

**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 Water- A Tainted Resource?
Is this a continuation of a previous project? Yes No
2. STUDENT'S NAME (Last, First, Middle) Kashyap, Esha Bhushan
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 11510 Sun Ray Court San Diego, CA 92131
4. Phone 858-761-7541 email ebkashyap@gmail.com
5. School Thurgood Marshall Middle School Grade 8
6. Teacher Mrs 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: Budapest, Dubrovnik, Athens, Crete, Santorini, Rochester (MN) and San Diego

10. People, companies, etc. providing equipment, materials, workspace: Lovibond and LaMotte

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

This investigation will compare the water from several drinking and nondrinking sources in the United States and Europe with respect to WHO guidelines. The water testing will involve measurement of arsenic, bromine, free and total chlorine, hardness, alkalinity, pH, nitrite and nitrate levels in five European cities, specifically Budapest, Dubrovnik, Athens, Crete and Santorini and the two US cities of Rochester (Minnesota) and San Diego. In each city, three different water sources will be selected. At each source, samples will be taken from three different locations. Two tests will be performed per sample for checking water quality and arsenic levels. A total of eighteen tests will be done per city.

Lovibond Arsenic Test Kit will be required for the arsenic testing while LaMotte Insta-Test 5 plus, and LaMotte Insta-Test Nitrite and Nitrate test strips will assess water quality. Assistance might be required while using the arsenic test kit, as timing and coordination is of the essence in the following the procedure. The color change in the reaction zone of the test strips will be compared to the color charts to determine the corresponding values. The data will be recorded and the tested water will be neutralized and disposed of in a safe manner. The experiment will be conducted under adult supervision to ascertain correct performance of the procedures and to maintain safety during testing. Upon completion of the testing, the data from Europe will be compared with that of the US in terms of the WHO guidelines.

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.

Athakashmya 6/1/14
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.

Bhushan 6/1/14
Parent Signature/Date (POOJA BHUSHAN MD)

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*.

ESP/CL 6-1-14
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