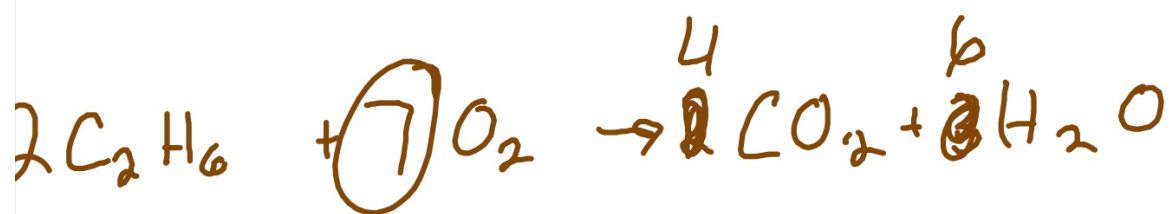


Bell Ringer #40:

**Socratic Room Name:
LEVEL70WARRIOR**

Chemical Reactions Predicting Products

<http://drmoad.weebly.com/>



C	4	C	4
H	12	H	12
O	14 14	O	14

Agenda

Bell Ringer

Five Types of Reactions Notes

Demo: Elephant Toothpaste

Demo: Precipitate Formation

Predicting Products

Reaction Type Worksheet

Exit Ticket

Five Types of Chemical Reactions

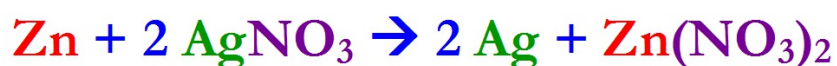
- 1. Single Replacement**
- 2. Double Replacement**
- 3. Synthesis**
- 4. Decomposition**
- 5. Combustion**

Single Replacement



- One element replaces another in a compound.
- Elements and compounds are produced.

Some Examples:



Double Replacement



- Two elements switch places.
- Some types include: precipitation, gas formation, hydrolysis, neutralization

Some Examples:



Demo: Precipitate Formation

Reactants:

potassium iodide

lead (II) nitrate

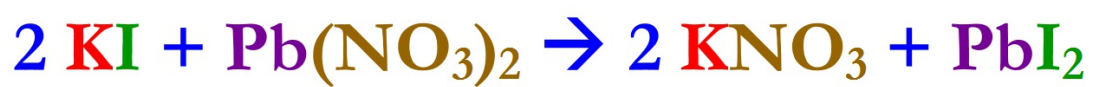
Products:

lead (II) iodide

potassium nitrate



Pb	1		Pb	1
N	2		N	1 2
O	6		O	3 6
K	0 2		K	0 2
I	0 2		I	2



↓
Clear
liquid

↓
Clear
liquid

↓
remains
in the
water

↓
Yellow
Solid

Synthesis

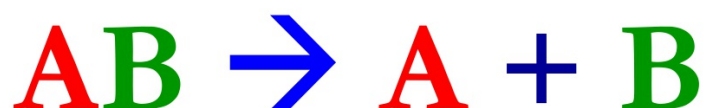


- Two or more reactants make one product.
- Combine elements; Combine compounds;
Elements and compounds combine.

Some Examples:

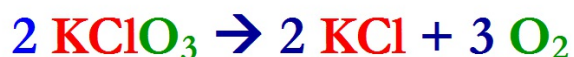


Decomposition



- One reactant breaks apart into two or more products.
- Elements are produced; Compounds are produced; Elements and compounds are produced.

Some Examples:



Demo: Elephant Toothpaste

Reactant:

hydrogen peroxide

Products:

water

oxygen gas

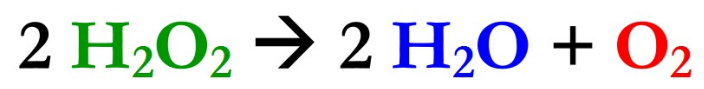


H 4

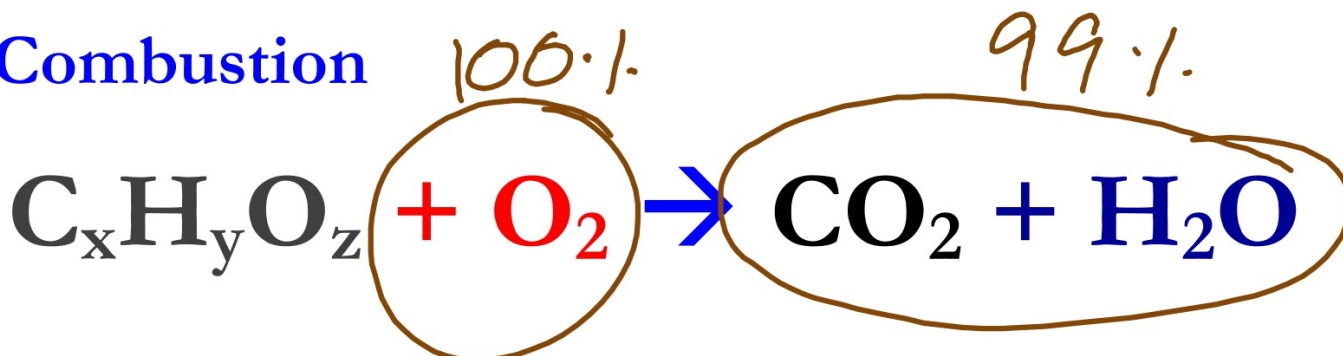
O 4

H 4

O 4

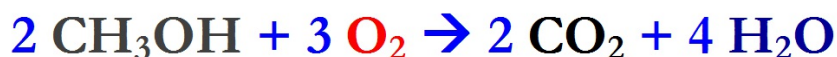
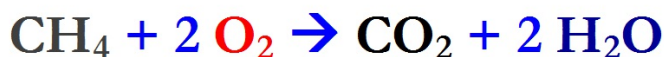


Combustion



- Requires oxygen and produces carbon dioxide and water.
- Typically produces heat and light.

Some Examples:



Additional Notation

(s) = solid

(l) = liquid

(g) = gas

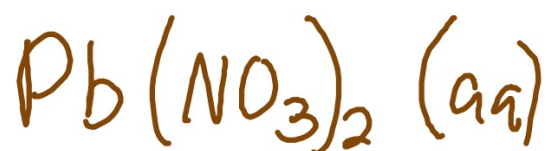
(aq) = aqueous

Δ = heat or catalyst

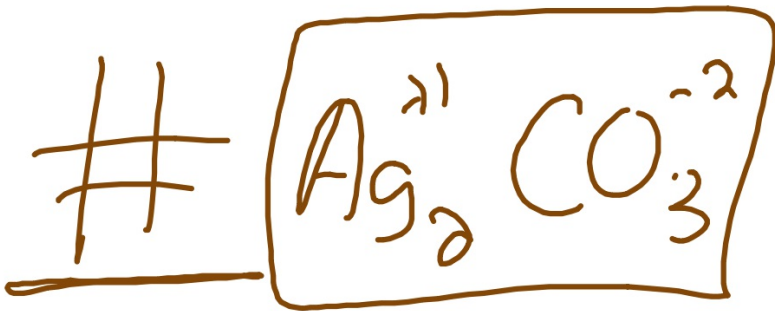
\uparrow = gas or bubbles

\downarrow = precipitate

\rightleftharpoons = reversible reaction



Rules for Chemical Reactions:



Predicting Products



Predicting Products



Worksheet: Reaction Type and Balancing

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<http://drmoad.weebly.com/>

Exit Ticket #40:

**Socratic Room Name:
LEVEL70WARRIOR**

Reaction Type