

MON. OCT. 7TH

TUE. OCT. 8TH

WED. OCT. 9TH

THU. OCT. 10TH

FRI. OCT. 11TH

8th Grade Science **Kinetic and Potential Energy**

Standards

MS-PS3-1 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object. Next Generation Science Standards Science

MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. Next Generation Science Standards Science

Objective

Students will understand and demonstrate how an object can have different potential energy due to its position. Students will also understand how kinetic energy is correlated with mass and speed

Critical Questions

1. What is the difference between potential and kinetic energy?
2. What causes potential energy to change into kinetic energy and vice versa?

Bellringer

Review Collisions and Momentum Exam

Engage

- RTI for students re-taking exam on collisions and momentum
- Look at photo and answer the following on scratch paper:

1. What energy is being used in the roller coaster?
2. Where is there "potential" for energy?
3. Is friction involved?
4. Can the roller coaster gain energy? How?

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Watch "Potential and Kinetic Energy" video: https://youtu.be/BSWL_Zj-CZs

Engage

Kinetic and Potential Energy Lab: Lab Activity with ping pong ball, golf ball, and tennis ball

 Kinetic and Potential Energy Lab Student Copy.pdf

Assessment

Post Lab questions

Notes

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Watch "Heat Shield Engineer" Career:

1. How is energy transferred from one object to another?
2. Describe the energy changes as a rocket takes off.
3. How does a heat shield engineer work with kinetic energy in their job?
4. What are some other professions that work closely with kinetic energy?

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Finish Phet Activity

Engage

Write CER based on energy skate park activity

Assessment

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Quiz on Kinetic and Potential Energy

Engage

How Speed Effects Kinetic Energy: worksheet and graph

Assessment

Notes

5. Can the roller coaster convert one type of energy to another?

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peg

Assessment

Notes

5. Is this a career you are interested in? Find out more by interviewing heat shield engineers in your area and researching on the Internet.

Engage

"Energy Skate Park" on Phet
<https://phet.colorado.edu/en/simulation/legacy/energy-skate-park>

1. Play with simulations
2. Answer questions

 Phet Potential Energy.pdf
 Phet Questions.pdf

Assessment

Notes