Before PC's came along, space scientists would get their slide rulers out and spend hours calculating problems like the one you are doing today (it should take you about 30 minutes or so, no slide ruler required). We will be calculating the amount of rocket fuel that is needed to travel from any planet in our solar system to the sun. This involves fuel to escape a planet's gravity (much more fuel is needed on planets that have a greater gravitational force) and fuel for traveling to the sun (largely used to make course adjustments, braking and accelerating).

This is the first of a few RWA's (Real World Assignments). These assignments are designed to be similar to something you might see in college or at a job site. All of the answers on how to do this problem are not stated in this assignment. You may have to use online help and some thinking skills to finish this assignment. Good luck!

Starting with a new worksheet, label the columns from left to right with the following headers: **Planet, Gravity, Orbital Distance (km), Fuel for escape, Fuel to sun, Total fuel requirements, surplus/shortage**.

Next, list the nine planets under the **Planets** header. Fill in the data for **Gravity** and **Orbital Distance** for each planet using the following Internet sites:

Solar System Gravity Data source

Solar System Orbital Distance source

NOTE: If these links do not work, you will have to use the Internet to search and find this information.

Next, enter the formulas for calculating fuel for escape, fuel to sun, total fuel requirements and surplus/shortage.

Fuel to escape: Value for **Gravity** multiplied by 10,000.

Fuel to sun: Value for **Orbital Distance** multiplied by 0.0005

Total Fuel requirements: Value for **Fuel to escape** added to the value for **Fuel to sun**.

Surplus/shortage: The ship can hold a total of 12,000 lbs. of fuel. Calculate the surplus or shortage of each planet with a formula.

Format all your cells (except the gravity column) as integers (no places past the decimal), using the 1,000 separator.

Shade the names of the planets that the ship could not travel to the sun because of a fuel shortage.

Save this worksheet as **13-2 RWA Space.** Email it as an attachment to **rhp@denovodental.com** with the subject **Compapp 13-2 *lastname.***