

# Mixtures, Compounds and Elements

# Elements

- ▶ Cannot be broken down further
  - ▶ Oxygen
  - ▶ Hydrogen
  - ▶ Carbon

# Compounds

- ▶ Combinations of two or more elements
  - ▶  $\text{H}_2\text{O}$
  - ▶  $\text{CO}_2$
  - ▶ Salt
  - ▶ Sugar

# Mixtures

- ▶ When two or more materials or substances are mixed together but DO NOT chemically combine
- ▶ This means that the elements or compounds in the mixture still have their original physical properties
- ▶ Mixtures are combined or separated by a physical change

# Solutions

- ▶ Mixtures where one component gets dissolved in another
- ▶ The solute gets dissolved
- ▶ The solvent does the dissolving
- ▶ Ex. Lemonade mix-
  - ▶ The mix is the solute
  - ▶ The water is the solvent

# Ways of separating mixtures

## ▶ Magnetism

- ▶ Use a magnet to separate out magnetic substance (iron, nickel, cobalt)



## ▶ Hand separation

- ▶ Separating parts by hand like recycling



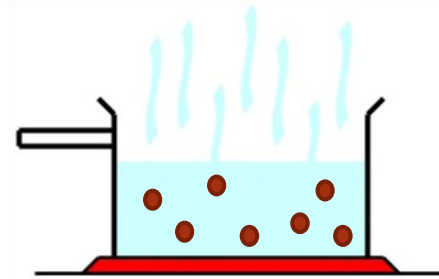
## ▶ Filtration

- ▶ Separating a solid from a liquid- coffee filter or brita pitcher



# Ways of separating mixtures

- ▶ Sifting or sieving
  - ▶ Separates a dry mixture that has substances of different sizes, sand from pebbles
- ▶ Extraction and evaporation
  - ▶ Used to separate a **solution**
- ▶ Chromatography
  - ▶ Used to separate dissolved substances in a solution from each other (used at crime scenes)



**Classify Matter:  
Element, Mixture or  
Compound?**

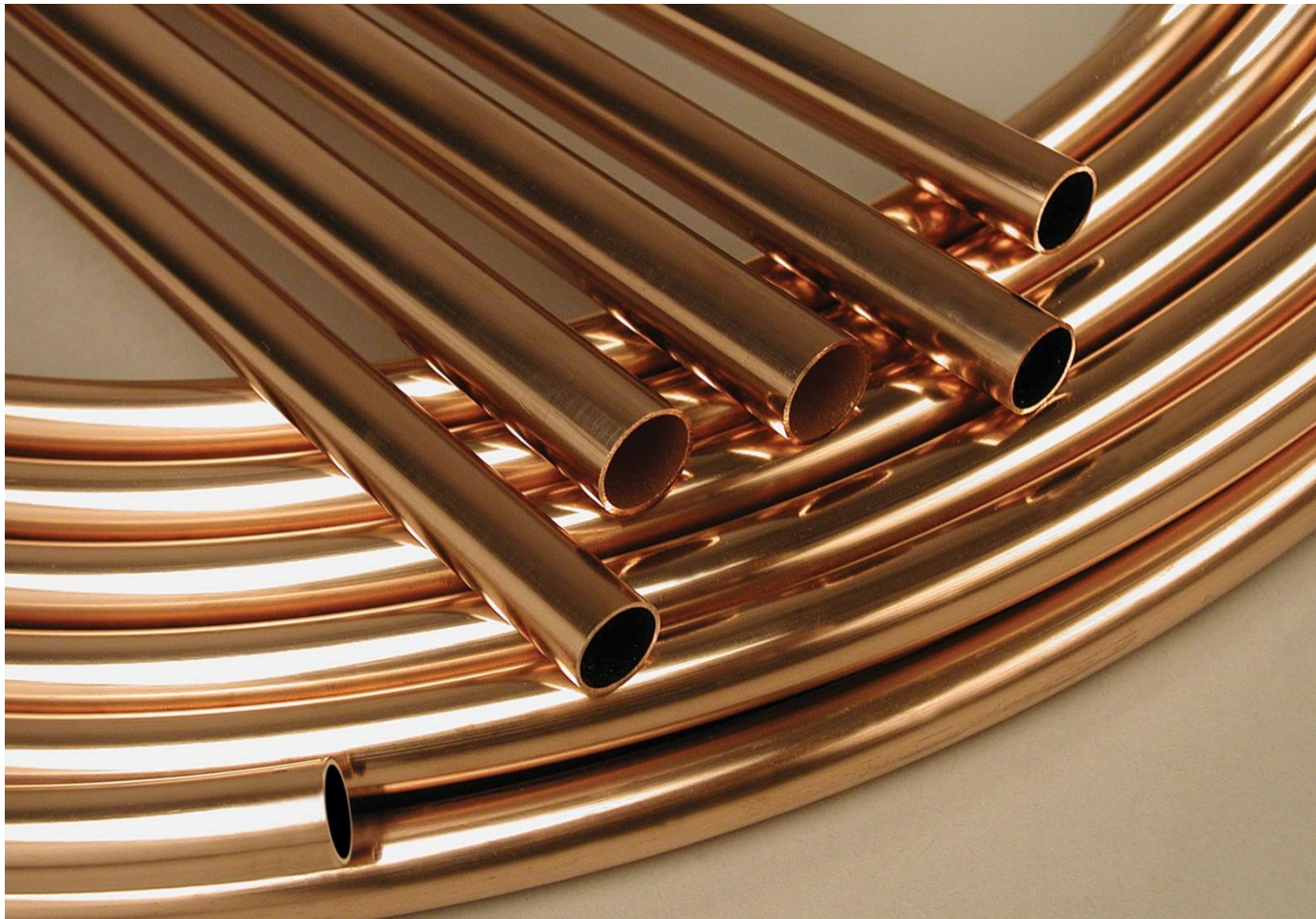


# Element, Compound or Mixture? Rocks



Element, Compound or Mixture?  
Copper

Cu



Element, Compound or **Mixture?**  
Jellybeans



Element, **Compound** or Mixture?

$C_{12}H_{22}O_{11}$  Table Sugar



# Element, Compound or Mixture? Tea

