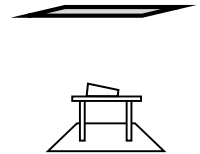


Quantitative Conservation of Energy Problem WS

1. How much kinetic energy does a 2000 kg SUV traveling at 32 m/s (70 mph) have?

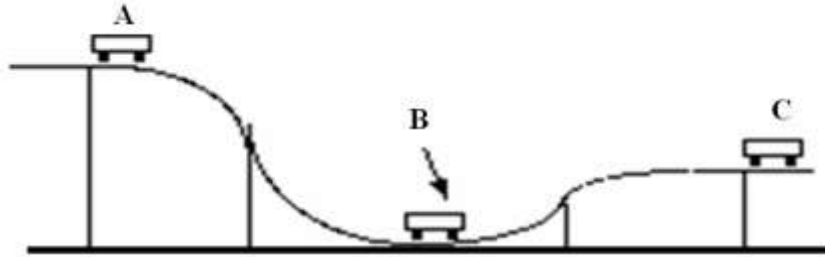
2. Consider your 3 kg physics binder resting on the table in the classroom.

a) Determine the gravitational energy when the book is on the table which is 0.68 meters above the floor.



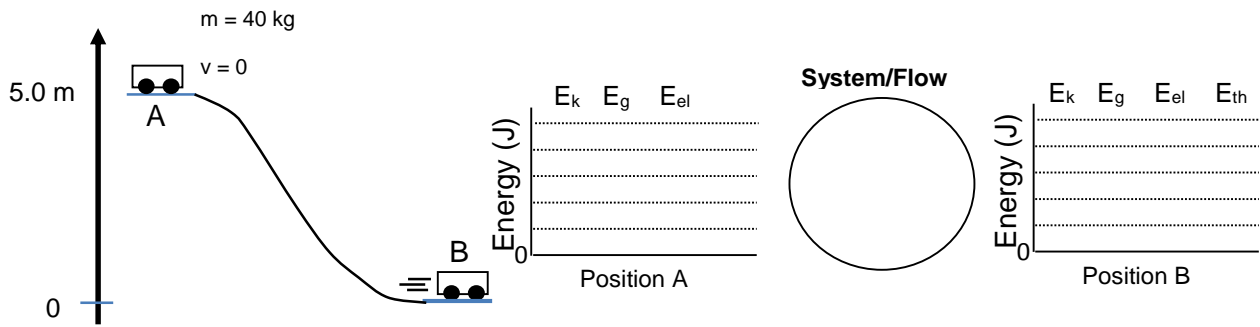
b) What is the kinetic energy of the book just before it hits the floor?

3. A roller coaster at Great America is at rest on top of a 15 m hill at point A. The car starts to roll down the hill and reaches point B, which is at ground level. The car then rolls up the track to point C, which is 5 m above the ground. The car's mass is 200 kg. Fill in the table below with the GPE, KE and TE of each part of the track.



	A	B	C
GPE			
KE			
TE			

4. Determine velocity of the rollercoaster at Point B.

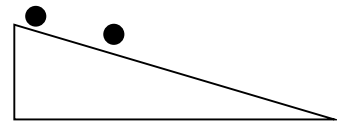


5. A 750 N skydiver jumps out of an airplane that is flying at an altitude of 2800 m. By the time the skydiver reaches the ground.

A. What is the skydiver's potential energy when she jumps out of the plane?

B. What is her KE just before hitting the ground?

6. A 2 kg ball is lifted up to a height of 45 meters and released from rest. Calculate the ball's potential and kinetic energies when it is a height of 30 m above the ground.



7. A ball has an initial velocity of 3 m/s. If there is no friction, what is the highest it could roll?

