Name: _____

Gravity

Gravity is a force that causes objects to fall towards the center of the Earth. All objects have gravity, but some objects, like the Earth and the Sun, have a lot more gravity than others. The more mass an object has, the stronger its force of gravity. The closer you are to an object, the stronger the gravity.

If we were to travel to a planet we would find that a planet has a gravitational force of attraction between itself and a person that is standing on that planet. Since planets have different masses, you would have a different weight on each planet.

Directions: Complete the chart below to see what your new weight would be on each planet. Weigh yourself, then multiply by the numbers below to see what you'd weigh.

Planet:	Multiply your Earth weight by:	New weight:
Mercury mass: $= 3.302 \times 10^{23}$ kg	0.4	
Venus mass: $= 4.87 \times 10^{24}$ kg	0.9	
Earth mass: $= 5.988 \times 10^{24}$ kg	1	
Mars mass: $= 6.42 \times 10^{23}$ kg	0.4	
Jupiter mass: $= 1.90 \times 10^{27}$ kg	2.5	
Saturn mass: $= 5.69 \times 10^{26}$ kg	1.1	
Uranus mass: $= 8.68 \times 10^{25}$ kg	0.8	
Neptune mass: $= 1.02 \times 10^{26}$ kg	1.2	
Moon mass: $= 7.36 \times 10^{22}$ kg	0.17	