PURE SUBSTANCE AND MIXTURES

OBJECTIVES:

1. Differentiate pure substances from mixtures.
2. Classify matter according to its composition.
3. Differentiate homogeneous from heterogeneous mixtures?
2. Distinguish each sample among elements, compounds, sol and gel, emulsion, foam, aerosol, suspensions, solution, gas mixtures and alloys.

KNOW Me!

Create a chart differentiating initially pure substances from mixtures using your initial knowledge of the topic.

Pure Substances	Mixtures

ACT Me!

Try to prepare the materials listed below and observe carefully. Identify whether it is a pure substance or a mixture. Does the following have a constant and definite composition? Justify your answer.

1. Marshmallow
2. Aluminum kitchenware
3. Soy sauce
4. Steel
5. Blood
6. Cement
7. Welding gases
8. Gelatin
9. Butter
10. Dihydrogen Monoxide (H_2O)

ENGAGE Me!

Try to prepare the materials listed below and observe carefully. Identify whether it is an element, compound, solution, suspension or colloid. Identify the composition based on your given classification.

1. Wood
2. Fluorine (F_2)
3. Milk
4. Acetic acid (CH_3COOH)
5. Soap suds

ENQUIRE Me!

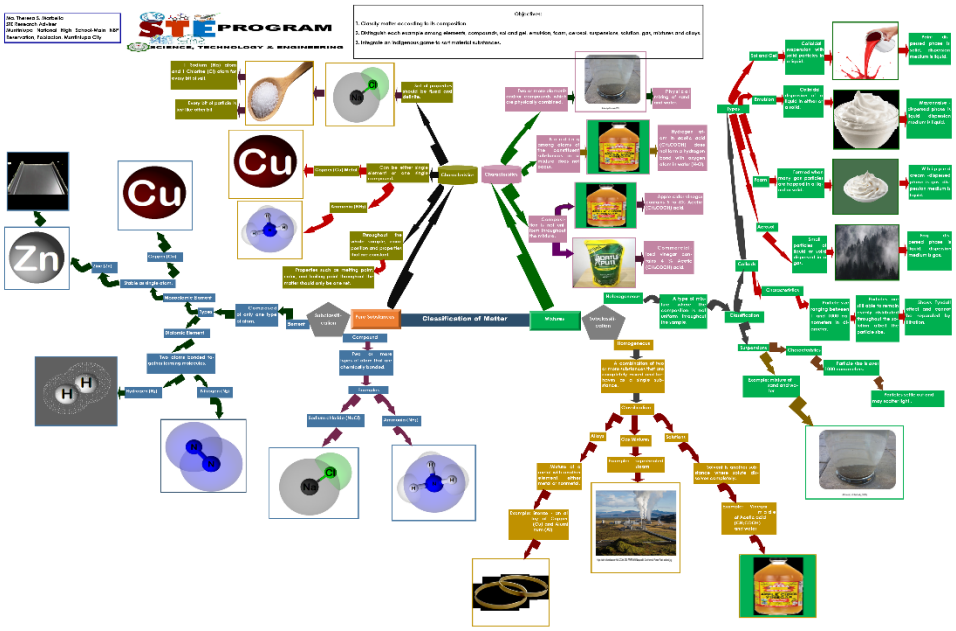
Classify further each of the given material substances that you commonly use at home in your surroundings into sol and gel, emulsion, foam, aerosol, suspensions, alloys, gas mixtures, solutions, elements and compounds. Explain your answer.

1. Cheese
2. Mist
3. Oil in water
4. Lava-molten rock trapped in volcanic gases
5. Breathing gas used in scuba diving
6. 70 % Rubbing Alcohol
7. Potassium Alum
8. Cough syrup that must be shaken before ingested
9. Baking soda
10. Tin can

ENLIGHTEN Me!

This section must emphasize the conceptual mastery of the topic. Main topic must be brief and concise, depicting only the concepts that you want to learn. Secondly, main topic must be "chunked" into its constituent significant subtopics. If the subtopics are more than two, the rest should be placed in succeeding pages. Exclusionary rule applies if the subtopics pertain to a certain classification where the learners must see the over-all difference. Subtopics are further divided and extracted into its component group topics. Related concepts are arranged in close proximity to easily identify patterns and interrelationships among them. Same-colored arrows denote relevant concepts or the same group of concepts while each diverse concept will be denoted by an arrow of different color. As much as possible, each concept must be explicitly explained using keywords only for easy retention.

Sample mind map for lecture



UNRAVEL Me!

1. Why is flour in water considered to be a suspension?
2. Why is a fog an example of aerosol?
3. What makes a solution different from suspensions and colloids?

ASSESS Me!

1. Why are elements and compounds considered pure substances?
2. Can a mixture be considered an impure substance?
3. What does it by constant and definite composition in pure substances?