**Spiderman Stops a Train - Movie-Mini-Lab**

Movie: Spiderman 2 (2004) Tobey Maguire, Kirsten Dunst, and James Franco

Purpose: To determine if it would be possible for Spiderman to stop an out of control train by exerting a constant force over a given period of time.

Background: The table below contains parameters needed to evaluate Spiderman can save a train full of New Yorkers.

1. Spiders can lift up to 8 times there own bodyweight,
2. The force Spiderman exerts is constant over the period of time he attempts to stop the train

Parameters To Be Used For The Analysis

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| --- | --- | --- |
| **Assumption** | **Size** | **Comment** |
| **Weight of the R16 Train fully loaded** | 38,000 kg | This is an actual subway train in Brooklyn New York |
| **Speed of the R16 Train** | 80 mph | The train normally travels at 50 mph, but IT’S OUT OF CONTROL! |
| **Length of time Spiderman exerts a force on the train** (note this is his third attempt!) | 72 seconds | His first two attempts are laughable… |
| **Tobey Maguire’s weight** | 71 kg | Dudes a vegan, it’s hard to put on weight without protein! |

Analysis: Assuming that spiders can lift up to 8 times there bodyweight and the force exerted over the 72 seconds is constant, ***determine if it would be possible for Spiderman to stop the train!***

Superman once lifted 2 x 1020 tons (two hundred billion billion tons) with ONE HAND. ***How many R16 trains could superman stop over the course of 72 seconds?***

Lastly, Batman technically has no super human powers, don’t get me wrong he is still badass but is he a super hero or just a glorified cop? ***Make your argument below.***