NOTES: Introduction to Chemistry! (CH 2)

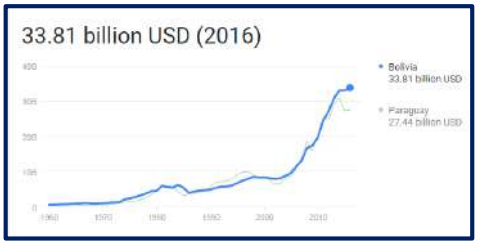
CHEMISTRY = _____, its chemical and physical changes, and the changes that accompany these changes.

Why does "the study of matter"…matter?? ☺

REAL WORLD PROBLEM / EXAMPLE!!...BOLIVIA…!

- What happened in the early 2000's?? Why was this significant? (research!)

- Useful search terms:
-Bolivia economy
-Bolivia GDP
-White gold rush

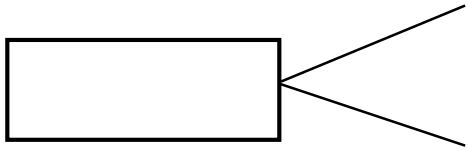


Record your search / group discussion findings:

NOTES: Matter (Sections 2.1 and 2.4)

Matter = _____

Classification of Matter (draw in complete chart)



Everything that is, is made up of matter…from the very large…to the very small.

2.1 – Properties of Matter

(Properties = characteristics)

For each item shown, brainstorm a list of as many properties as you can!

Properties (Characteristics) of Matter can be…

● **Extensive properties**: _____

-Example: _____, _____

● **Intensive properties**: _____

-Example: _____, _____, _____

STATES OF MATTER: SOLIDS, LIQUIDS, AND GASES

SOLIDS:

- Definite shape?_____
- Definite volume?_____
- Molecules in a solid are tightly packed and constantly vibrating.

LIQUIDS:

- Definite shape?_____
- Definite volume?_____

GASES:

- Definite shape?_____
- Definite volume?_____
- The particles in a gas are _____, but can be compressed by pumping them into a restricted volume.

PAUSE for Bozeman Science VIDEO CLIP!

Physical properties: characteristics that can be observed without changing the identity of the substance.

Examples: (list at least 4)

Physical change: a change in the physical form or properties of a substance that occurs _____

_____

Examples: (list at least 4)

Phase Changes:

● Changes in phase are examples of _____.

- Melting:_____
- Freezing:_____
- Vaporization:_____
- Condensation:_____
- Sublimation:_____

Chemical property: describes a substance's ability to change into a different substance.

Examples: (list at least 2)

Chemical change: occurs when a substance changes composition by forming _____.
(bonds are broken and bonds are formed)

What is a Chemical Reaction?

● Chemical Reaction – one or more substances change into new substances

● Process involves _____ and _____

● Reactant – _____ in a chemical reaction

● Product – _____ in a chemical reaction

● Example: Nitrogen and hydrogen gas can react to form ammonia under certain conditions.

Reactants Yield Products

_____

(write in chemical equation on line above)

How Can You Tell Whether or Not a Chemical Reaction Has Taken Place?

● ***Chemical Change*** – alters a given material by changing its chemical composition

● Examples: (list at least 4)

Other Indicators of a CHEMICAL CHANGE: (list at least 4)