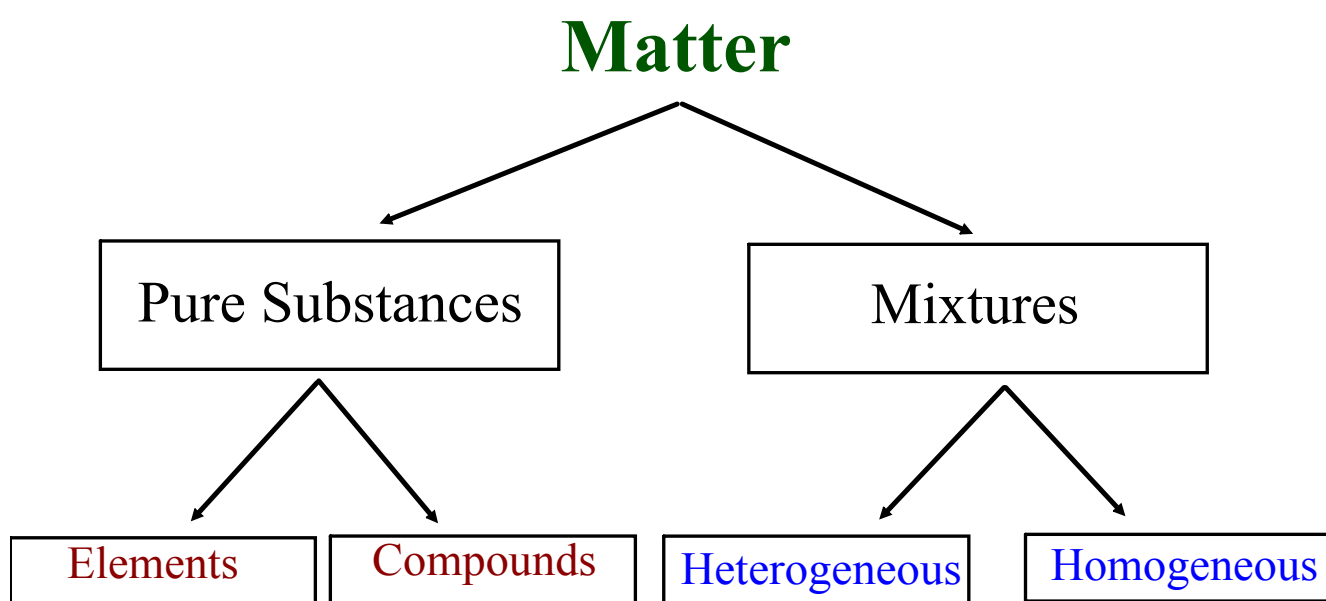


# Warm Up

	Element	Compound	Molecule
<b>Fe<sub>2</sub>O<sub>3</sub></b>		✓	✓
<b>F<sub>2</sub></b>	✓		✓
<b>Mo</b>	✓		
<b>CO</b>		✓	✓
<b>NaHCO<sub>3</sub></b>		✓	✓

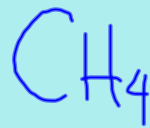


p. 52 #20-27

②③



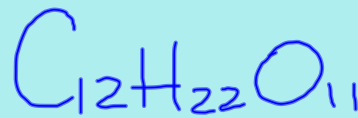
x



heat/electricity

②④

Table Sugar  $\rightarrow$



$\rightarrow$  compound

②⑦

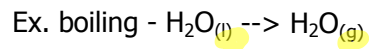


## Day 2 - elements intro

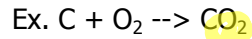
CHEMISTRY 112

### Matter & Its Diversity

physical changes - are those in which no new substances are formed.



chemical changes - are those in which a new substance is formed.



↓  
**chemical reaction**

qualitative knowledge - describes changes in matter not involved with a measured quantity. Ex. color

quantitative knowledge - involves a measure of the **amount** of matter or the **amount** of change in a measurable property of matter.

- involves a number (usually)

Ex. mass of magnesium is 1.2 g

empirical knowledge - observable information that can be measured.

Ex. dinosaurs did exist

theoretical knowledge - explains observations in terms of ideas.

Ex. dinosaurs died 65 million years ago due to an asteroid strike.

### COMPONENTS OF EXPERIMENTAL DESIGN

Manipulated Variable (independent variable)

- the property that is being changed

Responding Variable (dependent variable)

- the property that changes as a result of the change in the manipulated variable.

Controlled Variable

- a property that is kept constant.

**Example:** How does sleep affect performance in school?

# Day 2 - elements intro

**Legend:**

- Metals
- Nonmetals and Noble gases
- dual properties

Period	1A	2A	3B	4B	5B	6B	7B	8B		1B	2B	3A	4A	5A	6A	7A	8A																														
1	H																He																														
2	Li	Be										B	C	N	O	F	Ne																														
3	Na	Mg										Al	Si	P	S	Cl	Ar																														
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																													
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe																													
6	Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn																													
7	Fr	Ra		Unq	Unp	Unh	Uns	Uno	Une																																						
			<table border="1" style="width: 100%; text-align: center;"> <tr> <td>6</td> <td>La</td> <td>Ce</td> <td>Pr</td> <td>Nd</td> <td>Pm</td> <td>Sm</td> <td>Eu</td> <td>Gd</td> <td>Tb</td> <td>Dy</td> <td>Ho</td> <td>Er</td> <td>Tm</td> <td>Yb</td> <td>Lu</td> </tr> <tr> <td>7</td> <td>Ac</td> <td>Th</td> <td>Pa</td> <td>U</td> <td>Np</td> <td>Pu</td> <td>Am</td> <td>Cm</td> <td>Bk</td> <td>Cf</td> <td>Es</td> <td>Fm</td> <td>Md</td> <td>No</td> <td>Lr</td> </tr> </table>													6	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	7	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
6	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu																																
7	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr																																