

KEY

7. Indicate what category each of the following substances would be placed into:
- Heterogeneous mixture
  - element
  - Homogeneous mixture
  - Compound

Finely filtered coffee c

lime jello c

A cream filled donut a

trail mix a

A tall, cool glass of water d

a blended smoothie c (

A pre-1982 penny b

ketchup c

8. Give two examples of a physical change and two examples of a chemical change. Explain why the examples are categorized that way.

Physical - can go back (substance isn't actually different)  
melting, changing shape, change in size, freezing...

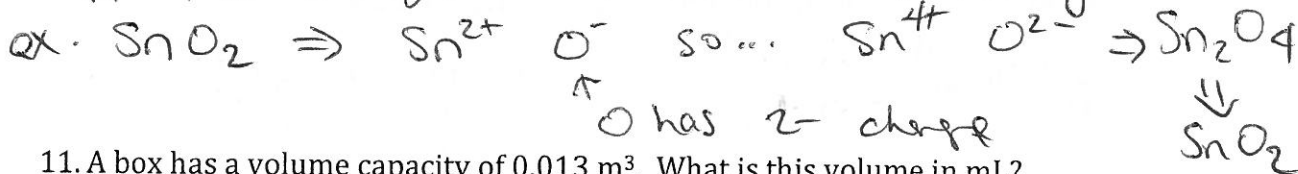
Chemical - creating something new - can't go back.  
rusting, burning, decomposing, reacting...

9. What do the Roman Numerals in a chemical name tell you? Why don't all names have a Roman Numeral in them?

that the cation can have more than one charge.  
not all have them b/c not all need them.

10. If you are writing the ions that make up a balanced compound, what is the warning sign that should indicate to you that the compound may have been reduced?

if the charge on the anion is wrong.



11. A box has a volume capacity of  $0.013 \text{ m}^3$ . What is this volume in mL?

$$0.013 \text{ m}^3 \left( \frac{100 \text{ cm}}{1 \text{ m}} \right)^3 \left( \frac{1 \text{ mL}}{1 \text{ cm}^3} \right) = \boxed{13000 \text{ mL}}$$

12. How can you tell if a compound requires the use of prefixes in the name?

if it is covalent. ex  $\text{H}_2\text{O}$

non-metal w/ a non-metal.  $\downarrow$   
dihydrogen monoxide