MAKERSPACE CARDBOARD CHALLENGE!

Lesson Plan

Kinetic vs. Potential

Lesson Plan for *Cardboard Roller Coaster Challenge!*
Grade 2

Objective

To help students understand the difference between kinetic and potential energy.

Things Needed

- *Cardboard Roller Coaster Challenge!* book
- Access to the "Cardboard Roller Coaster Challenge!" web page on the Pop! website: https://popbooksonline.com/makerspace-cardboard-challenge/coaster-challenge

Before the Activity

Open the "Cardboard Roller Coaster Challenge!" web page in your internet browser. Pull up the "Learn More" tab.

Activity

Read Chapter 2 ("How Roller Coasters Work") of *Cardboard Roller Coaster Challenge!* as a class. Then, look at the image and read the caption on the web page. This caption talks about the difference between kinetic and potential energy.

Next, have students stand beside their desks. Explain that you will read out examples of kinetic and potential energy. If students think the sentence is describing kinetic energy, they should run in place. If students think the sentence is describing potential energy, they should sit on their desks. Students who give the wrong answer should sit in their chairs. Continue reading through statements until you have one winner.

Use the following list of statements:

- An apple falls from a tree. (Kinetic)
- A ball rests at the top of a hill. (Potential)
- A runner stands ready at the starting line. (Potential)

- A roller-coaster car coasts down a hill. (Kinetic)
- An apple hangs from a branch. (Potential)
- A runner races down the track. (Kinetic)
- A spring is tightly coiled and compressed. (Potential)
- A ball rolls down a hill. (Kinetic)
- A pen rests on a table. (Potential)
- The lid on a jar is stuck. (Potential)
- A boy unscrews the lid of a jar. (Kinetic)
- A roller-coaster car is at the top of a hill. (Potential)
- A car speeds down the highway. (Kinetic)
- A car is stopped at a stoplight. (Potential)
- A book falls from a shelf. (Kinetic)
- A door is stuck in its frame. (Potential)

Evaluation

Could students understand the difference between kinetic and potential energy?

Standards

This lesson plan may be used to address the Common Core State Standards' reading standards for informational texts, grade 2 (RI 2.1), and the National Science Education Standards' Content Standard B, grades K–4.