Inertia and Mass

Read from **Lesson 1** of the **Newton's Laws** chapter at **The Physics Classroom**:

http://www.physicsclassroom.com/Class/newtlaws/u2l1a.html
http://www.physicsclassroom.com/Class/newtlaws/u2l1b.html

MOP Connection: Newton's Laws: sublevel 1

1. **Inertia** is _____

   _____

2. The amount of inertia possessed by an object is dependent solely upon its _____.

3. Two bricks are resting on edge of the lab table. Shirley Sheshort stands on her toes and spots the two bricks. She acquires an intense desire to know which of the two bricks are most massive. Since Shirley is vertically challenged, she is unable to reach high enough and lift the bricks; she can however reach high enough to give the bricks a push. Discuss how the process of pushing the bricks will allow Shirley to determine which of the two bricks is most massive. What differences will Shirley observe and how can this observation lead to the necessary conclusion?

4. Would Shirley Sheshort be able to conduct this same study if she was on a spaceship in a location in space far from the influence of significant gravitational forces? _____ Explain your answer.

5. If a moose were chasing you through the woods, its enormous mass would be very threatening. But if you zigzagged, then its great mass would be to your advantage. Explain why.

6. Inertia can best be described as _____.
   a. the force that keeps moving objects moving and stationary objects at rest.
   b. the willingness of an object to eventually lose its motion
   c. the force that causes all objects to stop
   d. the tendency of any object to resist change and keep doing whatever it's doing

7. Mass and velocity values for a variety of objects are listed below. Rank the objects from smallest to greatest inertia. _____ < _____ < _____ < _____