Work & Energy Project

Physics 41

In addition to a unit test, you will also demonstrate your knowledge through a project that encompasses all your learning on this topic

Project Topic Choices:

1. Present an overview of the topic through any means.

Points to be discussed:

1. Definitions & explanations of work, energy, spring and power concepts (beginning of unit notes)
2. Situations where energy is conserved
3. Situations where work is done
4. Mathematical example of energy conservation with explanation
   1. IE, roller coaster problem or car rolling down a hill
5. Mathematical example of work with explanation
6. Mathematical example of energy conservation with a spring with explanation
7. Example of a bungee jumper problem, incorporating all aspects of the unit (think of a question like the test question)
   1. Conservation of energy – kinetic and gravitational potential
   2. Conservation of energy – springs
   3. Work
   4. Power
8. Thoroughly research and present a real-world application of work, energy and springs somewhere in science or technology through any means.

Ideas for means to express your learning:

* Well-written essay   
  (minimum of 2 pages, Times New Roman, double spaced)
* Video presentation
* Poster   
  (must be on poster board; see me if you have a problem getting some)
* Song/rap
* 3D Diagram (labeled)
* Interpretive dance (with informative subtitles)

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| Project Rubric | | | | | |
| Category | 5 | 3 | 1 | 0 | Points received |
| Information Conveyed | All relevant information is conveyed to the viewer. Student has clearly explained all topics to the fullest extent. | A reasonable amount of information is conveyed to the viewer. Student has clearly explained the topics covered, but some information relevant to the viewer’s understanding is missing. | Some information is conveyed to the viewer. Student explained some of the topics covered, but information relevant to the viewer’s understanding is missing. | Most/All information relevant to the viewer’s understanding is missing. | \_\_\_\_/35 |
| Creativity | Student’s presentation is neat, clear, and legible. Any writing is grammatically sound and flows smoothly. Student’s ingenuity adds to the message of the presentation. | Student’s presentation is neat, and legible. Any writing is grammatically sound. Project may lack originality or ingenuity. | Student’s presentation is legible, but might not be neat. Writing may have several grammatical errors that take away from the purpose of the project. Project may lack originality or ingenuity. | Student’s project is messy and takes significant effort on the part of the viewer to find meaning. Grammatical issues are rampant and outside issues dominate the message. | \_\_\_\_/10 |
| Integrity | Student’s presentation contains information presented in their own words. Any sources are cited using MLA style. | \_\_\_ | \_\_\_ | The student’s presentation is a rewording of another author’s information. Sources are cited improperly or not cited at all. | \_\_\_\_/5 |

Total Points received: \_\_\_\_\_/50