Honors Chemistry Hour\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Dr. Wexler  
Balancing Chemical Equations: The Table Method Worksheet 1  
Date:

**Steps in the Table Method for Balancing Chemical Equations”**

http://chemistry.boisestate.edu/people/richardbanks/inorganic/mc111/vol5/v5_111mc4.gif

*1. Account for the atoms on the left and right sides of the arrow:* C6H14 + O2 🡪CO2 + H2O

C 6 1  
H 14 2  
O 2 3

2. Sextuple the CO2 molecules on the right side

C6H14 + O2 🡪 6CO2 + H2O

C 6 6  
H 14 2  
O 2 13

3. Septuple the number of H atoms on the right side by septupling the H2O

C6H14 + O2 🡪 6CO2 + 7H2O

C 6 6  
H 14 14  
O 2 19

4. Adjust the number of O atoms on the left side by multiplying it by the fraction 19/2.

C6H14 + 19/2 O2 🡪 6CO2 + 7H2O

C 6 6  
H 14 14  
O 19 19

5. The equation is balanced, but you must adjust the coefficients to convert the fractions into whole numbers. Multiply all coefficients by the denominator of the fraction:

2 x (C6H14 + 19/2 O2 🡪 6CO2 + 7H2O) = **2C6H14 + 19O2 🡪12CO2 + 14H2O**

The following problems are in approximate order of increasing difficulty. Show all work!

1) CH4 + O2 🡪 CO2 + H2O

2) KOH + H3PO4 🡪 K3PO4 + H2O

3) HClO4 + P4O10 🡪 H3PO4 + Cl2O7

4) C8H18 + O2 🡪 CO2 + H2O

5) NH3 + O2 🡪 NO + H2O