



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

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| Name(s) Zuoheng He | Project Number J2009 |
| Project Title Please Turn Down the Volume | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project is to test and perceive which kind of material is the most effective at soundproofing, also, it has an objective of learning and understanding the principles of soundproofing.</p> <p>Methods/Materials Cardboard box, Bluetooth speaker, Laptop, Phone, Drywall panels, Fiberglass insulation, Insulating foam panels, Audio sound level meter, ruler. Uses audio level meter to measure decibels blocked from a sound source from both insides and outsides of a insulation chamber.</p> <p>Results After four trials with two sets of procedures, when the testing is done from both outside and inside, fiberglass insulation decreased on average the most decibels with 4.75 and 5.225; while insulated foam decreased on average mediocre amount of decibels with 0.45 and 5.75; and drywall decreased the least amount of decibels on average with 2.9 on both testings.</p> <p>Conclusions/Discussion According to the project's data collection, when the testing is done from both outside and inside, fiberglass insulation decreased on average the most decibels while insulated foam decreased on average mediocre amount of decibels and drywall decreased the least amount of decibels on average. The benefits of this project to society are mainly to save the money and time of the citizens when they decide to purchase any kind of insulation for soundproofing management.</p> | |
| Summary Statement Measured by a audio level meter, I perceived that fiberglass insulation is the most effective soundproofing material. | |
| Help Received The insulation chamber is designed and made by myself. Meanwhile, I also designed the two sets of testing methods. | |