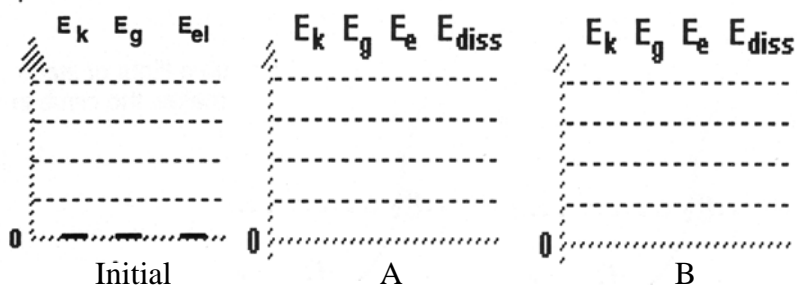
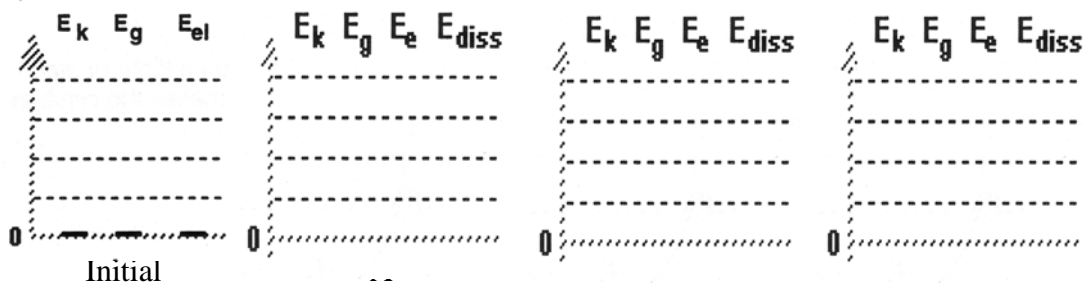


Energy Practice Problems

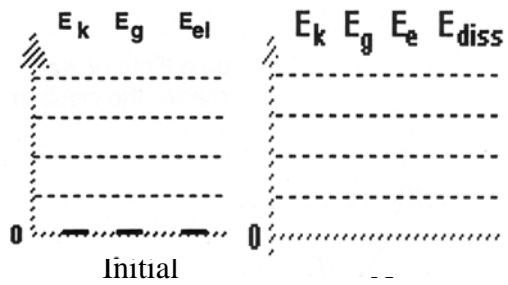
A spring is compressed .5 m and has a spring constant of 120 N/m. A) What is the speed of the 2 kg box when the spring is released? B) When the box comes to a stop from friction, how much work did friction do on the box? C) How far did the box go if the frictional force is 15 N?



A 1000kg car is on top of a 100 m high hill. A) How fast is it going when it coasts to the bottom of the hill? B) How fast is it going when it coasts to the top of the next hill that is only 30 m high? C) Now assume there was friction and the car came to a stop at the top of that 30 m high hill, how much work did friction do?



A sling shot with a spring constant of 200 N/m holds a 1.5 kg rock. A) If the rock leaves the sling shot with a speed of 5.78 m/s, how far back was the sling shot pulled (assuming it is fired horizontally)? B) How far back was the sling shot pulled if it was fired vertically?



A 10 kg tire is at the top of a 20 m high building and dropped over the edge. A) How much energy does the tire have at the top of the building? B) How fast is it going when it reaches the bottom? C) If it only bounces back up 2 m after it hits the ground, how much energy was dissipated?

