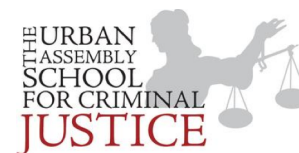


Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Chemistry** ~ Ms. Hart

**Class:**

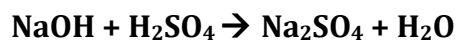
Anions or Cations



### 6.5 Balancing Equations

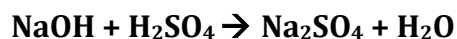
#### **Example 1:**

Balance the following equation:



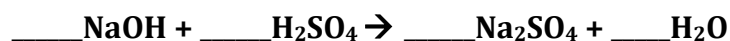
**\*For these more complicated equations, it is best to draw a square around each polyatomic ion before moving on so that you don't change the formula!**

**Step 1:** Draw a square around each polyatomic ion and take inventory



Elements/Polyatomic Ions	Reactant side	Product side

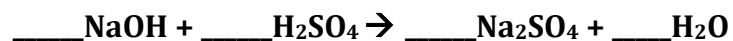
**Step 2:** Add coefficients (Let's do sodium first)



**Step 3:** Re-inventory and double check

Elements	Reactant side	Product side

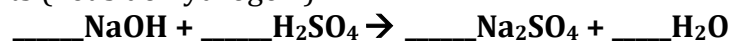
**Step 4:** Add coefficients (Let's worry about oxygen first)



**Step 5:** Re-inventory and double check

Elements	Reactant side	Product side

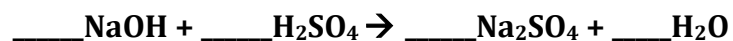
**Step 6:** Add coefficients (Let's do hydrogen.)



**Step 7:** Re-inventory and double check

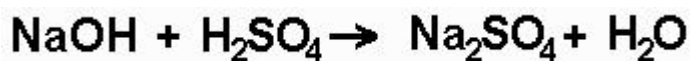
Elements	Reactant side	Product side

**Final answer:**



## Tips for Balancing Equations

Example:



1. Before starting to balance an equation, draw a box around each chemical formula in the problem. *The boxes will make sure you don't change the formula.* Looks like this:



2. Make the chart showing the atoms of each element on each side.



Element	Before	After
Na	1	2
O	5	5
H	3	2
S	1	1

3. Balance each atom one at a time.

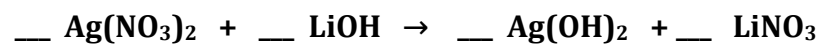
*Advice: try to balance in the following order:*

1. *Non-Metals*
2. *Metals*
3. *Oxygen*
4. *Hydrogen*

4. If you are having trouble balancing an equation, try multiplying **the largest most complex molecule** on either side of your equation by 2.
5. If you are still having trouble, **START OVER AGAIN COMPLETELY**

Try this on your own.

Example 2:



Show your work below:

Final Answer:

