THE EARTH SYSTEM PROJECT

Please direct all your queries and enquiries relating to this activity to:
R. Shankar at rshankargeo@gmail.com

What is the Earth System Project (ESP)?

The International Earth Science Olympiad is not just about competition among students. One of the principal objectives of IESO is to promote international co-operation and forge bridges of friendship among young, talented students across the world. To achieve this objective, IESO has, as its integral part, the International Team Field Investigation (ITFI) and Earth System Project (ESP). These activities are unique to IESO; they set IESO apart from all other international science Olympiads. The spirit behind the activities is not competition but co-operation, and coming together and working together of students from different nationalities, diverse cultures and varied backgrounds. This is singularly important today, and much more so in future, as major strides inscientific research are no longer possible by the efforts of individual scientists but of groups of scientists fromdifferent disciplines, institutions and nations.

One of the main challenges of IESO is to showcase the current state of 21st century science in general and earthscience in particular. To address this challenge, the 7th IESO (Mysore, India) introduced a new activity called the "Earth System Project". The multi-national groups of students are assigned a topic that encompasses may spheres of the Earth System. They have to research on the ESP topic by collecting relevant data from the Internet. They have to analyse and reason out the data. Importantly, they have to make earth systems connections – demonstrate how the phenomenon (in the ESP topic) is linked to several earth systems in a comprehensive way. This way, ESP provides young students an inkling of how earth scientists carry out research; it also makes themappreciate the interconnectedness of earth systems and its implications to human activities and their impacts onthe earth's natural system.

ESP lays emphasis on the evaluation and development of the following scientific skills: data collection, data analysis, reasoning, system thinking, communication and collaboration, and oral and written presentation.

How will ESP be organized?

Organising ESP online throws up challenges! In order to make it comfortable to participants from all parts of the world, countries will be grouped as per three time zones (….).

Three or four ESP topics will be on offer. Students (who opted for ESP) have to choose two topics. ESP teams (each consisting of 6-8 members) will be constituted (and published) based on students' nationality, time zone and choice of ESP topic (some may not get their first choice).

Each team will do the ESP on the allotted topic, holding discussions and making all preparations online. The teams have to make PowerPoint presentations of their results. The PowerPoint file (Name of the file = Team number) should be emailed to the designated person within the deadline.

Who will judge the ESP presentations?

International juries will evaluate the presentations, interact with members of each team and grade them.

How will the ESP presentations be judged?

The ESP presentations will be evaluated using a detailed rubric provided below.

What will student participants receive?

Members of the selected teams as decided by the jury will receive Award/ Medal certificates. All others will receive certificates of participation.

Not clear? Any questions or suggestions?

Then, do contact me please. Email: rshankargeo@gmail.com WhatsApp: +91 9916823885

Rubric for Evaluation of the PowerPoint in the Earth System Project

CONTENT

Categories			
Depth of understanding of the Earth System phenomenon	10 9 8 7	6 5 4 3	2 1
	Comprehensive understanding of relevant systems	Moderate understanding demonstrated but some misunderstandings present	None to little understanding of relevant systems
Complete connection of the earth systems	20 19 18 17 16 15 14	13 12 11 10 9 8 7 6	5 4 3 2 1
	Complete connection with relevant systems	Some relevant connections present, some missing	Some relevant connections present, some missing, some irrelevant ones too / No connections with relevant systems
Use of geological principles	10 9 8 7	6 5 4 3	2 1
	Use of all relevant principles	Some but not all principles used, addressed	No use of relevant principles
Contextual use of scientific terms	10 9 8 7	6 5 4 3	2 1
	Full and accurate use of relevant terms	Partially accurate use of terms	No contextual use of relevant terms
Originality and creativity: Did the presentation include aspects which did not appear commonly in the other presentations?	10 9 8 7	6 5 4 3	2 1
	Unique and relevant aspects not seen in most presentations	Not completely original but has some elements that stand out	No originality or creativity. Just plain use of a template.

STRUCTURE OF THE PURPOSE

Categories			
Clarity of subject and purpose	10 9 8 7	6 5 4 3	2 1
	Purpose of the poster very clear, well explained and easy to understand.	Purpose is present but not absolutely clear	Purpose of the poster unclear, no aim or goals identified, statements confusing and impossible to understand
A clear connection among the different parts. The ability to understand the phenomenon and the inter-relationships among the earth systems that are related to this phenomenon.	20 19 18 17 16 15 14	13 12 11 10 9 8 7 6 5	4 3 2 1
	All parts of the presentation connected by a completely logical flow. Interrelation-ships easy to understand	Connections present but not completely easy to follow	No part is logically connected to any other part. Impossible to understand inter-relationships.

THE QUALITY OF THE PRESENTATION

Categories										
Visual display of the data: The use of effective display of pictures, graphs, tables.	10	9	8	7	6	5	4	3	2	1
	All pictures, graphics and tables are very easy to appreciate and add to the story				Use of images, graphics and tables OK but room for improvement				No use of pictures, graphics, tables	
Minimal text and clear fonts	10	9	8	7	6	5	4	3	2	1
	Font sizes excellent. Text usage maximises effectiveness of low word count.				Fonts OK but not quite the right size				Font sizes completely inappropriate. Too much text for effective communicatio n of ideas.	
Balance between graphics and text (One serving the other)	10	9	8	7	6	5	4	3	2	1
	Graphics, text and white space perfectly balanced.				Balance OK				Graphics, text and white space completely unbalanced resulting in it being visually too busy to be easily absorbed	
The flow of the presentation: Audience can follow the logic of the presentation.	10	9	8	7	6	5	4	3	2	1
	The logic works perfectly for the audience.		Mostly logical but …				Some logic but hard to follow		There is no easy-to-follow logic. Audience finds it difficult to follow the logic.	
Aesthetics	10	9	8	7	6	5	4	3	2	1
	Very pleasing		Pleasing but a				Too busy but		Too busy, hard	

	to the eye.	bit cluttered		Ok to look at	to look at

ORAL EXPLANATION

Category																			
Each of the team members can present any part of the presentation	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	All team members took turns to speak. All team members shared attempts to answer questions.				Most team members ..			Some …			Only a few…				Oral presentation only given by one person. All questions answered by only one person with no consultation.					