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| **Date** | **Topic** | **CB** | **PA** | **H** |
| M – Feb 23 | ACT Exam |  |  |  |
| T – Feb 24 | Signs of a Chemical Change | 1-3 | 1-4 | **1-4** |
| W – Feb 25 | Chemical Reactions and Equations | 6a-d, 7a-d, 8,9 | 6a-f, 7a-f, 8,9 | 6-9 |
| Th – Feb 26 | Introduction to Balancing Chemical Equations | 10, 11, 13 | 10-13 | 10-13 |
| F – Feb 27 | Balancing Chemical Equations | 14a-d | 14 all | 14 all |

**\*Complete the following problems on a separate sheet of paper in your chemistry notebook.**

1. Name four possible clues that a chemical change has taken place.
2. What are some differences between chemical and physical changes?
3. Classify the following changes as physical or chemical:
   1. Water boils d. Cookie dough is baked to form cookies
   2. Milk turns sour e. Metal Rusts
   3. Salt dissolves in water d. Wood is chopped into small pieces
4. Explain why the production of a gas does not always mean that a chemical reaction has occurred.
5. Fill in the blanks with either **intra**molecular or **inter**molecular:  
   For a physical change to occur, energy must be added or taken away to change the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ forces in a substance. For a chemical change to occur, energy must be added or taken away to change the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ forces in a substance.
6. Write the formulas for these compounds:
   1. Potassium permanganate e. Phosphorous Pentabromide
   2. Calcium bicarbonate f. Magnesium Sulfide
   3. Dichlorine heptoxide g. Barium Hydroxide
   4. Trisilicon tetranitride h. Sodium Bromide
7. Name these compounds:
   1. LiClO4 e. Ba3(PO4)2
   2. Cl2O f. I2
   3. HgF2 g. SrSO4
   4. CaO h. N2H4
8. In a chemical reaction, how does the mass of the reactants compare with the mass of the products?
9. For the following chemical equation, what are the reactants in this equation? What are the products? What does the symbol 🡪 represent?

2H2 + O2 🡪 2H2O

1. N2 + H2 🡪 2NH3
   1. What elements are in the equation above?
   2. How many atoms of each element are on the *reactants* side?
   3. How many of atoms each element are on the *products* side?
   4. Is this equation balanced? Why or why not?
2. 2KCl 🡪 K + Cl2
   1. What elements are in the equation above?
   2. How many atoms of each element are on the *reactants* side?
   3. How many atoms of each element are on the *products* side?
   4. Is this equation balanced? Why or why not?
3. AlBr3 + K 🡪 3KBr + Al
   1. What elements are in the equation above?
   2. How many atoms of each element are on the *reactants* side?
   3. How many atoms of each element are on the *products* side?
   4. Is this equation balanced? Why or why not?
4. Write the ***balanced*** chemical equation for the following statements:
   1. Magnesium reacts with bromine gas to produce Magnesium bromide.
   2. Silver nitrate reacts with sodium hydroxide to produce silver hydroxide and sodium nitrate.
   3. Dicarbon dihydrogen and oxygen gas react to form carbon dioxide and water.
5. Balance the following equations: (***SHOW ALL WORK ON YOUR NOTEBOOK PAPER!***)
   1. \_\_\_P4 + \_\_\_\_O2 🡪 \_\_\_P2O5
   2. \_\_\_C3H8 + \_\_\_O2 🡪 \_\_\_CO2 + \_\_\_H2O
   3. \_\_\_Ca2Si + \_\_\_Cl2 🡪 \_\_\_CaCl2 + \_\_\_SiCl4
   4. \_\_\_FeS2 + \_\_\_Cl2 🡪 \_\_\_FeCl3 + \_\_\_S2Cl2
   5. \_\_\_HgCl2 + \_\_\_AgNO3 🡪 \_\_\_Hg(NO3)2 + \_\_\_AgCl