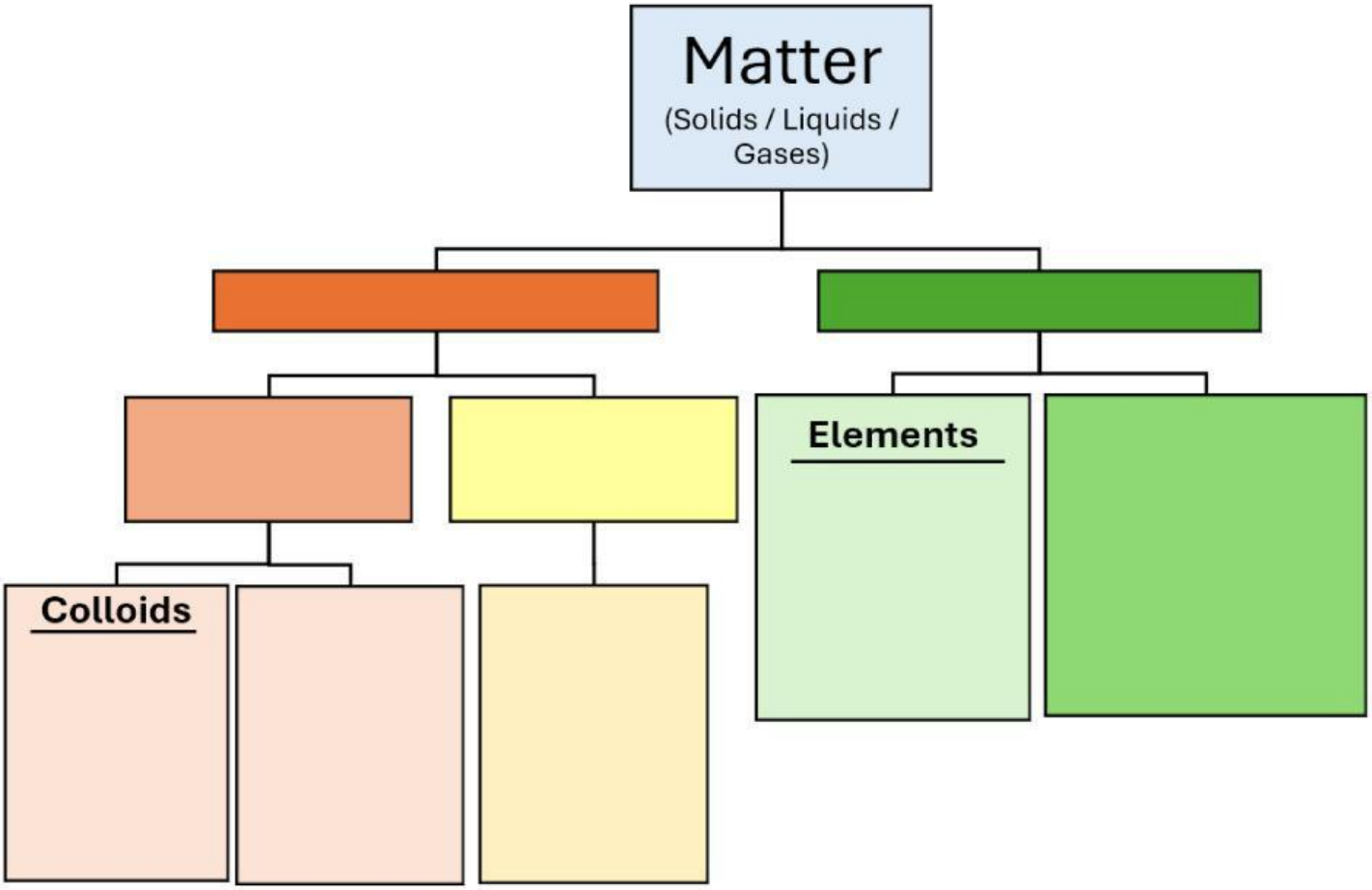
When two or more substances chemically combine in a fixed ratio, e.g. CO_2, it forms a _____ . When two or more substances are physically combined/mixed in a variable ratio, e.g. Trail Mix, it forms a _____ . When a Mixture is uniform is appearance, it is a _____ . When it has visible distinct components that are unevenly distributed throughout the mixture, it is a _____ .

6. Complete the Classification Diagram of Matter :



7. Now place the examples below in the correct class :

Blood(not settled)	Blood(settled out)	Rust	Vinegar	Baking Soda
CO_2	Zn	O_2	Milk	Bronze
Smoke	H_20	Muddy Water	Air	Honey



8. Why is it extremely difficult to separate Pure Substances e.g. Baking Soda ($NaHCO_3$) into its individual components ?

A) The components are combined in variable ratios that are unknown.

B) The components are physically bonded together.

C) The components are chemically bonded together.

D) The components will evaporate when separation is attempted.

9. Select the correct options from the drop-down boxes to correctly complete the statements below :

A Solution is a _____ completely dissolved in a

_____ . The _____ is present in smaller amounts.

The _____ is the majority component of the Solution.

In Salt Water, _____ is the Solute, while _____ is

the Solvent. In Vinegar, Water (about 96%) is the _____ and Acetic

Acid (about 4%) is the _____ .

10. Which of the following are considered "Uniform Mixtures" ?

A) Colloids

B) Suspensions

C) Solutions

11. Which of the following have the smallest particle sizes ?

A) Colloids

B) Suspensions

C) Solutions

12. Which of the following have the largest particle sizes ?

A) Colloids

B) Suspensions

C) Solutions

13. What is the Tyndall Effect ?

A) The emission of light waves within the Infrared part of the Electromagnetic Spectrum.

B) The emission of heat due to the vibration of particles within a substance.

C) The scattering of visible light by particles within a medium.

D) The scattering of sound waves.

14. Colloids exhibit the Tyndal Effect consistently. Suspensions may or may not exhibit the Tyndal Effect. Why is this ?

A) Colloids have very large particles that are needed for the consistent scattering of light. The particles in a Solution are smaller than that found in a Colloid. Once these particles in a Solution settle out and pack together, they may scatter light.

B) Colloids settle out extremely fast. This facilitates in the scattering of light. Suspensions take time to settle out. If it happens fast enough in a Suspension, it will scatter light, otherwise not.

C) The particles within a Colloid are within a specific size-range (not too large and not too small). This particle size-range effectively scatters light. If the particles within a Suspension falls within this range, it will also scatter light. It the particles are too big, it will not.

D) The particles in a Colloid are chemically bonded together, so it will always scatter light. Some Suspensions may also have chemical bonds between their particles, so sometimes these Suspensions will also scatter light.

15. Why does a Colloid not settle out over time if left undisturbed ?

A) The particles are too big.

B) The particles are too small.

C) The particles are chemically bonded.

D) The particles (Solutes) are dissolved within a Solvent.

16. Select all the statements below that are TRUE about Molecules and Crystals ?

A) Both Molecules are Crystals can be considered “Compounds”.

B) Both Molecules are Crystals can be considered “Heterogenous Mixtures”

C) Both Molecules and Crystals can be found in the Solid, Liquid and Gas states.

D) Molecules can be found in the Solid, Liquid and Gas states, but Crystals can only be found in the Solid state.

17. Place the examples below in the correct box :

S_8	Helium	H_2	H_3	N_2	Ar	Ozone

Mono-Atomic	Poly-Atomic	Di-Atomic

18. Place each Separation Technique with the correct Mixture :

Filtration	Chromatography	Sieving
Decantation	Distillation	Magnetic Separation
Evaporation	Centrifugation	Crystallization

Homogenous Mixtures	Heterogenous Mixtures