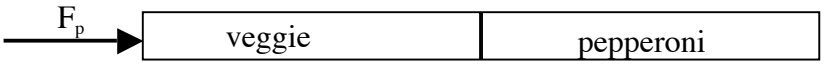
1. The weight of an apple on Earth is 1.20N. Find (a)the mass of the apple on Earth, (b)the mass of the apple on the moon, and (c)the weight of the apple on the moon. The acceleration due to gravity on the moon is 1.62m/s^2.

2. A 1.20kg bucket of paint is hauled up to the second floor with a vertical rope. A one point, the acceleration of the bucket is 3.20m/s^2 upward. (a)Sketch the forces that act on the bucket. Find the (b)weight of the bucket and (c)tension in the rope at this time.

3. Two boxes of pizza are pushed along a smooth countertop with a force of 10.0N. One box contains pepperoni and has a mass of 1.80kg. The other box contains a veggie combo and has a mass of 1.20kg. Find (a)the acceleration of boxes, (b)the force that the veggie box exerts on the pepperoni box, and (c)the pepperoni box exerts on the veggie box. Be sure you clearly identify the system of interest in each part of the problem before you apply Newton's Laws.



4. In this commercial (http://www.youtube.com/watch?v=QZNR5mxQDwM&NR=1) a 90.0kg baseball player slides around the bases at a constant speed. (a)Explain why this violates Newton's Laws. Suppose that this ad was made by pulling the player with a rope along the ground and that the tension in the rope was 750N. (b)Find the magnitude of all four forces acting on the player.