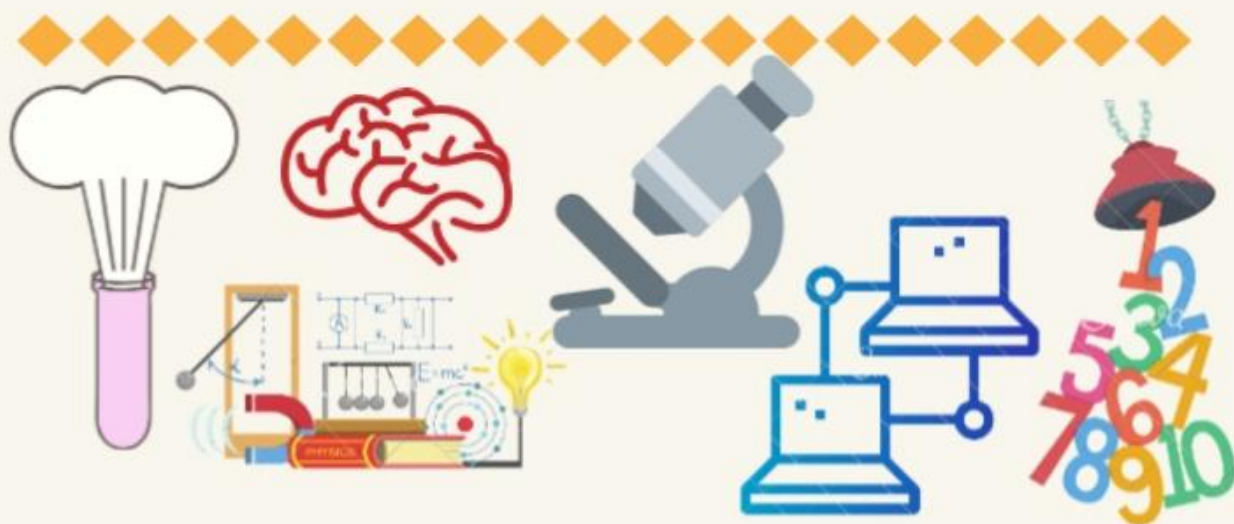


VIVEKANAND EDUCATION SOCIETY'S
COLLEGE OF ARTS SCIENCE AND COMMERCE
SINDHI SOCIETY, CHEMBUR

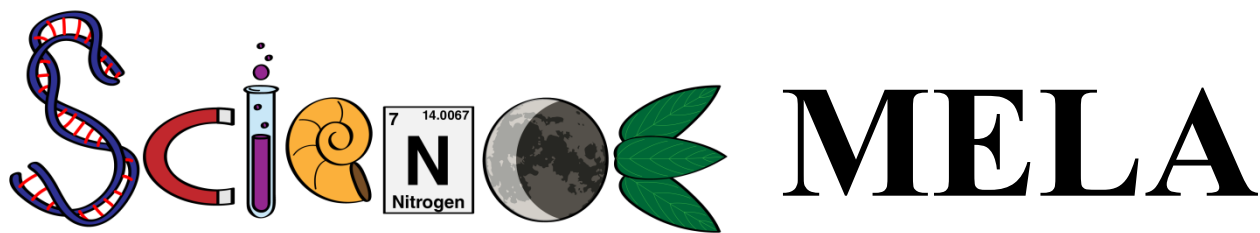
SCIENCE MELA!



Dec 18 & 19, 2018 | 09:00 AM to 05:00 pm
For Classes 8th to 12th

LAB TOURS | GAMES | QUIZ | LIVE
EXPERIMENTS AND WORKSHOPS

FREE ENTRY!
Register at
sciencemela.vesasc@gmail.com



EVENT SCHEDULE : 18TH AND 19TH DECEMBER, 2018

SARASWATI MANDIR			
1	Blood Grouping: Know your Blood Group and the logic behind its identification		
2	Exhibit by BARC: Experimental Models		
QUADRANGLE (1 HOUR)			
1	Remote control Car – with mobile phone		
2	3D Model of “Central Dogma” : Learning the basic framework for how genetic information flows from a DNA sequence to a protein product inside cells		
3	Nuclear reactor Model		
4	Plant tissue culture : To explain how plants can be grown in artificial media		
5	Cosmetics – Make up behind the Make up		
6	Computer Hardware: display of computer hardware and to demonstrate assembly of computer.		
7	Personality Puzzle Box : A unique way of understanding the characteristics of the self		
8	Model on famous theories of human behavior : A brief introduction about the theories of common human behavior like learning, memory, motivation, etc.		
9	Hierarchy of basic human needs: The famous Abraham Maslow’s model of basic human motives/drives		
10	Personality Model: ID, EGO, SUPEREGO : Well-known Sigmund Freud’s most popular structure of personality		
11	The famous Skinner Box : Understanding one of the most common way of learning through an interesting experiment		
12	Personality Puzzle Box : A unique way of understanding the characteristics of the self		
13	Proofs without words : understand the logic behind common theorems in a quick fun way		
14	Embedded system model		
GROUND FLOOR AUDITORIUM: FILM DOCUMENTARIES			
FIRST FLOOR : PHYSICS LAB (1 HOUR)			
1	Display with Piezo - electric sensor	6	Project a picture using a big drop of water
2	Mirror Illusion (Infinite Mirror)	7	Lissajous figures using LASER
3	3D hologram	8	Colour shadows

Experience the magic of Science

4	Pendulum Waves	9	Light experiments in Dark room	
5	Tesla coil	10	See the beams converge, diverge & forming images by lenses	
11	Diffraction, Total Internal reflection of light using LASER beam (seeing the bending of LASER beam)			
Electricity and Electronics				
12	Efficient lighting of hall using the concept of series & parallel resistance concept	15	Data transfer by light :	
13	Water level indicator	16	Electromagnetic levitation	
14	Spy-bug	17	Oscilloscope music	
General Physics				
18	Ruben tube	22	Generator	
19	Microscope – designed & constructed in lab with magnification 300	23	Newton’s cradle	
20	Experiments demonstrating Laws of Physics	24	Homopolar motor	
21	CHLADNI’s figure : Pattern generated by musical notes	25	Telescope	
FIRST FLOOR : COMPUTER SCIENCE LAB				
1	Photoshop: A Session that introduces how to use the Photoshop software to edit photos.			
2	In-Design: A session that introduces how to use the software to create flyers/posters/ pages			
3	Blogging: A Session that introduces how to use Google platform to create online blogs.			
FIRST FLOOR : IT LAB				
1	Security	2	Animation	3
Application of AI: Alexa and Sofia				
SECOND FLOOR : CHEMISTRY DEPARTMENT				
PHYSICAL LAB (15 MIN)				
1	Instrumentation (pH meter, colorimeter, Potentiometer)			
2	Electrolysis	3	Elephant tooth paste	
M.SC. LAB: PART-I (25-30 MIN)				
4	Steam distillation	6	Electroplating and Daniel cell	
5	Azo dye and application of chemistry	7	Skit (Black Magic)	
M.SC. (ORGANIC) PART-II (7 MIN)				
8	Golden Rain and Chalk chromatography			
M.SC.(ANALYTICAL CHEMISTRY) PART-II				
9	Food Adulteration / Reactions of iron			

THIRD FLOOR : MICROBIOLOGY LAB	
MICROBIOLOGY MAIN LAB (20 MIN)	
1	Microscopy: Fungal Wet mount, Gram Staining: Understand working of a compound microscope, Observe the food spoilage fungi microscopically and studying its sporulation pattern and microorganism using 100 X Oil Immersion lens
2	Culture Display: Agar plates & Slants: Studying the growth pattern of microbes on synthetic media and observe the pigment production and macroscopic properties of colonies
3	Do microbes respire like us?: Understand the Glycolysis process using simple organism.
4	Microbes on limelight (Bioluminescence) : Observe the bioluminescent microbes from fish (a symbiotic relationship)
5	Kya aapke paani me microbes hai? (Water analysis): Understand potability of drinking water and its microbial analysis
6	Bottle Biosphere (Winogradsky column): Mimicking the natural microbial water/soil environment in lab and understanding the cascade events which leads to microbial interaction with the ecosystem
MICROBIOLOGY : PG LAB (20 MIN)	
7	Microbes aur Hum Saath Saath Appreciate Microbes relationship as normal flora of human and its advantages v/s Spreading of diseases through contact and actions of speaking/touching etc
8	Kitne Microbes hai!!! Counting of microbes by Plate method
9	Biosaviour (Antibiotic sensitivity test): Demonstrate the technique used to identify the sensitivity of microbes to antimicrobial agents and natural products used in day to day life
10	Go Organic! (Biofertilizer): To understand importance of organic farming
11	Paraphernalia (Instrumentation): To show basic instruments used in Microbiology Lab
12	Dood kitna Dhula hai? (Milk Analysis): To show potential contaminant and method for its detection
PhD Lab (5 MIN)	
13	Fermentation: To demonstrate industrial method of alcohol and wine production
BIOTECHNOLOGY DEPARTMENT	
Main Lab (50 MIN)	
1	Microscopy: Mitosis slides, Stomata demonstration, Metaphase spread, Water droplet-live projection: Understanding working of microscopes, Study different steps in mitosis, Visualize the structure of Human chromosome and plant stomata, Study microflora of water
2	Molecular Biology: DNA extraction , AGE, PAGE: Introduction to Molecular Biology through DNA isolation and visualization, Protein visualization
3	Industrial Biotechnology: Butter Production, Flavored Yogurt Production, Study application of Biotechnology in Industries
4	Osmosis demonstration: Effect of osmosis on raisins

5	Bioinformatics: Visualize protein structure	
6	Density gradient column: Understanding separation of organelles on the basis of density	
7	Model organisms used in Life Sciences: Introduction to model organisms in Life Sciences	
ANIMAL TISSUE CULTURE LAB (10 MIN)		
8	Liver and cheek cells under Inverted Microscope :Visualize different animal cells under microscope	
9	Differential staining: Study different types of blood cells	
THIRD FLOOR: PSYCHOLOGY LAB (30 MIN)		
1	Stroop Effect: An experiment about one's attentional abilities	
2	Inattentive Blindness: An experiment about errors in daily life attention abilities	
3	Configural Superiority Effect: An experiment on principles of perception	
4	Chart on careers in psychology: To acquaint the students about the various avenues they can pursue in the field of psychology	
5	Chart on famous Psychologists: To acquaint students with the people who have contributed the greatest theories about human behaviour	
6	'Spin the Wheel' Model	
FOURTH FLOOR : MATHEMATICS DEPARTMENT : ROOM 407 (45 MIN)		
1	Geometry using models: Know about properties of common geometric figures	
2	Puzzles based on graphs	
3	Zeller's Rule: learn how to find the day on any particular date in the calendar in the history	
4	Secret codes and the theory of coding and decoding	
5	Mathematics in Mother Earth (Nature)	
6	Srinivasa Ramanujan : A glimpse into the man and his mathematics	
LIBRARY		
Display of Book, Magazines and Novels pertaining to Science – Students may browse them.		
GAME ZONE: STILT AREA: GROUND FLOOR		
Tangrams and Magic Squares		
Balancing the chemical equation		
A game with 2 marbles in a box		
A challenge : moving a loop within a loop without short circuit		
play games designed using Unity & Python		
Mind games		

SCIENCE MELA 2018

Education is for improving the lives of others and for leaving your community and world better than you found it - Marian Wright Edelman (An American activist for the rights of children)

Many of the serious issues that the world is facing today are not related or limited to any particular country but are rather global issues. These issues need to be solved and faced by a collective, rationally thinking, skilled and empowered human community. Awareness of these issues and the skills and means to tackle them are of paramount importance. Here is where science comes in: Science of course can help us satisfy many basic human needs and improve living standards, find cure to diseases, provide cleaner forms of energy, and drive innovation and economic growth. But most important of all, science can teach us to find a way to rationally use the natural resources to ensure their continuity for the future generations. Science teaches us to think critically, practice logical reasoning, using empirical evidence and possess a skeptical attitude. Today all these skills along with a sense of environmental awareness are crucial. With this conviction, we at the Vivekanand Education Society's College of Arts, Science and Commerce organised a Science Mela on 18th and 19th December 2018. This two-day Science Mela was our attempt to percolate these thoughts and skills in our students and through them into the minds of school and junior college students.

Combined with the desire of sharing knowledge and college resources with the invited schools, junior colleges and with the community at large, the science departments organized this Mela with the funding received as part of STAR COLLEGE SCHEME status conferred to the college by Department of Biotechnology, Government of India in 2016. In this endeavour, undergraduate and post graduate students and staff of science departments (Physics, Chemistry, Mathematics, Microbiology, Biotechnology, Computer Science and Information Technology) and Department of Psychology displayed around 90 exhibits for the visitors.

In all 48 schools from Dadar to Nerul visited the Mela with the student count reaching to more than 1000, many of whom were accompanied by their teachers or parents. Students of Rochiram T. Thadhani High School for the Hearing impaired - Chembur, The Stephen High School for the deaf and Aphasic - Prabhadevi, Dr Antonio Da Silva High School & Junior College – Dadar, Vinay High School – Vashi Naka, National Sarvodaya High School and Junior College - Chembur, Akanksha Foundation were some of the participants of the Mela.

This year's Science Mela theme – 'Green Good Deeds' was towards sensitizing the hosts (our students) and participating institutes towards protecting the environment and reusing, recycling and upcycling. It is a societal movement launched by Ministry for Environment, Forest & Climate Change, Government of India in 2018. At the Science Mela, materials such as discarded plastic bottles, newspapers, packing thermocol and other day to day items were used to create creative backdrops and exhibits. Enviro-Vigil, an environmental organization had placed a 'Green Shoppe' desk with items made by adivasi and tribal people using naturally available material as an alternate to various day to day hazardous non-degrading material used by most of us. (The Green Shoppe provides a platform to self-sustaining NGO's manufacturing eco-friendly products across the country.) The Science Mela was also dedicated to the birth anniversary of Ramanujan (22nd December), a great Indian mathematician.

Dr. B.B. Singh, Advocate, Scientific Advisor and IPR Attorney, High Court, Bombay was invited as the Chief Guest for the Inaugural function. He motivated the students by showing them the path which can reap richer benefits through patenting and IPR. His talk was titled 'How to be a scientist and still not be poor'. Dr. S. S. Bhagwat (Dean, ICT) interacted with the school students and inspired them to take up science and narrated how Indian science has contributed in making the lives of people easier and comfortable. He spoke about the unique aspects of engineering technology and prevention of pollution in different parts of the world.

Organizations like Vijnana Bharati and Envirovigil collaborated with Science Mela. Dr. Jayant Joshi (Scientist, BARC) spent an entire day infusing the students with the knowledge of physics with simple experiments.

The collaborations with the aforementioned external agencies definitely increased the exposure, enthusiasm and knowledge of the visitors of the Science Mela, but the real gifts of the Mela were the 400 student volunteers who worked untiringly before and during the Science Mela. Their enthusiasm while creating and explaining their exhibits to the visitors was the real success. Most of these volunteers were overjoyed and satisfied when they saw the look of awe and surprise in the eyes of the school/college students once they grasped the concept being explained.

Guided tours to the exhibitions, lectures, games, quizzes, film projections were offered to groups of students, parents and teachers and to the general public. A variety of exhibits and experiments were set up keeping in mind the young visitors. They were like a buffet of food so tasty and easy to digest yet healthy and essential. Some of the experiments/exhibits were Bioluminescent (glowing) bacteria, Ruben's tube, Mobile controlled remote car, cyber security, 3D hologram, history behind AI - Alexa and Sophia, food adulteration, viewing food spoilage fungi microscopically, kya aapke paani me microbes hai? (Water analysis), errors in daily life attention abilities, mathematics in Nature, understanding well-known theorems in mathematics through models. Sessions on Photoshop, In-design and Blogging were conducted. A skit on the Chemistry behind black magic fascinated and enlightened the students. These created immense awareness in the visitors about not just abstract ideas but about science in their day to day life.

There was also a gaming zone and a quiz zone with activities and questions aimed at encouraging the visitors to learn while having fun.

The Science Mela is our initiative to popularize and encourage science and scientific thoughts in the community of young minds around us and give them the opportunity to collaborate with us for their scientific adventures. The feedbacks received gives us a feeling of satisfaction towards this extension activity and zeal to further propagate the scientific temper among the future generations and become part of the Nation Building.

All in all, we hope that students, teachers and parents who visited the Science Mela at VESASC to "experience the magic of science", did so and left empowered with knowledge and joy.

Suman Ganger
Convener



Learning Superposition at the Physics Lab



Happy visitors leaving after a visit to the Science Mela

List of School/Colleges Visited for Science Mela

18th and 19th December 2018

Sr. No.	School/Junior College Name	Area	18.12.2018	19.12.2018
1	AFAC Junior College	Chembur	0	43
2	AFAC English School	Chembur	3	4
3	Aisha English High School	Govandi	3	6
4	Akanksha NGO	Chinchpokli	0	12
5	Ambedkar College	Wadala	6	3
6	Anandnagar Municipal School	Kurla	40	6
7	Anjuman College	Andheri	1	0
8	Apeejay School	Nerul	1	0
9	Bunts Sangha College	Kurla	3	2
10	Chembur High School	Chembur	77	7
11	Chembur Karnataka High School	Chembur	6	2
12	Cosmopolitan High School	Mira Road	2	0
13	Dr. Antonio Da silva High School	Dadar	33	0
14	Friends Academy School	Mulund	1	0
15	Guru Nanak Khalsa College	King Circle	5	2
16	ICLES' Motilal Jhunjhunwala College	Vashi	0	6
17	Ideal College	Thane	1	0
18	Janta Welfare English High School	Chembur (Mahul Goan)	39	30
19	Jawahar Vidya Bhavan	Chembur	1	0
20	K. V. Pendharkar College	Dombivli	3	0
21	Kumud Vidya Mandir School	Govandi	13	0
22	Loreto Convent School	Chembur	1	0
23	Mahatma Gandhi Memorial School/College	Nerul	15	7
24	Maroli Primary School	Chembur	29	0
25	Model High School	Chembur (Vashi Naka)	80	81
26	Municipal High School	Chembur	7	0

27	Narayan Guru College	Chembur	0	4
28	National Sarvodaya Junior College	Chembur	3	13
29	Oriental College	Navi Mumbai	1	1
30	Rochiram T. Thadhani High School for Hearing Impaired	Chembur	18	0
31	Sadhu Vasvani High School	Chembur	0	2
32	Shree Sanatan Dharam Vidyalaya	Chembur	1	5
33	Shri Gauridutt Vidyalaya and Junior College	Sion	1	1
34	Sindh Cosmopolitan High School	Chembur	0	3
35	Somaiya College	Ghatkoper	3	5
36	South Indian Education Society High School	Matunga	0	4
37	South Indian Welfare Society School	Wadala	12	7
38	St. Sebaistain High School	Chembur	3	2
39	Swami Ramkrishna Paramahams Junior College	Govandi	1	1
40	Swami Vivekanand High School	Thakkar Bappa	3	0
41	Swami Vivekanand High School	Kurla	0	81
42	Swami Vivekananda High School/Junior College	Chembur	12	19
43	The Stephen High School for the Deaf and Aphasic	Dadar	0	9
44	Vinay High School English Medium	Chembur (Mahul Goan)	76	100
45	Vinay High School Hindi Medium	Chembur (Mahul Goan)	0	30
TOTAL			1003	

