

Energy Conversion Problems

1. A ball with a mass of 2 kg is dropped from 3 m high. After one bounce the ball is only 2 m high. How much energy was converted and lost?
2. A ball with a mass of 3 kg is dropped from 5 m high. After one bounce the ball is only 3 m high. How much energy was converted and lost?
3. A 500 kg rollercoaster is on a 30 m hill. It has a velocity of 20 m/s at the bottom of the hill. How much energy was converted and lost?
4. A 600 kg rollercoaster is on a 50 m hill. It has a velocity of 25 m/s at the bottom of the hill. How much energy was converted and lost?
5. A 400 kg rollercoaster is on a 60 m hill. It barely reaches the top of the next hill that is 40 m high. How much energy was converted and lost?
6. A 450 kg rollercoaster is on a 70 m hill. It barely reaches the top of the next hill that is 45 m high. How much energy was converted and lost?
7. A 500 kg rollercoaster has a velocity of 20 m/s before a loop. After the loop it has a velocity of 10 m/s. How much energy was converted and lost?
8. A 600 kg rollercoaster has a velocity of 30 m/s before a loop. After the loop it has a velocity of 25 m/s. How much energy was converted and lost?