**Topics to Know: Momentum**

* **Newton’s Three Laws of Motion (cannot escape these, can we?)**
* **Newton’s Law of universal gravitation (him, too)**
* **Coefficient of Friction (given? Calculate?)**
* **Balanced and Unbalanced Forces**
* **Elastic collisions: KE is conserved**
* **Inelastic collisions: KE is not conserved (lost!)**
* **Impulse**
	+ **∆p = F(∆t)**
	+ **F(∆t) = pf - pi**
	+ **units N٠s or kg٠m/s**
* **Momentum**
	+ **p = mv**
	+ **units kg٠m/s**

**Whoa…these are the same…wow! Remember, you can rearrange the parts of an equation as you need…just do it mathematically correct**

* **Do we recognize how to use the formulas associated with these concepts?**
	+ **What are we given?**
	+ **What do we need?**
	+ **What, if anything, can we ignore?**
	+ **Now, what formulas do we need?**
	+ **Okay, solve it!**

**Most important item: WATCH YOUR UNITS! Use your formula sheets!!!**

**Work and energy**

* **Work: w=f∙∆d**
	+ **KE = ½ mv2**
	+ **W = ∆KE**
	+ **W = F∙d∙cosΘ**
	+ **Power: w/t**
* **Mechanical Advantage**
	+ **Ideal and Actual…read, know these**
	+ **Efficiency = real/ideal x100, always less than 100%**
* **Potential energy**
	+ **PE = mgh**
* **Mechanical energy = PE + KE**
	+ **KEbefore + PEbefore = KEafter + PEafter**
	+ **Remember that momentum is conserved if there is no external force**
* **Q=mc∆T**
* **Heat is not temperature!**
* **Power = work/time**