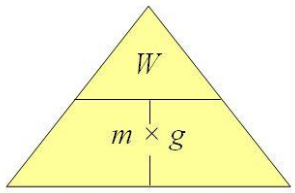
Name: _____

Weight on other planets worksheet

Before we can calculate your weight on other planets, we must first find your mass in kilograms. To do this, we must know your weight in Newtons (N), also equal to kg m/sec^2. If you are unsure of your weight, estimate it. ***Weight = mass x gravity.***



Convert your weight. (1 lb = 4.45 N) *Show your work.*

weight : _____

Using the formula: w = mg , calculate your mass. g is the acceleration due to gravity. On earth, g = 9.8 m/s^2

Show your work.

Mass (kg) = _____

Now, using your mass (in kg), and the figures for g (in the table below), you can calculate your weight on other planets.

Planet/Star	mass (kg)	g (m/s^2)	Weight (N)
Mercury		3.61	
Venus		8.83	
Mars		3.75	
Jupiter		26.0	
Saturn		11.2	
Uranus		10.5	
Neptune		13.3	
Pluto		0.61	
Sun		274.73	

1. Why does your weight vary on the different planets/stars? What could cause this difference?

2. Does your mass also change on the different planets/stars? Why or why not?

3. Compare your mass on Neptune to your weight on Neptune. What is the difference? Why is there a difference?