

**PHYSICS****CONSERVATION OF ENERGY**CONSERVATION OF ENERGY - PART II

Recall: Energy is neither created nor destroyed but it does change forms. The total energy of a system will not change.

So Far ...

We have focused on two forms of energy (kinetic and potential).
Today we will add thermal energy.

Formula for Thermal Energy:

$$E_{TH} = Fxd$$

E_{TH} -

F -

d -

Thermal energy will usually present itself in the form of friction. The thermal energy will always be located after some motion has taken place.

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Ex: A 50kg toboggan is at the top of a 10 m tall hill. It slides down the hill to the bottom against a force of friction of 125 N. If the length of the hill is 25 m long, how fast will the toboggan be going at the bottom of the hill?

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Ex: A 75 kg downhill skier slides down a snowy hill that is 400 m long. The coefficient of friction between the skis and the snow is 0.15. If the skier is moving at 12 m/s at the bottom of the hill, how tall is the mountain?