



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> Nicholas Haroutiounian	<b>Project Number</b> <b>J0314</b>
<b>Project Title</b> <b>More Pulleys Can Make an Object Feel Lighter!</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of this project is to see if pulleys or multiple pulleys can actually make an object feel lighter than it really is. <b>Methods/Materials</b> A pulley system was constructed using 3 different types of pulleys: Simple Pulley, Compound Pulley, and Block and Tackle Pulley. Using 3kg bricks as the load, the experiment was tested 5 times with each type of pulley and the data was recorded. <b>Results</b> It was concluded that each additional pulley made the force applied to pull the 3kg load decrease according to the number of pulleys. For the simple pulley, the tension force was equal to the weight of the load. For the compound pulley, the tension force was equal to half of the weight of the load. For the Block & Tackle pulley, the tension force was equal to a quarter of the weight of the load. <b>Conclusions/Discussion</b> By adding additional pulleys, the force applied to lift a load decreases.	
<b>Summary Statement</b> More Pulleys make an object feel lighter by reducing the tension force necessary to lift a load.	
<b>Help Received</b> Father helped build the pulley system. Mother helped with buying supplies.	