

Name: \_\_\_\_\_

## 6<sup>th</sup> Grade Virtual Makeup

### Gravity Exploration Worksheet

Name: \_\_\_\_\_

Part A: How much would you weigh on the moon and planets?

The more mass a planet has compacted within its size, the stronger its gravitational constant. Earth has a gravitational constant of 9.8 N/kg. Planets that have more matter compressed within their volumes than Earth would have stronger gravitational constants at their surfaces. As a result, a person would weigh more on these planets than they do on Earth. On the moon a person would weigh less. Find your weight on the moon and each of the planets in the solar system.

Weight on Earth (N)* Weight in lbs = _____	X	Gravitational constant compared to Earth	=	Calculated Weight on... (N)	Locatio n
You can convert you weight in pounds to newtons by multiplying pounds by 4.45N/lb.  _____  For instance, a person weighing 100lb on Earth would also weigh 445N on Earth	X	0.17	=		Moon
	X	0.38	=		Mercur y
	X	0.86	=		Venus
	X	0.38	=		Mars
	X	2.87	=		Jupiter
	X	1.32	=		Saturn
	X	0.93	=		Uranus
	X	1.23	=		Neptun e

Conclusion: Complete each statement, use the internet to research any information you don't know.

1. A person would weigh more on \_\_\_\_\_ than on \_\_\_\_\_  
because \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
2. The force of gravity between two objects depends on \_\_\_\_\_ and  
\_\_\_\_\_.

Name:

3. While a person's weight would be different on the moon and planets, would the amount of matter making up the person (mass) be the same or different? Why?

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I CAN... UNDERSTAND THE FORCE APPLIED BY GRAVITY.

STANDARD: 6.ESS.1 Describe the role of gravity and inertia in maintaining the regular and predictable motion of celestial bodies.