How Much Do You Weigh on Other Planets?  
(Student Handout)

Name ____________________________

The mass of an object is a fundamental property of the object; a numerical measure of its inertia; a fundamental measure of the amount of matter in the object. The weight of an object is the force of gravity on an object.

If you had a mass of 100 pounds on Earth, your mass would not change on any of the planets, but your weight would change because weight is the result of the pull of gravity. The greater the gravity, the more the object weighs. Each planet has more or less gravity than Earth.

The largest planet is Jupiter. It is followed by Saturn, Uranus, Neptune, Earth, Venus, Mars and Mercury. Jupiter is so big that all the other planets could fit inside it.

A 100-pound person on Earth would weigh:

- 37.8 pounds on Mercury
- 90.6 pounds on Venus
- 37.9 pounds on Mars
- 253.3 pounds on Jupiter
- 106.6 pounds on Saturn
- 90.5 pounds on Uranus
- 113.3 pounds on Neptune

Please graph the gravitation
Let’s figure out some other weights. Round to the nearest tenth.

1. On Earth, one gallon of water weighs 8.3 pounds. What does it weigh on Mars? ________________________________

2. In 2005, Lemuel Grayson from the United States won the world weightlifting championship by lifting a total of 332.5 pounds in the Snatch and the Clean and Jerk competitions. How much is that on Jupiter? __________________________


4. A container of butter weighs 1 pound on earth. How much does it weigh on Saturn? ________________________________

5. A Boston terrier weighs an average of 15 pounds on Earth. What does it weigh on Neptune? __________________________