

SRI AUROBINDO PUBLIC SCHOOL, BADDI

The Science exhibition will be organized on **August 19, 2017**.

The main objectives of organizing Science Exhibition can be summarized as:

1. to provide a forum for children to pursue their natural curiosity, creativity, innovation and inventiveness.
2. to make children feel that Science and Mathematics are all around us and we can gain knowledge as well as solve many problems by relating the learning process to the physical and social environment.
3. to lay emphasis on the development of science and mathematics as a major instrument for achieving goals of self-reliance, socio-economic and socio-ecological development of the nation and the world.
4. to analyze how Science and Mathematics have developed and are affected by many diverse individuals, cultures, societies and environment.
5. to appreciate the role of science and mathematics in meeting the challenges of life such as climate change, opening new avenues in the areas of agriculture, fertilizer, food processing, biotechnology, green energy, disaster management, information and communication technology, astronomy, transport, games and sports etc.
6. to create awareness about environmental issues and concerns and inspire children to devise innovative ideas towards their prevention and mitigation.

THEME	SUB-THEMES
Science, Technology and Mathematics for Nation Building	1.Health and Hygiene 2.Industry 3.Transport and Communication 4.Innovations in renewable resources for sustainable environment 5.Innovations in food production and food security 6. Mathematical solutions in everyday life

NOTE:

1. The students may prepare an exhibit/model on any sub-theme other than the above listed six sub-themes but it should be in the context of the main theme of the exhibition i.e. 'Science, Technology and Mathematics for Nation Building'. Some ideas that are new and may be applicable in future may also be presented in the form of presentations and discussions.
2. Innovative exhibits/models made for the benefits of differently abled people would be highly appreciated.
3. Working models/exhibits would be preferred over static one.

RULES FOR PARTICIPATION:

- (i) One exhibit may be represented by a maximum of two students.

(ii) The sub – theme once selected cannot be changed.

(iii) The exhibit/model may include –

- a. Working model to explain a concept, principle or a process
- b. An indigenous design of a machine/device
- c. An innovative/inexpensive design or technique
- d. Application of basic principles of Science/Technology
- e. Scheme/design of a device or machine to reduce production cost
- f. Investigation based study
- g. New and innovative ideas to the form of presentations

(iv) The participating team/student will have to bear **all expenses** related to participation in the event.

(v) Students studying in **Grade IV to XI in the current academic year i.e. 2017–18** are **eligible** to participate.

(vi) It is mandatory to submit a neatly typed brief write up (not more than 1000 words) about the exhibit / ideas for presentation, one week prior to the exhibition.

(vii) Selection will be made class wise and subtheme wise and **each child** can participate in only **one sub theme**.

(vii) The exhibits will be **assessed** by the experts as per the following **criteria**:

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| a. Students’ own creativity and imagination | 20% |
| b. Originality and scientific and mathematical innovations in the exhibit/model | 15% |
| c. Scientific thought/principle/approach | 15% |
| d. Technical skill, workmanship, craftsmanship etc. | 15% |
| e. Utility for Society, scalability/educational value | 15% |
| f. Economic (low cost), portability, durability, scope of its applicability in future etc. | 10% |
| g. Presentation – aspects like demonstration, explanation and display | 10% |

S.NO.	SUB THEME	OBJECTIVE	AREAS PERTAIN TO
1	Health and Hygiene	To bring awareness among the children about the factors affecting our health and nutritional needs of the body, to explore new scientific, technological and bio medical inventions in prevention and cure of diseases etc.	<ul style="list-style-type: none"> • Factors affecting the health and resulting ailments in the body, • Demonstration of models/projects to show the effect of junk food items, adulterated food items on our body and its preventive measures. • Model to demonstrate importance of balanced diet and nutritional values of various food items. • Innovative ideas for effective implementation of policies/programmes/schemes such as Swachh Bharat Abhiyan, National Leprosy Eradication Programme etc that have significant impact on health. • Presentation of known facts and

			<p>understanding new scientific, technological aids in bio-medical areas.</p> <ul style="list-style-type: none"> • Mechanisms/ways to control the spread of epidemics such as Dengue, Malaria etc. • Improved methods of sanitation and appropriate technology for waste disposal, both biodegradable and non-biodegradable. • Ideas for developing low-cost nutritious food. • Low cost medical diagnostic and therapeutic tools.
2	Industry	To think the ways and means to increase its efficiency leading to production of different kinds of goods to meet the future needs of the growing population at affordable price.	<ul style="list-style-type: none"> • Schemes/designs to help reduce production cost and conservation of raw materials. • Roles and possibilities of the service industries like tourism, banking, Information and Communication Technology etc for inclusive development. • Devices or methods to minimize the effects of chemical spills, solid waste, nuclear waste and radiations etc from industries/ nuclear power plants etc. • Awareness about various aspects of environment and disposal of harmful effluents, solid waste, nuclear waste etc. • Working models to demonstrate equipment/processes/devices/technologies/designs which may help facilitate the domestic work. • improved/improvised/innovative technologies associated with weaving, pottery, metal work, dyeing, printing and other crafts practiced in cottage industry and suggestions for new designs.
3	Transport and Communication	To understand different types of transport and communication as well as the importance of transport and communication for National Building and to promote innovations for efficient transport and communication system.	<ul style="list-style-type: none"> • Working models of efficient transport system in metropolitan/urban and rural areas. • Designs for making existing operation of communication more efficient. • Improvised /improved devices for effective transport and communication between various emergency services, namely medical, police, military and other administrative bodies/committees. • Innovative ideas for efficient management of road, rail, water and air transport systems eg better safety measure, especially unmanned railway crossings checking/control of pollution, providing immediate relief to accident victims, managing traffic jams, etc.
4	Innovations in renewable resources for sustainable environment	To make efficient use of available resources and also new techniques/methods of conservation and management of	<ul style="list-style-type: none"> • Recycling of water, materials, solid wastes, etc. • Devices/methods that control air/water/land pollution and technologies to manage them. • Stopping depletion of essential micro nutrients in the soil.

		resources for sustainable environment.	<ul style="list-style-type: none"> • Forest, river, mangrove, wetland conservation and management. • Participatory watershed development and management. • Cost effective heating and cooling system of buildings etc. • Models to control loss of natural resources due to mismanagement/disasters, etc.
5	Innovations in food production and food security	To achieve food security and to make children think of various ways and means to enhance knowledge of food production and food security.	<ul style="list-style-type: none"> • Preservation and conservation methods for prevention of soil degradation and judicious use of water. • Conventional biotechnology practices e.g. application of biotechnology, microbiology and genetic engineering to agriculture for improved yield. • Organic farming/organic fertilizers versus chemical fertilizers. • Planning and managing energy crops (Salix, Poplar Jojoba etc). • Innovative/improved practices for reducing cost of cultivation. • Indigenous designs of farm machinery, agriculture implements and practices. • Improved/improvised method of processing, preservation, storage and transport of food products.
6	Mathematical solutions in everyday life	To realize various mathematical ideas and tools to solve problems confronting the society thereby leading to a quality life.	<ul style="list-style-type: none"> • Policies, programmes 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. • Cost effective demonstration of known facts and research in mathematics. • 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.