## Packet#11 Addendum

## Balancing Equations

Fill in the blanks below in order to balance the atoms on each side of the equation. Create a balancing chart as I’ve shown you in class for the FIRST 11 balancing problems

1. \_\_\_\_\_ Fe + \_\_\_\_\_ S 🡪 \_\_\_\_\_ FeS

2. \_\_\_\_\_ H2 + \_\_\_\_\_ Cl2 🡪 \_\_\_\_\_ HCl

3. \_\_\_\_\_ Mg + \_\_\_\_\_ O2 🡪 \_\_\_\_\_ MgO

4. \_\_\_\_\_ O2 + \_\_\_\_\_ H2 🡪 \_\_\_\_\_ H2O

5. \_\_\_\_\_ HgO 🡪 \_\_\_\_\_ Hg + \_\_\_\_\_ O2

6. \_\_\_\_\_ Ca + \_\_\_\_\_ H2O 🡪 \_\_\_\_\_ Ca(OH)2 + \_\_\_\_\_ H2

7. \_\_\_\_\_ CH4 + \_\_\_\_\_ O2 🡪 \_\_\_\_\_ CO2 + H20

8. \_\_\_\_\_ Na2O2 + \_\_\_\_\_ H2SO4 🡪 \_\_\_\_\_ Na2SO4 + \_\_\_\_\_ H2O2

9. \_\_\_\_\_ N2 + \_\_\_\_\_ H2 🡪 \_\_\_\_\_ NH3

10. \_\_\_\_\_ Al + \_\_\_\_\_ O2 🡪 \_\_\_\_\_ Al2O3

11. \_\_\_\_\_ KMnO4 🡪 \_\_\_\_\_ K2O + \_\_\_\_\_ MnO + \_\_\_\_\_ O2

**MORE PRACTICE – SO MUCH FUN!!! Feel free to attach your scrap paper at the end of this packet.**

1. **\_\_\_\_ H2 + \_\_\_\_ O2** 🡪 **\_\_\_\_ H2O**
2. **\_\_\_\_ H3PO4 + \_\_\_\_ KOH** 🡪**\_\_\_\_ K3PO4 + \_\_\_\_ H2O**
3. **\_\_\_\_ K + \_\_\_\_ B2O3** 🡪 **\_\_\_\_ K2O + \_\_\_\_ B**
4. **\_\_\_\_ HCl + \_\_\_\_ NaOH** 🡪 **\_\_\_\_ NaCl + \_\_\_\_ H2O**
5. **\_\_\_\_ Na + \_\_\_\_ NaNO3** 🡪 **\_\_\_\_ Na2O + \_\_\_\_ N2**
6. **\_\_\_\_ C + \_\_\_\_ S8** 🡪 **\_\_\_\_ CS2**
7. **\_\_\_\_ Na + \_\_\_\_ O2** 🡪 **\_\_\_\_ Na2O2**
8. **\_\_\_\_ N2 + \_\_\_\_ O2** 🡪 **\_\_\_\_ N2O5**
9. **\_\_\_\_ H3PO4 + \_\_\_\_ Mg(OH)2 => \_\_\_\_ Mg3(PO4)2 + \_\_\_\_ H2O**
10. **\_\_\_\_ NaOH + \_\_\_\_ H2CO3 => \_\_\_\_ Na2CO3 + \_\_\_\_ H2O**
11. **\_\_\_\_ KOH + \_\_\_\_ HBr => \_\_\_\_ KBr + \_\_\_\_ H2O**
12. **\_\_\_\_ H2 + \_\_\_\_ O2 => \_\_\_\_ H2O2**
13. **\_\_\_\_ Na + \_\_\_\_ O2 => \_\_\_\_ Na2O**
14. **\_\_\_\_ Al(OH)3 + \_\_\_\_ H2CO3 => \_\_\_\_ Al2(CO3)3 + \_\_\_\_ H2O**
15. **\_\_\_\_ Al + \_\_\_\_ S8 => \_\_\_\_ Al2S3**
16. **\_\_\_\_ Cs + \_\_\_\_ N2 => \_\_\_\_ Cs3N**
17. **\_\_\_\_ Mg + \_\_\_\_ Cl2 => \_\_\_\_ MgCl2**
18. **\_\_\_\_ Rb + \_\_\_\_ RbNO3 => \_\_\_\_ Rb2O + \_\_\_\_ N2**
19. **\_\_\_\_ C6H6 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
20. **\_\_\_\_ N2 + \_\_\_\_ H2 => \_\_\_\_ NH3**
21. **\_\_\_\_ C10H22 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
22. **\_\_\_\_ Al(OH)3 + \_\_\_\_ HBr => \_\_\_\_ AlBr3 + \_\_\_\_ H2O**
23. **\_\_\_\_ CH3CH2CH2CH3 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
24. **\_\_\_\_ C + \_\_\_\_ O2 => \_\_\_\_ CO2**
25. **\_\_\_\_ C3H8 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
26. **\_\_\_\_ Li + \_\_\_\_ AlCl3 => \_\_\_\_ LiCl + \_\_\_\_ Al**
27. **\_\_\_\_ C2H6 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
28. **\_\_\_\_ NH4OH + \_\_\_\_ H3PO4 => \_\_\_\_ (NH4)3PO4 + \_\_\_\_ H2O**
29. **\_\_\_\_ Rb + \_\_\_\_ P => \_\_\_\_ Rb3P**
30. **\_\_\_\_ CH4 + \_\_\_\_ O2 => \_\_\_\_ CO2 + \_\_\_\_ H2O**
31. **\_\_\_\_ Al(OH)3 + \_\_\_\_ H2SO4 => \_\_\_\_ Al2(SO4)3 + \_\_\_\_ H2O**
32. **\_\_\_\_ Na + \_\_\_\_ Cl2 => \_\_\_\_ NaCl**
33. **\_\_\_\_ Rb + \_\_\_\_ S8 => \_\_\_\_ Rb2S**
34. **\_\_\_\_ H3PO4 + \_\_\_\_ Ca(OH)2 => \_\_\_\_ Ca3(PO4)2 + \_\_\_\_ H2O**
35. **\_\_\_\_ NH3 + \_\_\_\_ HCl => \_\_\_\_ NH4Cl**
36. **\_\_\_\_ Li + \_\_\_\_ H2O => \_\_\_\_ LiOH + \_\_\_\_ H2**
37. **\_\_\_\_ Ca3(PO4)2 + \_\_\_\_ SiO2 + \_\_\_\_ C => \_\_\_\_ CaSiO3 + \_\_\_\_ CO + \_\_\_\_ P**
38. **\_\_\_\_ NH3 + \_\_\_\_ O2 => \_\_\_\_ N2 + \_\_\_\_ H2O**
39. **\_\_\_\_ FeS2 + \_\_\_\_ O2 => \_\_\_\_ Fe2O3 + \_\_\_\_ SO2**
40. **\_\_\_\_ C + \_\_\_\_ SO2 => \_\_\_\_ CS2 + \_\_\_\_ CO**

Chemical Word Equations

**Directions: Write a balanced chemical equation for each of the word equations below.**

1. aqueous sodium chloride reacts with aqueous lead (II) nitrate to yield a lead (II) chloride precipitate and aqueous sodium nitrate

2. aqueous barium nitrate reacts with sulfuric acid [H2SO4(aq)] to yield a barium sulfate precipitate and nitric acid [HNO3(aq)]

3. silver nitrate reacts in solution with potassium chromate to yield a silver chromate precipitate and soluble potassium nitrate. *(silver always form a +1 ion)*

4. solid calcium carbonate reacts with hydrochloric acid [HCl(aq)] to yield aqueous calcium chloride, carbon dioxide gas, and liquid water

5. aqueous zinc chloride reacts with dihydrogen monosulfide gas to yield a zinc sulfide precipitate and hydrochloric acid

6. magnesium nitrate reacts in solution with potassium hydroxide to yield a magnesium hydroxide precipitate and soluble potassium nitrate

7. solid aluminum hydroxide reacts with nitric acid to yield soluble aluminum nitrate and liquid water

8. aqueous lead (IV) nitrate reacts with aqueous sodium sulfate to yield a lead (IV) sulfate precipitate and sodium nitrate

9. aqueous sodium hydroxide reacts with carbon dioxide gas to yield sodium carbonate and liquid water

10. solid magnesium oxide reacts with hydrochloric acid (HCl) to yield a solution of magnesium chloride and liquid water

11. solid zinc metal reacts with sulfuric acid to yield aqueous zinc sulfate and hydrogen gas

12. solid iron (III) oxide reacts with solid aluminum metal to yield solid aluminum oxide and solid iron metal