

Superhero Physics Project

Now that we've covered some physics topics, we have a semester project that attempts to tie all of them together and see how they interact in different situations. The project involves analyzing a Superhero or Supervillain for the physical science components shown in their powers and adventures.

1. Superhero/villain Character Analysis (PowerPoint or Word document) – **30 points**

- a. Choose a character from DC Comics or Marvel Comics
- b. Describe their powers
- c. Describe how they got their powers
- d. Tell what they use their powers for
- e. Describe their enemies and allies
- f. Include a picture

2. Choose from the projects below for a total of **80 points** **No Bonus Allowed**

- a. Describe the “bad physics” of your hero. What laws or principles of science does your character break or change and how? – **20 points**
- b. Describe the “good physics” of your character. What laws or principles of science does your character apply correctly and how? - **20 points**
- c. Make a poster or present a model of your hero and identify/label her/her superhero qualities using scientific terms (at least 5 different ones) - **20 points**
- d. Write 5 physical science test questions (with answers) using your superhero as an example. If calculations are required, show your work. - **20 points**
- e. Find a comic book adventure that includes your chosen hero/villain. Choose a scene that can be analyzed for the scientific laws and principles being used. - **20 points**
- f. Include a brief video clip in your PowerPoint that that demonstrates your superhero using bad physics and describe how the physics wouldn't really work. Use scientific terms. **20 points**

Rubric for Superhero Physics Presentation

Student Name:
Period:

					POINTS	
Part 1: Character Analysis		0	4	6	10	
	Description of Powers, Origin, Enemies/Allies	No description			Comprehensive description. All element of the character were well related.	
	Pictures	No pictures			Excellent pictures that were very helpful for understanding the character.	
	Neatness/Creativity	Poorly organized, bland			Well organized and very appealing as a presentation.	
Part 2: Physics Analysis		0	8	16	20	
Only 4 may be chosen. No bonus points allowed.	Description of "Bad Physics"	Didn't do			Bad principles were well identified and described using physics terms. Explanations were coherent and accurate.	
	Description of "Good Physics"	Didn't do			Good principles were well identified and described using physics terms. Explanations were coherent and accurate.	
	Poster/Model	Didn't do			Poster/Model is an excellent representation of the character. Several qualities labeled. Labels include scientific terms.	
	Physics Questions	Didn't do			All 5 questions. Answers and calculations are all included and correct. Questions are well developed and include the character.	
	Comic Critique	Didn't do			Comic scene well presented in color. Scientific laws and principles are correctly identified and critiqued.	
	Clip Example	Didn't do			Movie scene well presented, not long, and readily available. Scientific laws and principles are correctly identified and critiqued.	
TOTAL POINTS					/110	