

Rubber Band Car

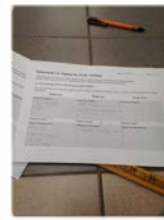
SCIENCE



Driving Question: How do we design a vehicle using elastic energy that will travel the furthest?

Project Description:

Students designed a vehicle powered only by elastic energy and using repurposed materials. They had to design the car to travel as far as possible. Students had to learn about kinetic and potential energy and explore how they can use them to reduce friction. Students tested many prototypes and recorded their observations to revise their work, as the focus was on prototyping and improving ideas through multiple iterations.



Student Products

- ▶ Write a detailed explanation of understanding and how changes they made optimized their design solutions.
- ▶ Design a car using elastic energy with a variety of materials.

Teacher Reflection

"The beauty of the rubber band vehicle challenge is that students apply their understanding of elastic potential energy in so many unique ways. No two vehicles are alike. We even had a few boats. The focus was not on the product itself, but how the vehicle changed over time. When there were big and little "fails", students saw an opportunity to make observations of the performance of their vehicle and create engineering solutions directly based on those observations. In this way, they worked to optimize their design solution." - Brian Hall

Student Reflections

"Our group had three different trials. Luckily, each trial did move the car a little. It was pretty fun. Each time our car design was modified it improved, it traveled about 5 meters." - Jennifer

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