Constructing a Complex Energy-Transformation Device

Group Materials
Household items

Instructions

1. Design the device you will build. Ensure that there are at least 4 energy transformations involved in its operation.
2. Develop labeled drawings.
3. Collect necessary materials.
4. Take a video or photographs of your device in motion.

Analysis

A. Write a summary of what device you created and the task it performs.
B. Give a list of the materials you used.
C. On your labeled drawings, identify at least four stages at which energy is transferred from one form to another. Identify what transformation has occurred (i.e. gravitational to kinetic etc.). If possible, identify these stages on the video or in photographs.
D. Construct an energy transformation equation that takes into account all of the energy transformations that occur.
E. Give a quantitative analysis of the energy transformations. You may need to estimate some quantities.
F. Analyze the efficiency of the device qualitatively. Which stages were the most/least efficient and why?

Activity adapted from
https://rdsb.elearningontario.ca/d2l/le/content/6766984/viewContent/66637229/View