PreAP: due Mon., Nov 28 (Assigned: Mon., Nov 21)
Reg: due Tues., Nov 29 (Assigned: Tues., Nov 22)

Momentum 2

1) Force A is 10 N. Force B is 30 N. Both push on identical 5 kg objects to accelerate them from rest to 10 m/s.
   A) Since the objects are at rest before, their momentum is:
   B) Find their momentum afterwards:

   C) Find the change of momentum (Δp) to speed up the 5 kg objects (it's the same amount for both).

   B) Using the impulse equation ($\Delta p = F\Delta t$), how long does Force A act on the object?

   C) How long does Force B act on the object?

   D) Which force gave more acceleration to the object?
   E) Which object accelerates the object faster?

   F) So, to accelerate an object you have two choices. Give them:

2) An egg dropped on a concrete floor experiences more or less Δp than an egg dropped on a pillow?
3) The egg dropped on the concrete floor experiences more or less impulse than the egg dropped on a pillow?
4) How come the egg dropped on the pillow survives (don't use any words akin to "softer")?

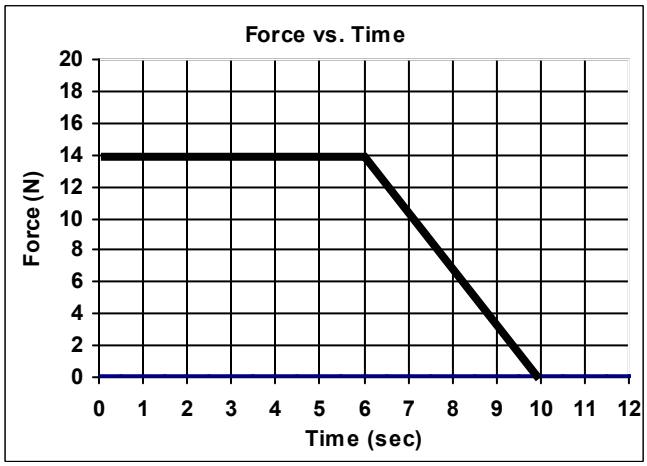
5) A 5 kg object slows from 20 m/s to 15 m/s in 6 seconds. Find the force that caused this.

6) A 2 kg object going 10 m/s feels a 3 N force for 6 seconds. Find the impulse on the object.

7) In #6, find the final velocity of the 2 kg object.

8) Use the graph to answer the following:
   A) Find the impulse on an object during the first 10 seconds of the graph.

   B) If the object started at 4 m/s and is 6 kg, find its final velocity.



9) Which of Newton's Laws apply?
   A. __ Two people on ice skates push off of each other and go different directions.
   B. __ A 2 N force pulls to the right and a 2 N force pulls to the left, but the object does not speed up.
   C ___ A 2 N force will give less acceleration to a 6 kg object than a 2 kg object.

ON BACK

10) Which of the following are external (E) or internal (I) forces?
   A. __ An explosion.
   B. __ A person pushing on a ball to move it (to the ball).
   C. __ The force of a car colliding with another car.
   D. __ Friction.

11) Describe whether it is good or bad to kill bacteria and when?

12) Cacti have adaptions
   A. name two adaptations and how they benefit the cacti:
      1.

      2.

   B. For cacti almost all of their adaptations are designed to do what?

13) Give two ways that seeds being inside a fruit benefit seed dispersal?