Space....Why Are We Where We Are?

Name:_____ Period:_____

Focusing on the Facts

Below you will read several statements about space. If you believe the statement to be true, place a check mark in the "Me" column. After you are done, read pages 666-669 in the textbook. When you have finished reading, go back and place checkmarks next to the statements that are really true.

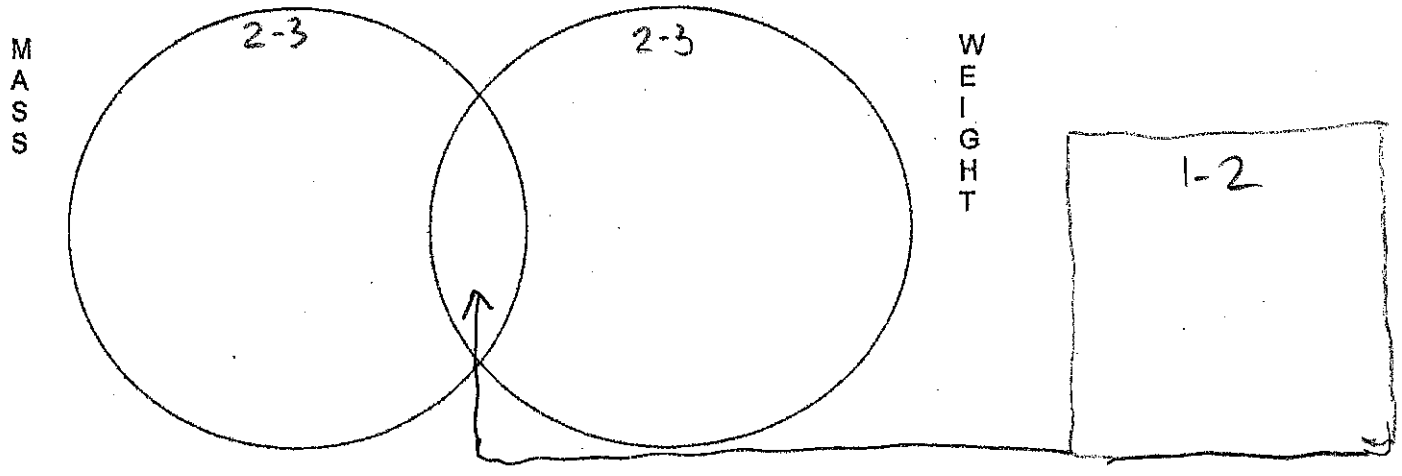
True According to.....		STATEMENT
ME	THE BOOK	
		Gravity attracts ALL objects towards each other
		Gravity occurs everywhere – including in space
		The strength of gravity depends on the mass of objects and distance between the objects
		Objects with larger mass exert larger amounts of gravity
		Mass and weight are different measurements
		As objects move away from each other, the gravity between them decreases
		The sun, moon, and earth don't collide because of inertia. That is, nothing – besides gravity – acts on them
		Inertia and gravity together keep the planets and moon in orbital motion

Summarize what you learned from this reading in 3 sentences. Include key terms. Must be unique to you.

NOW, summarize the important part of what you learned IN ONLY 10 WORDS! Must be unique to you.

A Closer Look at the Details:

1. Complete the following Venn Diagram to compare and contrast *MASS* and *WEIGHT*



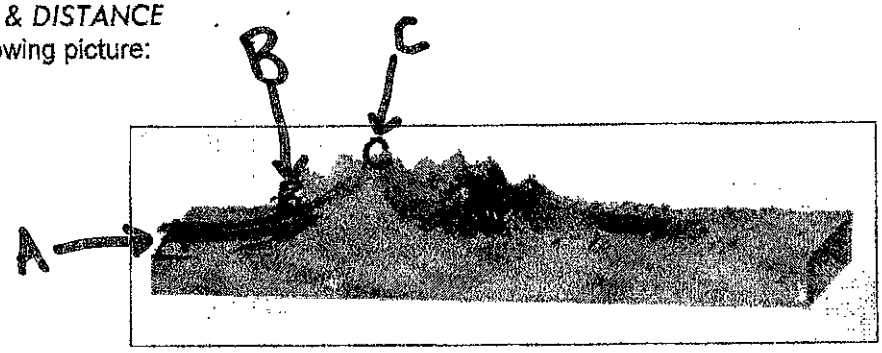
2. Determine your *WEIGHT* on the following planets and the moon using the surface *GRAVITY* provided. Use your weight and multiply by the object's surface gravity. Your answer is what you would weigh on that object!

	Surface Gravity	Weight
Earth	1.0	
Moon	0.16	
Mars	0.38	
Jupiter	2.60	
Neptune	1.15	

What can you conclude about the size of the objects above based on their gravity?

How does your weight change on different planets/the moon?

3. *GRAVITY & DISTANCE*
View the following picture:



Tell whether you would weigh more at point A, B, or C. Explain your choice using key vocabulary terms and concepts.

4. *INERTIA & ORBITAL MOTION:*
Give an example of how inertia has affected YOU! Think about injuries and accidents and changes in motion that you have encountered.

Think about space.....what could happen to change the motion of an object? What unpredictable event could affect a space object's inertia? How would that affect its orbital motion?