**Multi Step Problems**

**Problems that need more than one equation**

Just like every time you do this. Write out your equation(s). Then you plug in your values. Then you solve. Then you smile and move on to the next one.

*HINT: Don’t forget to convert from g (density) to kg (force) or vice versa.*

1. An ice cube, with a density of .93g/cm3, has a volume of 185cm3. If it is thrown with a force of 9.5N, what is the acceleration at which the ice cube was thrown?
2. A crow starts from rest and flies across a 100m field to chase dinner. Knowing that at 100m it was flying at 7m/s, and it took the crow 8s to cross the field, what would be the force the bird is flying with assuming that is has a mass of 15kg?
3. A baseball accelerates out of a right fielder’s hand at a rate of 170m/s2. Assuming that the baseball is thrown with a force of 25N and has a volume of 219cm3, what is the density of the ball?
4. A brick that has a volume of 80.5 cm3 is thrown with a force of 7 newtons. Knowing the brick started from rest, reached a final speed of 12m/s, and was in the air for .8 seconds, what would be the mass of the brick, assuming the density of the brick is 5.8 g/cm3?
5. A puppy with a weight of 54 Newtons (on Earth) is chasing a squirrel. If he chases that squirrel for 11 seconds, and covers 35 meters of ground, what is the momentum of the puppy?
6. A bicycle that has a volume of 5192cm3 starts at rest and travels downhill for 22 seconds. At the bottom of the hill, the bicycle is moving at 18m/s. What is the density of the bicycle, assuming that the force the bicycle is traveling downhill at was 75 newtons.