Corona Week 3

2. Conservation of Energy Problems

Assume Mechanical Energy Is Conserved

v = 0 m/s

start height

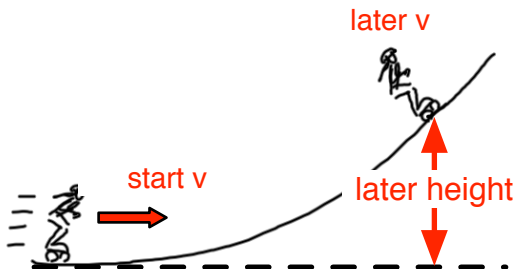later v
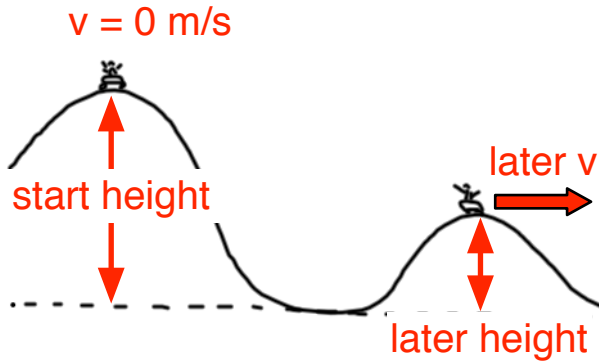
later height

1. The coaster starts from a height of ____ m with no velocity, Its later velocity on the second hill is _____ m/s. Solve for the later height.

Choose a start height greater than 50 m.
Choose a later v less than 20 m/s.

start v

start height
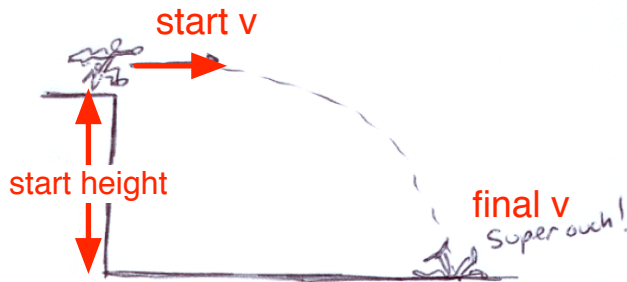
final v
Super ouch!

2. Someone put Kryptonite in Superman's back pocket and he failed to take off. What was his final velocity just before impact? (Not after impact; I know that it's zero; I want the final velocity a moment before impact.)

Choose a start height greater than 40 m.
Choose a start velocity greater than 10 m/s

later v

start v

later height

3. The skater starts with an initial velocity and goes up a hill. Find her velocity at the later height.

Choose a later height less than 12 m.
Choose a start velocity greater than 12 m/s