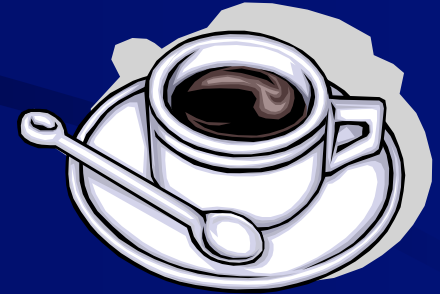


# CHAPTER 16

## What is Matter?



# SECTION 16.1

## *CLASSIFYING MATTER*

- Matter is a term that describes anything that has mass and volume (takes up space).

**Matter can be divided  
into 2 categories:**

**1. Mixtures**

**2. Substances**

# 1. MIXTURES

- Mixtures contain more than one kind of matter.
- There are 2 kinds of mixtures.



# HOMOGENEOUS MIXTURE

- A mixture that is the same throughout.

- Examples:

coffee

brass

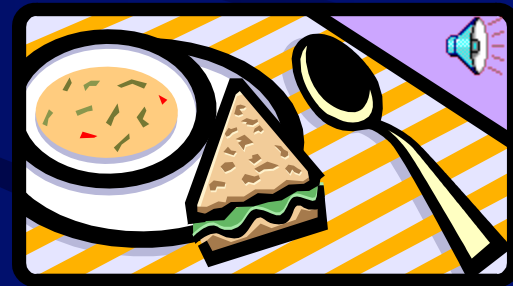
air



# HETEROGENEOUS MIXTURE

- A mixture in which different samples are not necessarily the same.

- Examples:  
chicken soup  
salad dressing



**All mixtures share one  
common property:**

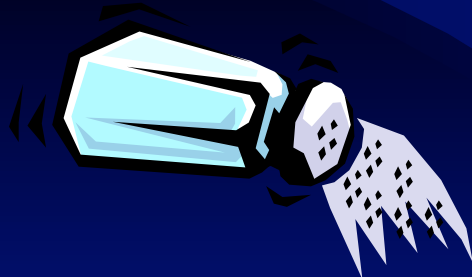
- **They can be separated by  
ordinary physical methods.**

**Examples: sorting, filtering,  
solubility, magnetic  
properties, density, heating, or  
cooling.**

# 2. SUBSTANCES

- Substances cannot be separated by physical methods.
- Examples:

salt



gold



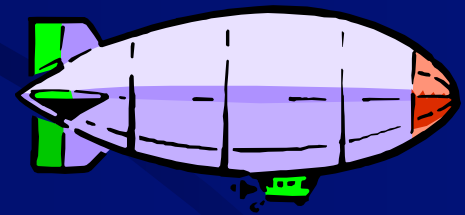


# ELEMENTS

- Some substances are elements and contain only one kind of matter (atoms). They cannot be separated by ordinary chemical or physical methods.
- Examples:

silver

helium



See the periodic table for a complete list of the elements!

# COMPOUNDS

- Compounds contain two or more kinds of matter (atoms), but cannot be separated without changing the substance.
- Examples:

water



sugar



So...

all **mixtures** are either

homogeneous or

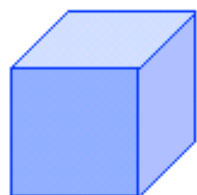
heterogeneous

and

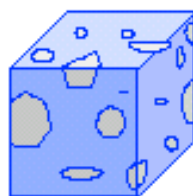
all **substances** are either

elements or compounds.

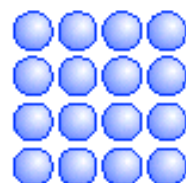
# Types of Matter



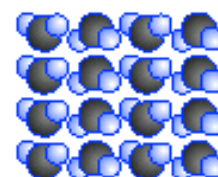
Homogeneous mixture



Heterogeneous mixture



Element



Compound

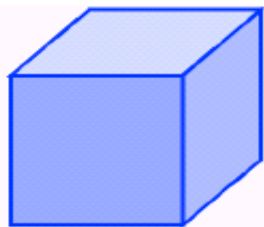
Type of matter	Definition	Examples
Homogeneous mixture	A mixture that contains more than one type of matter and is the same throughout.	soda pop, air, chocolate ice cream
Heterogeneous mixture	A mixture that contains more than one type of matter and is not the same throughout.	chicken soup, soil, fudge ripple ice cream
Element	A substance that contains only one type of atom.	copper metal, oxygen gas, liquid nitrogen
Compound	A substance that contains more than one type of atom.	table salt, rust (iron oxide), carbon dioxide gas

# MATTER

## MIXTURES

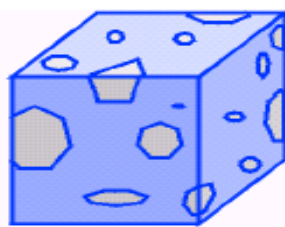
## SUBSTANCES

### HOMOGENEOUS MIXTURES



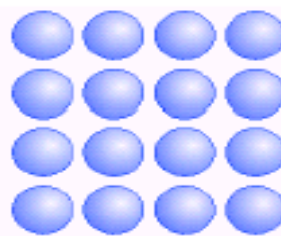
Homogeneous mixture

### HETEROGENEOUS MIXTURES



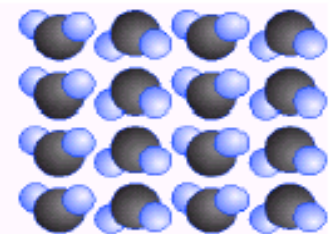
Heterogeneous mixture

### ELEMENTS



Element

### COMPOUNDS



Compound