

Student Tool 60: Conservation of Energy

Roller Coaster Lab

Name _____

Directions: The following questions can be answered by looking at the websites that are located above the question. Follow the links, and discover the answers to become a roller coaster expert.

<http://d3tt741pwxqwm0.cloudfront.net/WGBH/conv16/conv16-int-rollercoaster/index.html>

What is the potential energy at the top of the first hill?	
What is the kinetic energy at the top of the first hill?	
How are potential and kinetic energy related?	

<http://www.fearofphysics.com/Roller/roller.html>

Make the rollercoaster on track 3 start at Level B, what happens? Why does that happen? (Use PE and KE in your answers)	
Make the roller coaster on track 2 starting at level B, what happens? Why does that happen? (Use PE and KE in your answers.)	
Make the roller coaster on track 1 starting at level B, what happens? Why does this happen? (Use PE and KE in your answers.)	

<https://science.howstuffworks.com/engineering/structural/roller-coaster3.htm>

<http://www.physicsclassroom.com/mmedia/energy/ce.cfm>

What % energy is Potential Energy (PE) and what percent is Kinetic Energy (KE) when a roller coaster is at its highest point?	
What percent energy is Potential Energy (PE) and what percent is Kinetic Energy (KE) when a roller coaster is at its lowest point?	

<http://www.learner.org/interactives/parkphysics/coaster/section1.html>

Make a roller coaster that works (meaning 2 thumbs up), and tell me how to recreate it. (Tell me the height of the first hill, the shape of the first hill, the exit path, the height of the second hill, and the loop.)

Potential Energy is directly related to what two things?	
KE is directly related to what two things?	

http://content3.jason.org/resource_content/content/digitallab/4859/misc_content/public/coaster.html

Try and beat this game!!!

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