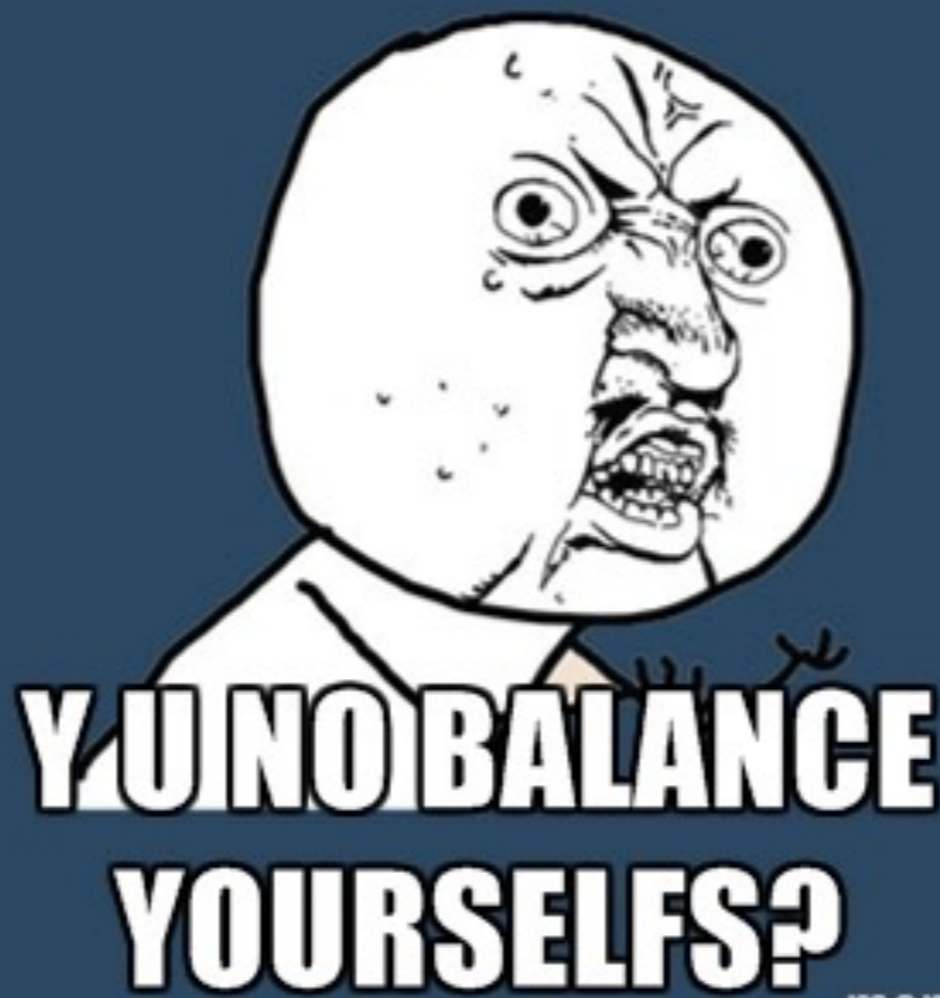


CHEMICAL EQUATIONS!




Honors Chemistry

Wednesday August 19th 2015

Agenda

- * Warm Up: NONE
- * Continue Topic 1.1: Introduction to the Particulate Nature of Matter & Chemical Change
- * Exit Ticket: 3-2-1

Warm Up



You have
5 minutes
ONLY!
GO!

- * On the half sheet of paper, list **three (3) characteristics** for each state of matter.
- * You may **not** to use your notes or work with a partner!!!!!!

HOMEWORK

- * Topic 1.1 Introduction to Particulate Nature of Matter & Chemical Change vocabulary
- * DUE September 4th 2015
- * **No Exceptions!**

Topic 1.1.2

Chemical Change

- Understand that compounds have different properties to the elements they are made from
- Understand how to balance chemical equations
- Understand how to use state symbols and chemical equations
- Describe the differences between elements, compounds and mixtures
- Understand the differences between homogenous and heterogenous mixtures

Introduction to the Particulate Nature of Matter and Chemical Change

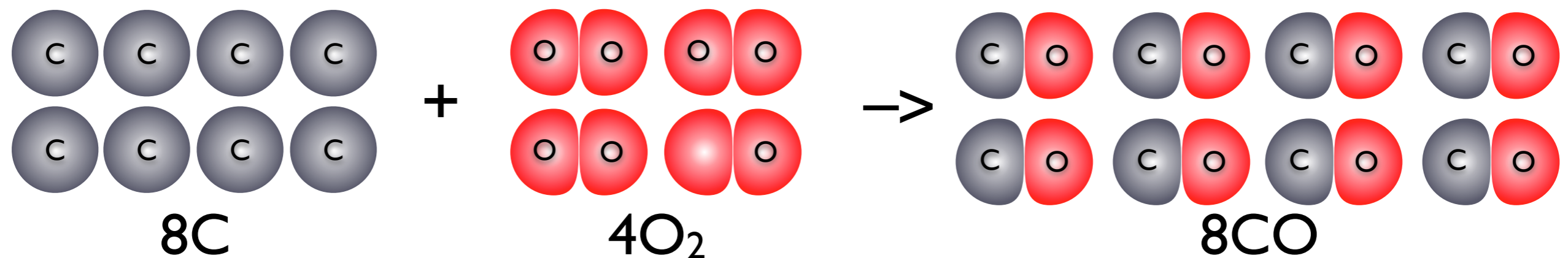
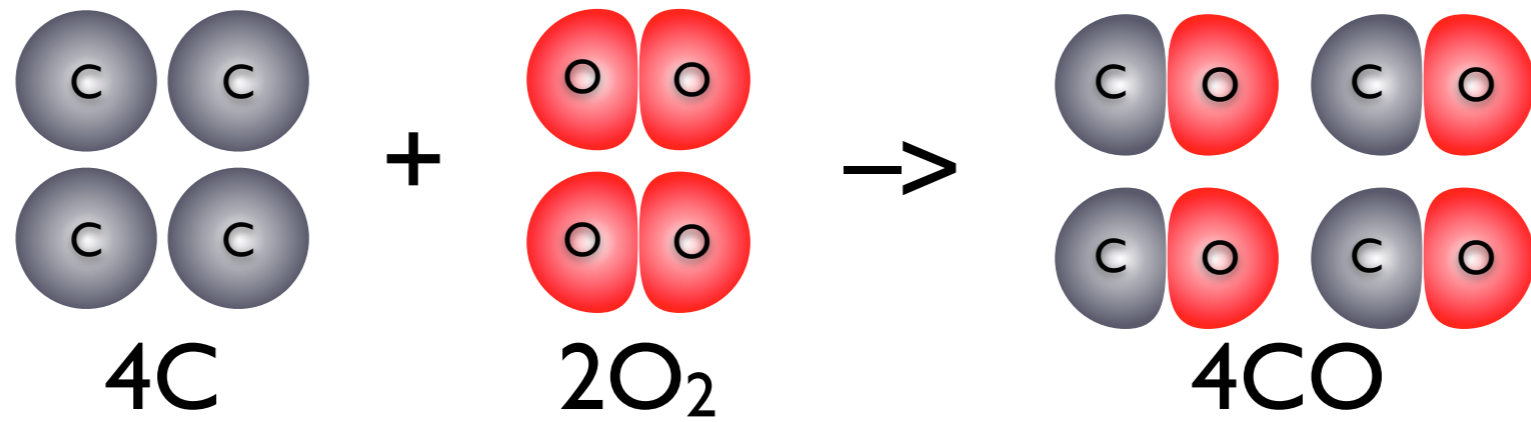
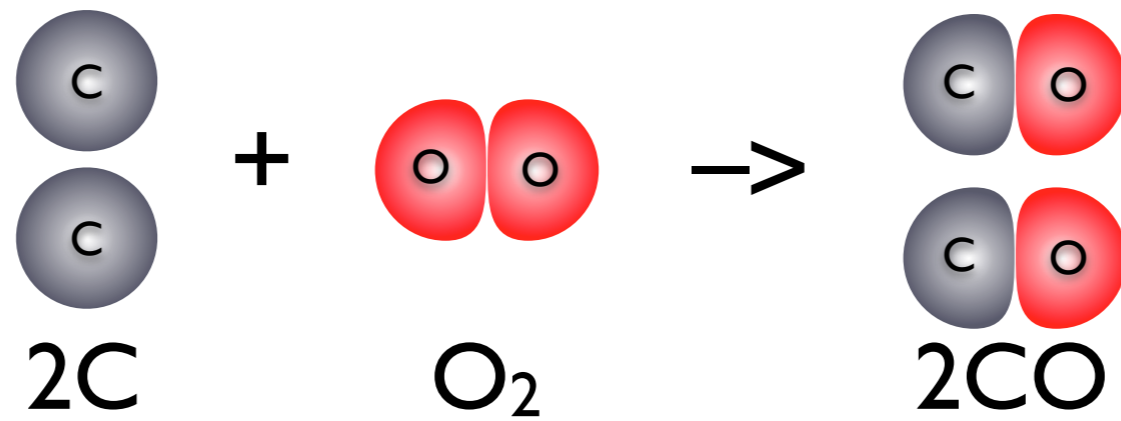
Elements and Compounds

- **Elements** only contain one type of atom (H, Na, Cl, or Mg) and can combine to form **compounds** (H₂O, NaCl, or H₂SO₄).
- Compounds react differently than their constituent parts
 - i.e. Na metal reacts violently with water and Cl₂ is an extremely poisonous gas but as NaCl, they combine to form table salt.
- **Physical properties:** melting point, density, hardness, electrical conductivity.
- **Chemical properties:** dictates how something reacts in a chemical reaction

Introduction to the Particulate Nature of Matter and Chemical Change

The meaning of chemical equations

- When elements combined to form compounds, they always combine in **fixed ratios** depending on the numbers of atoms required.
- **Mass is conserved in all chemical reactions**
 - Elements always combined in the same mass ratios because they're at times always combined in the same ratios, and each type of atom has a fixed mass.
 - i.e. carbon and oxygen to form carbon monoxide

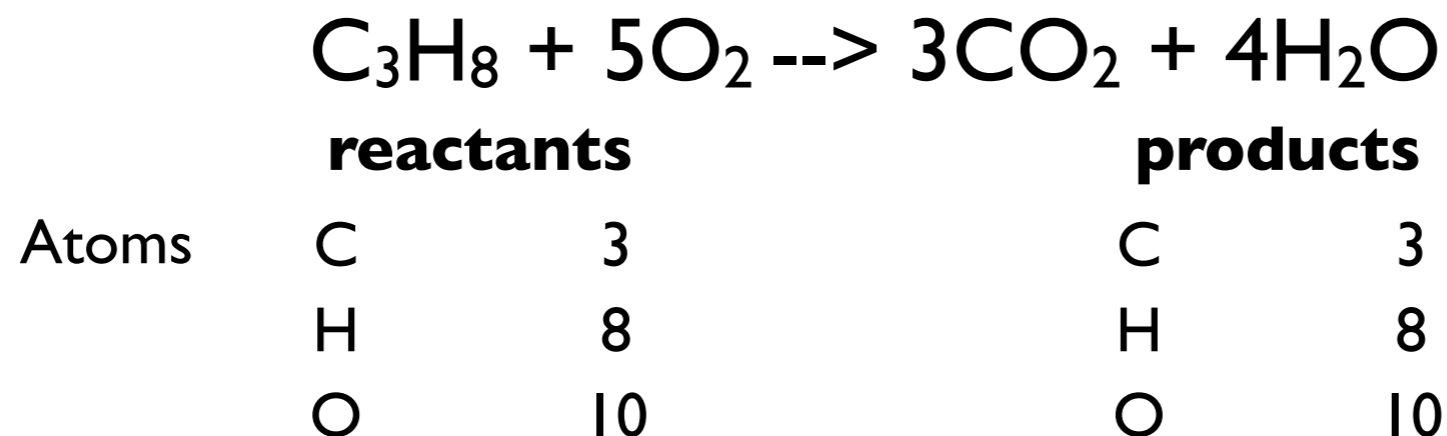


Two carbon atoms will *always* react with two oxygen molecules to form carbon monoxide. This is a fixed ratio!

Introduction to the Particulate Nature of Matter and Chemical Change

Balancing chemical equations

- A chemical reaction involves atoms joining together in different ways and electrons redistributing themselves between the atoms
 - **Atoms or electrons will never be created or destroyed!!!**
 - In chemical equations, there must be the same number of atoms on either side of the equation - representing the same number of atoms before and after the reaction took place:



Introduction to the Particulate Nature of Matter and Chemical Change

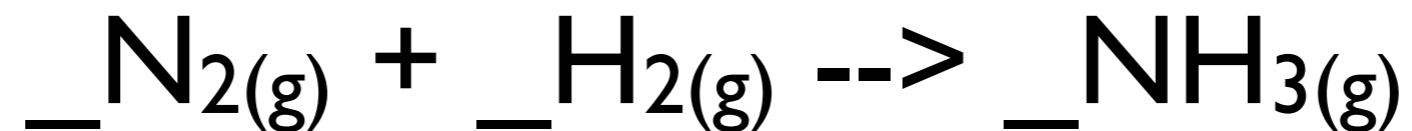
State symbols

- **(s) = solid**
- **(l) = liquid**
- **(g) = gas**
- **(aq) = aqueous (dissolved in water)**

Practice Problem

... I Do ...

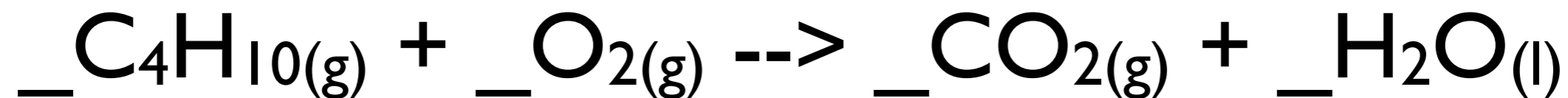
Balance the following equation:



Practice Problem

... We Do ...

Balance the following equation:



Topic 1.1

Introduction to the Particulate Nature of Matter and Chemical Change

- ➡ Describe the three states of matter
- ➡ Understand the changes involved when there is a change in state.

HOMEWORK

- * Topic 1.1 Introduction to Particulate Nature of Matter & Chemical Change vocabulary
- * DUE September 4th 2015
- * **No Exceptions!**