

GREATER SAN DIEGO SCIENCE & ENGINEERING FAIR (GSDSEF)
PROJECT PROPOSAL/SIGNATURE* FORM (GSDSEF-1, 2015)

This form must be completed and signed prior to starting project work. It must be placed in the student's notebook with an ABSTRACT OF THE PROJECT for the GSDSEF Screening Fair. (Use the "Tab" key to move from line to line)

1. Project Title Effective Headgear in Soccer
Is this a continuation of a previous project? Yes No

2. STUDENT'S NAME (Last, First, Middle) Menezes, Naya, K.

2a. Partner's Name (for Senior Division 2 person projects only) _____
EACH SENIOR DIVISION PARTNER MUST SUBMIT A SEPARATE PROJECT PROPOSAL FORM.

3. Address, City, Zip 11224 Pepperview Terrace, San Diego, CA 92131

4. Phone (858)-621-4903 email nayamenezes21@gmail.com

5. School Thurgood Marshall Middle School Grade 8

6. Teacher Elaine Gillum

7. This project involves (check all that apply):

- Live Vertebrate Animals (GSDSEF-2, 2015)
- Humans as subjects, helpers, or interviewees (GSDSEF-3, 2015)
- Hazardous Substances (anything that could cause injury) (GSDSEF-4, 2015)
 - Chemicals
 - Infectious Agents
 - Bacteria, Fungi and/or Molds
 - Mutagenic Agents
 - Carcinogenic Agents
 - Teratogenic Agents
- Human or Other Vertebrate Tissue (GSDSEF-5, 2015)

8. WHERE REQUIRED (see #7 above), the following supplemental forms must be completed and included with the project proposal form (CHECK ALL THAT APPLY):

- Certification of Humane Treatment of Live Vertebrate Animals (GSDSEF-2, 2015)
- Certification of Compliance of Research Involving Humans (GSDSEF-3, 2015)
- Certification of Hazards Control (GSDSEF-4, 2015)
- Certification of Vertebrate Tissue Source & Safety (GSDSEF-5, 2015)

9. Location where experimental procedures will take place: Home

10. People, companies, etc. providing equipment, materials, workspace: San Diego Cricket Club is providing a pitching machine. Full 90, Storelli, and Headblast are providing free or discounted headgear.

11. Describe, in 200 – 250 words, the planned project/experiment and the procedures to be used:

In this experiment, five brands of soccer headgear are going to be tested to see how much they reduce the force of an impact. Donjoy, Full 90, Storelli, Headblast, and Forcefield are the headgear brands that are going to be used. An accelerometer will be fixed inside a hollow, plastic mannequin head using two nuts and bolts, and connected through a GoLink adapter to a computer with Logger Lite software installed to do the data collection. The mannequin head will be fixed onto a wooden pallet to make sure it stays stationary during impact. The pallet is going to be positioned against a wall. A pitching machine is going to be used to project tennis balls at the mannequin head where the headgear will be placed. Several barriers are going to be put up to make the collection of tennis balls easier. The mannequin will then hit with tennis balls, and the impact data will be collected on the computer that was set up behind the rear barriers. Each side of every headgear is going to be hit 20 times at four different speeds, 40 mph, 45 mph, 55 mph, and 65 mph. Helpers will be assigned to pitch the balls, collect the balls, spot the hits, tally the runs, and record the data on the computer.

Just before the screening fair, attach a 200-250 word ABSTRACT of your project to this form.

*Continue to next page for required Signatures

GREATER SAN DIEGO SCIENCE & ENGINEERING FAIR
(GSDSEF) PROJECT PROPOSAL/SIGNATURE FORM (GSDSEF-1, 2015)

REQUIRED SIGNATURES:

Student:

I have read the *Rules and Regulations* of the GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR and certify that my project complies with them. I understand that failure to meet the terms of these rules and regulations will result in the disqualification of my project.

SENIOR DIVISION: GSDSEF forms meet the requirements of California law; therefore, all Senior Division students agree that, should they be selected to compete at the 2015 *Intel International Science and Engineering Fair (Intel ISEF)*, when they sign all required *Intel ISEF* forms they will predate them to agree with the date on this form.

Naya Menezes 09/01/2014
Student Signature/Date

Parent/Guardian:

I am aware of all potential safety hazards connected with this project, approve the precautions being taken to ensure my student's safety and will, when appropriate, provide guidance and/or supervision. I understand that failure to comply with *Rules and Regulations* of the GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR will result in the disqualification of the project.

Sam Menezes 09/01/2014
Parent Signature/Date

Teacher:

I approved this project prior to the student beginning work on it and verified that it complies with the *Rules And Regulations* of the GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR. Any concerns about the project's design, appropriateness, safety, or legality were submitted to the GSDSEF Scientific Review Committee (SRC) for approval prior to allowing the student to proceed. I understand that failure to comply with the Fair's *Rules And Regulations* will result in the disqualification of the project. I will provide all needed supervision (other than that specified on other included forms) and will ensure that this proposal and all required supplemental forms are included in the student's notebook at the screening fair. I will have the student, if invited to apply for entrance to the GSDSEF, submit all SRC requested certification forms with their 2015 *Application for Entrance*.

ESDGL 9-1-14
Teacher Signature/Date

Additional Advisor (if required)

When certification forms (*GSDSEF 2, 3, 4 or 5, 2015*) are signed by someone in addition to the science teacher, a signature here ensures that the procedures described on these forms will be followed.

Additional Advisor Signature/Date