

PHYSICS 151 READING ASSIGNMENT FOR OCTOBER 31 SECTIONS 10.5-10.8

Please notice that this file is two pages long.

10.5 - Thermal Energy

- The work done by friction is changed into thermal energy, *i.e.*, heat.
- I tend to ask students to solve for the work done by friction, W_f , but it's a good idea to realize that $W_f = -\Delta E_{th}$ can also be used.

10.6 - Using the Law of conservation of Energy

- I realize that this is the third time I've encouraged you to read this section, but we still need to do the "combination" problem of gravity, spring, and friction.
- Example 10.13 from the textbook is an example of the type of combination problem we'll do in lecture.

10.7 - Energy in Collision

- I won't have time to go over this in lecture, but it's a straightforward application of the last two chapters.

- Please be aware that when objects collide, the total momentum of the system will always be conserved. The total kinetic energy of the colliding objects may or may not be conserved. It depends on whether heat is created during the collision. If in doubt use momentum.

10.8 - Power

- Power - The rate at which work is done or the rate at which energy is transformed.
- Unit of power - $J/s = Watt$.