



**ATOMIC ENERGY CENTRAL SCHOOL-1/JC
TAPS COLONY, TARAPUR**

ONLINE EXHIBITION

Innovation for Better Society
Science, Mathematics & Social Science Exhibition
Nov' 2021

**Guidelines for the Preparation of Exhibits and
Participation in School Exhibition**

**LAST DATE to send Video of the Project
13th Nov' 2021**

Participants: Students of IV to XII
(Individual or A group of maximum 3 students)

**Let Your Innovative Ideas Magnify
Your Knowledge and Wisdom**

An insight into the Subjects of Exhibition

**Science without Religion is Lamé, Religion without Science is Blind
– Albert Einstein**

Science helps to understand the phenomenon behind the universe and life on earth. It is a driving force in our society to lead our life in a simple and easy manner. It is blended in all the walks of everyone's life and informs our actions. It gives answers for many questions and still it has to answer for many unearthed questions. The branches of science teaches to understand components composed of world like physics deals with how mirrors work, electricity, light, to improve vision through glasses, cooking with the help of utensils be various ways of heating etc. Chemistry helps understand the concept of matter, atoms, molecules and compounds, water composition, air to breathe and so on. The study of life to understand how and why we are here, how the living things came into existence on earth is being dealt by biology.

Indians were leading the world in Mathematics for many centuries and offered many theories to the world. Maths makes a methodical and systematic man with orderly life. It nurtures the power of creativity, reasoning, problem solving, thinking and communication skills. Maths plays a vital role in everyone's life and in every profession. The proper guidance and training from the teachers and parents can make our children the future mathematicians of our country.

Social Science deals with the way of leading life in the past, present and future. It helps to learn how the institutions, traditions and ideals transformed the lives of the people in different periods. It teaches how to live in society in groups and to help each other. Geography is the way to learn climates, forests, rain, land, earth structure and what not? By Economics, students can learn the four factors of production such as land, labour, capital, entrepreneurship and managing finances of self and setting the career goals.

Shri. KASHINATH BEHERA
Principal

School Level Exhibition and Evaluation Procedure

The exhibition for the academic year 2021-22 is going to be conducted through online mode. Students from classes IV to XII can participate in any one of the subject/topic individually or in group of maximum THREE members. Evaluation will be done group wise

Group I : classes IV & V sub: general science /EVS

Group II : Classes VI to VIII Sub: Science/ Maths Or Social science

Group III : Classes IX & X Sub : Science/Maths Or Social science

Group IV : Classes XI & XII Sub: Science inclusive of Maths/IT/CS/Electronics

In each group, First, Second and Third prizes will be given subject wise, either science inclusive of maths as well as in social science

A student can select only one topic from any of the subjects, Science, Maths or Social science , for his/her exhibit

The number of prizes are subject to revision by the panel of judges.

The project/ model will be evaluated by the panel of judges based on the guidelines given by NCERT. Hence the evaluation of projects/ model at school level may also follow the same procedure. The weightage of various parameters for the evaluation are as follows.

S.No.	Parameter	Weig htage
1.	Presentation	10%
2.	Creativity and Imagination	20%
3.	Scientific thought/ Principle	15%
4.	Technical Skills	15%
5.	Application	15%
6.	Economic/ Portability/ Durability	10%
7.	Innovations	15%
Total		100%

The participating students need to prepare in the above areas so that they can present their project/ model in an effective manner. The main theme of the exhibition is “**Innovation for Better Society**” aims to cover the major areas such as health, industrial pollution and

environment degradation, agriculture, transport and communication, innovations in renewable resources for sustainable environment, innovations in food production and food security, mathematical solutions in every day life, Maths and machines, Maths magic and logic, India and the contemporary in World, Growth of a city, tourism, Judicial system, Economic and globalisation , occupational pattern, disaster management etc.

Guidelines

- The competition will be held for the classes IV to XII, groupwise.
- Students have to prepare working models (preferably)
- There should be a video clearly showing the model and demonstration/presentation of the project for 2-3 minutes . The video should be mailed to: aecstar1exhibition@gmail.com
- A student can participate in one subject only.
- **A student can participate individually or in a group of 2-3 (not more than 3) members.**
- **There will be subject wise evaluation for each group.**
- Classes IV and V : group **I** under primary level.
- Classes VI to VIII : group **II** at secondary level.
- Classes IX & X : group **III** at secondary level
- Classes XI & XII : group **IV** at Senior Secondary level.
- Students can directly start preparing the projects, making use of Diwali vacation.

Contact details

S.No	Name of the Staff	Contact Nos. (WhatsApp)	Remark
1	Shri.P.Narasimman Vice Principal	9323886948	General Queries from Secondary & Sr.Secondary
2	Mrs. Meenakshi Kirane, I/c head mistress	9890535588	General Queries from Primary
3	Mrs. Padmaja Rao	9284394218	Sr.sec. science
4	Mr. Mukund	7798628068	Sr.Sec science
5	Mrs. Jisha	8903929157	Sr.Sec. Science
6	Mr. Sandesh Gaikwad	9028678493	Sr.sec.Science
7	Mrs. Rajalakshmi	8087170877	Sec. science
8	Mrs. Bhavana Dale	9637747819	Sec. science and Maths
9	Mrs. Shreeparna	9405228601	Sec. Social science
10	Mrs. Gayatri	9284231949	Primary

TOPICS FOR CLASSE IV TO X

SCIENCE

1. Innovations in renewable resources for sustainable environment

- i) Ecological studies of plants and animals;
- ii) Efficient methods of harvesting and preserving marine resources
- iii) Recycling of water, materials, solid wastes, etc;

2. Transport and Communication

- i) Improvised/ Indigenous models for efficient transport and fast communication especially mobile and internet for communication in rural areas;
- ii) Working models of fuel efficient/ pollution -free designs of automobiles / other Vehicles;

3. Industry

- i) Design and development of automatic devices for various applications in industries;
- ii) Schemes/ designs to help reduce production cost and conservation of raw materials

4. Health and diseases

- i) Factors affecting the health and resulting ailments in the body;
- ii) Infectious and non-infectious diseases, relationship with causative factors and their sources;
- iii) Innovative preventive measures to control diseases at different levels/ roles of various agencies;
- iv) Demonstration and use of traditional methods of medication;

5. Innovations in Food Production and Food Security

- i) Effect of climatic change on agriculture and its mitigation and adaptive techniques/ methods
- ii) Sustainable biofuels;

Mathematics-Mathematical solutions in everyday life

The main aim of this sub -theme is to make our school children and teachers aware and realise about various mathematical ideas and tools to solve problems confronting the society thereby leading to a quality life. The exhibits/ models in this sub-theme may pertain to Landmarks in Mathematics,

Inventions in Mathematics (Historical Background), Mathematical Ideas, contributions of Mathematics for Economic Growth, Mathematical applications, Vedic Mathematics. Some of the indicative areas in mathematics are

- Policies, programs and schemes in mathematics that have a significant impact on human life;
- Mathematical applications that have a wide ranging impact on issues such as agriculture, energy, health, environment, space, industry, communication, education, etc.;
- Effective and efficient ways of communicating an experiment that revolutionise mathematical ideas;
- Cost effective demonstration of known facts and research in mathematics;
- Impact of mathematical ideas on other subject areas such as science, medicine, psychology, social science etc;
- Contribution of mathematics for economic growth, mass literacy, eradication of poverty and malnutrition, etc.
- Mathematical ideas to solve various problems of our everyday life/ environment related problems;
- Mathematical models to predict orbital path of comets, meteors and other minor planets;
- Mathematical models to show how disease might spread in human in the event of epidemics/ bioterrorism;
- Mathematical models to predict the devastating effects of wars/ nuclear explosions;
- Mathematical models to show spread of forest fire depending on the types of tree, weather and nature of the ground surface;
- mathematical models to demonstrate the action of medicines in human system;
- using mathematical tools and (The exemplar points listed so far are to computer simulation to improve trigger ideas and give directions for preparing
- cancer therapy/ wound healing/ tissues formation/ corneal wound healing;
- mathematical tools to describe traffic flow/ stock market option;
- mathematical tools to show the effect of climate change/ global warming;

Social Science

History

- Nationalism in India
- River valley civilisation
- Mughal Architecture

Disaster Management

- Common Human induces Hazard / Disaster and how they can be averted
- Possible risk reduction measures that need to be taken to avoid any disaster

Civics

- Institutions-The role of institutions in furthering both continuity and change in governments, families, schools and communities
- Secularism and its importance at present
- Rural Development and Panchayat Raj and its importance
- Unity in Diversity.
- Community Health & Environment.

Geography

- Environment and Climate
- Natural Vegetation
- Agriculture- Irrigation Types and Development, Development of farming.
- Conservation of water and soil
- Power Resources / Energy - Any form

Economics

- Consumer Awareness
- How consumer is exploited /Factors causing exploitation of consumer
- Rise of consumer awareness
- Role of Government in consumer protection.
- Globalisation and its impact on developing countries

TOPICS FOR XI AND XII

- Industrialisation
- Scientific Revolution and The Origins of Modern Science
- Changing consumption pattern during Corona Crises
- Harappan Civilisation
- Glimpses inside Mughal Imperial Household
- Reconstruction of the History of Vijaynagara through the Archeology of Hampi.
- Conservation of water and soil
- Globalisation and its Impact
- India's Population
- Modern Banking practices

- Marketing
- GST
- Aids to trade
- Import/ Export Procedure
- Stock Exchange
- Money Market
- Insurance
- Active and Passive Voice
- Tenses
- Physiographic divisions of India
- Resources Land, Water, Mineral & Energy resources and Industries