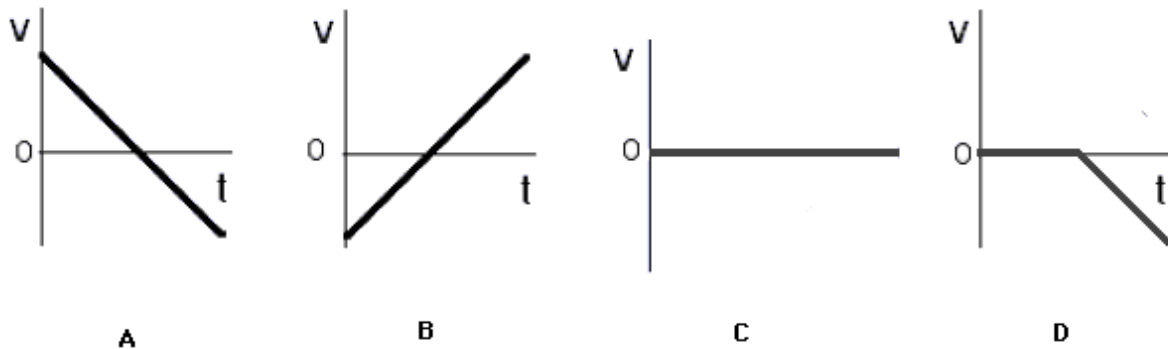


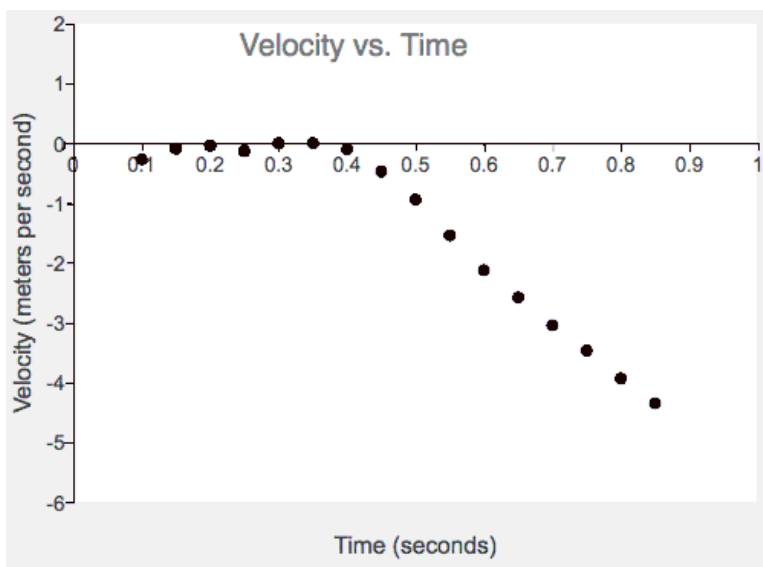
Was Galileo Right? Check-In

Name: _____ **Date:** _____

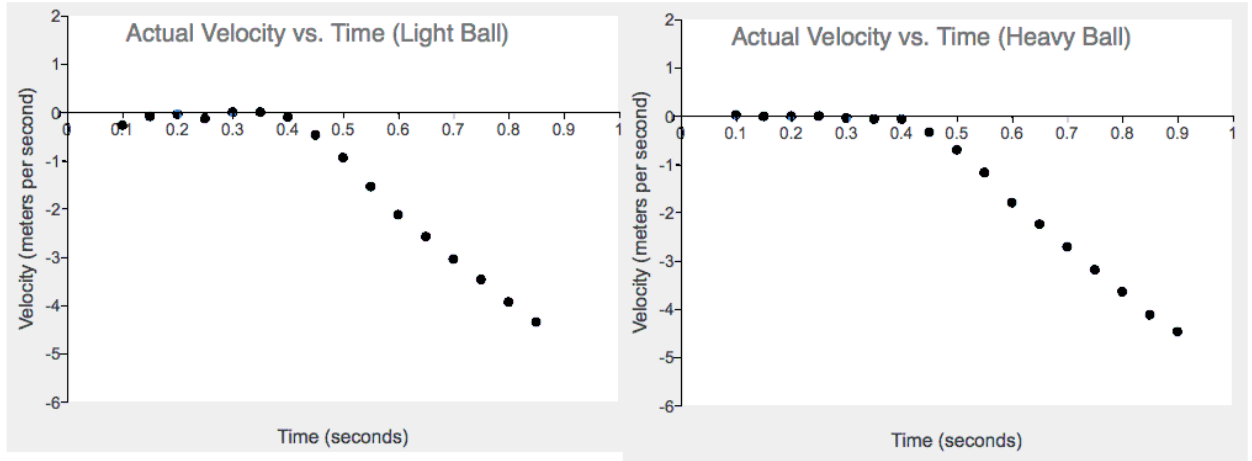
- Which of the following best describes the expected behavior of a 10-gram ball free falling from rest from a height of 3 meters toward the ground.
 - The ball will start fast then decrease its speed as it approaches the ground.
 - The ball will start slow then increase its speed as it approaches the ground.
 - The ball's speed will stay the same as it approaches the ground.
- Which of the following **velocity-time** graphs shows the most reasonable data that would result from a 10-gram ball free falling from rest from a height of 3 meters toward the ground.



- The **velocity-time** graph below shows the motion of a ball in free fall. What is the acceleration of the ball from 0.5 to 0.7 seconds? _____



4. Below are velocity-time graphs of a heavy ball and a light ball during free fall. Which of the following conclusions can you reasonably draw from the data? (Circle all that apply.)



- A. The heavy ball accelerated faster than the light ball.
- B. The light ball accelerated faster than the heavy ball.
- C. The heavy ball and the light ball accelerated at the same rate.
- D. The two balls took the same amount of time to reach the ground.
- E. The mass of the balls did not seem to affect how fast the balls fell.
5. Which of the following statements are true about the acceleration due to gravity? (Circle all that apply.)
- A. The accepted value of the acceleration due to gravity (g) for objects near the surface of the Earth is 9.8 m/s^2 .
- B. As a result of his supposed experiments in Pisa, Galileo concluded that gravity affects objects of different masses differently during free fall.
- C. Although gravity affects objects of different masses in a predictable way, other factors, such as air resistance, may act on the objects to vary the expected results.

Was Galileo Right? Check-In Answers:

1. B 2. D 3. -10 m/s^2 4. C, D, and E 5. A and C