Learning about Gravity – Cornell Notes (Class Set)

Complete the following tasks on your own paper.

A. Read pages 75 - 82 in a class Big Blue textbook *Physical Science*.

B. Make Cornell Notes of this reading. Make sure to include the following bold headings and answer the questions or complete the prompts under each heading in your notes:

1. **What is Gravity?**
   a. Gravity is…
   b. What does gravitational force depend on?
   c. What are the four basic forces?

2. **The Law of Universal Gravitation**
   a. What is the Law of Universal Gravitation? What does it do?
   b. To calculate the force of gravity between any two objects, what information is needed?
   c. Why is gravity called a "long-range force"?

3. **Earth's Gravitational Acceleration**
   a. What is the acceleration of gravity (or the acceleration of a falling object)?
   b. What is the formula for the force of Earth's gravity?
   c. What is weight? How is it calculated?
   d. What is the difference between weight and mass?

4. **Weightlessness and Free Fall**
   a. What does it mean to say that something is weightless in orbit? Explain how a space shuttle in orbit can be falling but not hit the Earth

5. **Projectile Motion**
   a. What is a projectile?
   b. After you throw a ball, why does it curve downwards?
   c. Why does a thrown ball hit the ground at the same time as a dropped ball?

C. Write a Summary for your notes.

D. After your Summary, answer the below Review Questions:

Review Questions

1. What is the difference between mass and weight?

2. Compared with Earth, why is there more gravity on Jupiter and less on the Moon?

3. Explain why objects that are thrown, like a football, follow a curved path.

4. On Earth, what is the weight of a large-screen TV that has a mass of 75 kg? Show your work:

5. Would a dropped feather and bowling ball hit the ground at the same time? Explain.