1. Classify each of the following as elements (E), compounds (C) or Mixtures (M). Write the letter X if it is none of these.

|  |  |  |
| --- | --- | --- |
| \_**E**\_Diamond (C)  \_**C**\_Sugar (C6H12O6)  \_**M**\_Milk  \_**M**\_Air  \_**C**\_Sulfuric Acid (H2SO4)  \_**M**\_Gasoline  \_**E**\_Krypton (K)  \_**E**\_Bismuth (Bi)  \_**E**\_Uranium (U) | \_**C**\_Water (H2O)  \_**C**\_Alcohol (CH3OH)  \_**M**\_Pail of Garbage  **C**\_Ammonia (NH3)  \_**C**\_Salt (NaCl)  \_**X**\_Energy  \_**M**\_Wood  \_**M**\_Bronze  \_**M**\_Ink | \_**C**\_Dry Ice (CO2)  \_**C**\_Baking Soda (NaHCO3)  \_**E**\_Titanium (Ti)  \_**E**\_Iron (Fe)  \_**M**\_Popcorn  \_**E**\_Gold (Au)  \_**X**\_Electricity  \_**M**\_A dog  \_**M**\_Concrete |

1. Match each diagram with its correct description. Diagrams will be used once.

**A B C D E**

\_**C**\_ Pure Element – only one type of atom present.

\_**E**\_ Mixture of two elements – two types of uncombined atoms present.

\_**B**\_ Pure compound – only one type of compound present.

\_**A**\_ Mixture of two compounds – two types of compounds present.

\_**D**\_ Mixture of a compound and an element.

1. Read each description and determine whether it is a pure substance or mixture. Then further classify the matter (element, compound, homogeneous mixture, heterogeneous mixture)

|  |  |  |
| --- | --- | --- |
| **Description** | **Pure Substance**  **or Mixture?** | **Classification?** |
| 1. Chocolate syrup is added to milk and stirred | Mixture | Homogenous mixture (solution) |
| 2. Copper metal (used to make wires) | Pure substance | Element |
| 3. Sand is added to water | Mixture | Heterogeneous Mixture |
| 4. Distilled water | Pure substance | Compound |
| 5. Tap water | Mixture | Heterogeneous mixture |
| 6. Diamond | Pure substance | Element |
| 7. Table sugar | Pure substance | Compound |
| 8. Table sugar added to a cup of coffee and stirred | Mixture | Homogeneous mixture (solution) |
| 9. Kool-aid is added to water | Mixture | Homogeneous mixture (solution) |
| 10. Coca-cola | Mixture | Homogeneous mixture |
| 11. Helium gas (used to inflate a balloon) | Pure substance | Element |
| 12. Mercury metal (used in old thermometers) | Pure substance | Element |
| 13. Hydrogen gas (an explosive gas) | Pure substance | Element |
| 14. Trail mix (peanuts, pretzels and m&m's) | Mixture | Heterogeneous mixture |
| 15. The air webreathe | Mixture | Homogeneous mixture (solution) |