



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Alexandra B. Olivar</b>	<b>Project Number</b> <b>J1418</b>
<b>Project Title</b> <b>Do You Hear What I Hear? Testing the Soundproofing Ability of Different Materials</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this study is to find out which material out of cotton balls, rubber mats, foam, plastic bags, shredded paper, and plaster of Paris will be the most effective in soundproofing.</p> <p><b>Methods/Materials</b> Sound level meter, alarm clock for sound source, boxes, and several different materials to use for soundproofing, namely cotton balls, rubber mats, foam, plastic bags, shredded paper, and plaster of Paris. Tested the volume coming from the alarm clock inside each box lined with a soundproofing material.</p> <p><b>Results</b> According to my data, cotton balls were the most effective sound proofer, followed by plastic bags, then the plaster of Paris, with foam in fourth, then shredded paper, and finally, the rubber mats, with the loudest tested volume, and thus the worst soundproofing qualities.</p> <p><b>Conclusions/Discussion</b> Out of all the materials tested, cotton was the most effective in soundproofing, as it had the lowest volume in all four trials. According to my research, cotton's effectiveness is due to it being soft and porous, therefore, it can absorb and soak up the sound. Repeated trials of testing my soundproofing materials revealed that using a material to soundproof really does make a noticeable difference, as my control, with no soundproofing materials, had a much louder volume. Hopefully, my project can help others reduce unnecessary or unwanted noise.</p>	
<b>Summary Statement</b> I discovered that cotton is the most effective material in soundproofing when compared to rubber mats, foam, plastic bags, shredded paper, and plaster of Paris.	
<b>Help Received</b> None. I designed, built, and performed the experiments myself.	