Part C: Falling Problem with Heat Loss!

Heat Loss:

Friction and air resistance turn kinetic energy into *thermal energy*.
This is called *heat loss* because we can't use this energy for anything anymore!

Big Question:
A ball that is 4.00 kg is dropped off a short cliff that is 12.0 m tall.
At the bottom, the ball has a speed of 13.2 m/s.
How much energy was lost to heat?

To answer the question, fill out the following table:

Mass = 4.00 kg
Initial height = 12.0 meters

POINT	Speed	Height	KE	GPE	Heat Loss (thermal)	Total Energy
A	0	12.0	0		0	
B	6.60	9.00				
C	9.35	6.00				
D	11.4	3.00				
E	13.2	0		0		

** Heat loss is thermal energy in the environment and outside of the system.

Rules:
The Conservation of Energy: The Total energy is always the same. It only changes form:

$$KE = \frac{1}{2}mv^2$$

$$GPE = mgh$$

$$g = 9.8\ m/s^2$$