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Application Questions Chapter 1

1. What is the difference between a pure substance and a mixture? Give two examples of each. 5pts

ANS #1: A pure substance is a type of matter that has a defined set of physical properties because of the uniform chemical composition, but a mixture is two or more of these substances.

Examples of a pure substance are iron, and steel. Examples of a mixture are seawater, and blood.

2. What is the difference between a homogeneous mixture and a heterogeneous mixture? Give two examples of each. 5pts

ANS #2: A homogenous mixture is a mixture with a uniform composition with even distribution throughout the sample, but a heterozygous mixture is a mixture that does not have a uniform composition where the properties vary throughout the sample.

Examples of a homozygous mixture are wine, and milk. Examples of homozygous mixtures are sugar & sand, and soda.

3. What is the difference between a physical change and a chemical change? Give at least two examples of each. 5pts

ANS #3: A physical change is when only some of the physical properties are changed but the substance is not changed, but a chemical change is when there is a physical change involved and one or more substances changes to produce a new substance.

Examples of physical changes are breaking a glass, and crumpling paper. Examples of chemical changes are boiling an egg, and photosynthesis.

4. Explain the difference between **accuracy** and **precision**.5pts

ANS #4: Precision refers to reproducibility or how close the measurements are to one another, but accuracy refers to how close a measurement is to the actual value.