

# SCIENCE CENTRE NEWS LETTER

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**SCIENCE CENTRE**

Volume 5, Issue 12

## WHAT'S NEW IN SCIENCE?

### High amount of screen time begin as early as infancy

Childrens average daily time spent watching television or using a computer or mobile device increased from 53 minutes at age 12 months to more than 150 minutes at 3 years, according to an analysis by researchers at the National Institute of Health, The University at Albany and The New York University Langone Medical Center. First child in family or children raised in home based childcare, once reached by age 8, are found more prone to spend highest time in front of screen. The study published monthly journal published by the American medical Association in "JAMA Pediatrics".

"Our results indicate that screen habits begin early", said Edwina Yeung, the study's senior author and an investigator in the Epidemiology Branch of NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). This finding suggests that interventions to reduce screen time could have a better chance of success if introduced early".

NICHD researchers and their colleagues' analyzed data from the Upstate Kids Study, originally undertaken to follow the development of children conceived after infertility treatments and born in New York State from 2008 to 2010. Mothers of newly 4000 children who took part in the study responded to questions on their kids' media habits when they were 12,18,24,30 and 36 months of age. They also responded to similar questions when the

children were 7 and 8 years old. The study compiled additional demographic information on the mothers and children from birth records and other surveys.

The American Academy of Pediatrics recommends avoiding digital media exposure for children less than 18 months of age, introducing children 18 to 24

months of age to screen media slowly and limiting screen time to an hour a day for children from 2 to 5 years of age. In the current study, researchers found that 87% of the children had screen time exceeding these recommendations. However, while screen time increased throughout toddler hood by age 7 and 8,

researchers believe this decrease relates to time consumed by school related activities.

This study authors classified the children into two groups based on how much their average daily screen time increased from age 1 to age 3. The first group, 73% of the total had the lowest increase from an average of nearly 51 minutes a day to nearly an hour and 47 minutes a day. The second group, 27% of the total had the highest increase from nearly 37 minutes of screen time a day to about 4 hours a day. This shows that from the early age, screen time of a child should be less.

Courtesy: Maharani Tarabai Primary School No. 175



## SCIENTIST OF THE MONTH

### Nariman Bomanshaw Mehta

Nariman Bomanshaw Mehta was born on 20 April 1920 in Bombay. He received Bachelor of Science degrees in Chemistry and Physics and a Master of Science degree from St.Xavier's College, Bombay.

Seagram Company invited Mehta to The United States as a trainee in their research lab where he learned about fermentation and distillation. During his time at Seagram, Mehta studied the antibiotic penicillin. While teaching Chemistry at Central State University, Wilberforce, Ohio, Mehta joined the Pharmaceutical Company Burroughs Wellcome Inc., now GlaxoSmithKline, where he worked on potential neuropsychopharmacological drugs and designed,

synthesized and patented the compound Bupropion (BW323U66) that was approved for use as an antidepressant in 1985 and sold under the trade name Wellbutrin. Another application of the drug was as a smoking cessation aid. He and fellow student Kaikhosrov D. Irani, wrote and published the book "Textbook of Theoretical and Practical Physics" in 1939. Mehta won a TATA Scholarship and received a grant from Wendell Willkie. He died on 22 August, 2014 (aged 94) at Burlington, North Carolina.



Courtesy: Maharani Tarabai Primary School No. 175



### Timings

Tuesday to Friday  
9.30 am to 4.30 pm

Saturday - Sunday  
& Public Holidays  
11.00 am to 6.30 pm

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## SCIENCE FACTS APRIL 2020

1 April 1962	Decimal weight measurement system was made compulsory in India.
2 April	World Autism Awareness Day. (UN)
2 April 1618	Mathematician and Physicist, Francisco M. Grimaldi (discoverer of light diffraction) was born.
3 April 1984	Indian Astronaut Mr.Rakesh Sharma traveled into Space.
7 April	World Health Day (WHO) (UN)
12 April	International Day of Human Space Flight (UN)
12 April 1961	First Russian Astronaut Yuri Gagarin traveled into Space.
16 April 1853	First Indian Steam Engine train was started from Mumbai to Thane.
16 April 1867	Wilbur Wright (co-inventor of the first manned aeroplane) was born.
19 April 1912	American Chemist, Glen T. Seaborg (discoverer of plutonium) was born.
19 April 1971	Russia had launched world's first unmanned Space research station "Salyut-1" in Space.
19 April 1975	India entered in Space Era. "Aryabhata" Satellite was launched from Soviet Union.
22 April	International Earth Day.
22 April 1799	Jean Poiseuille (discoverer of blood pressure) was born.
23 April	World Book & Copyright Day (UNESCO)
23 April 1858	German Physicist, Max Planck (who wrote the Planck Constant) was born.
25 April	World Malaria Day (WHO)
25 April 1874	The great Scientist Mr. Marconi (inventor of Radio) was born.
27 April 1791	Mr. Samuel Morse (inventor of Postal Service & Telegram) was born
28 April	World Day for Safety & Health at Work
30 April 1895	French Scientist Mr. Rontgen discovered X-rays.
<b>U. N. : United nations</b>	

## SCIENTIFIC QUESTION

### What is Heavier than Air?

Balloons and airships flew by being lighter than air, but that is not the way of lifting an aircraft off the ground. Some early pioneers believed they could fly by making machines with large flapping wings. Italian Scientist, Giovanni A. Borelli eventually proved that people would need enormous wings to lift their bodies off the ground and that our chest muscles would not be powerful enough to flap them. Fortunately, there is another way of getting things airborne even when they are heavier than air.

The properties of gases explain how a heavy balloon or airship can stay airborne. In much the same way the physics of moving air or aerodynamics, explains how the wings of a moving airplane can lift it off the ground. The

pioneer of aerodynamics was a Swiss scientist named Daniel Bernoulli. Bernoulli found that the pressure of a moving liquid or gas goes down as its speed increases. British aristocrat Sir George Cayley used Bernoulli's idea to develop flying machines that were heavier than air.

Cayley concentrated on using Bernoulli's principle to produce an airplane that used fixed wings to give it lift - his wings had a curved shape called an airfoil. Cayley had worked out the basic design of his flying machine and every airplane built since has been based on this

design. Cayley's machine had a fuselage (central body) fixed wings either side and a tail with elevators, flaps to make the plane climb or dive in the sky and a rudder for steering from side to side. Lightweight engines had not been invented at time, so Cayley's flying machine was unpowered gliders. Eventually in 1853, he tested out his ideas by launching a large glider piloted by a

servant off a steep hill. This was the first piloted flight.

Soon other was developing their own unpowered aircraft. Frenchman Jean - Marie Le Bris built his "artificial albatross" glider in 1857.

The work on the gliders inspired other pioneers of flight Wilbur Wright and Orville Wright from

Dayton, Ohio. The Wright brothers built many large and sophisticated gliders. In 1903, they made a huge advance: By adding a very lightweight gasoline engine to a large glider they built the first self - propelled airplane. The age of aviation had begun.



Courtesy: Maharani Tarabai Primary School No. 175

## KNOW THE PARK EXHIBIT

### Elliptical Speaking Tube



Stand near the mouth of the fish and ask your friend to stand at the tail end. Ask your friend to whisper from his end, while you listen to it by putting your ear near the mouth of the fish. Can you hear your friend?

Now ask your friend to listen, while you whisper at your end. Inside of the hollow fish is an elliptical section. The mouth



and the tail openings are in its focal plane. Sound coming from one focus reflects from the surface and then converges to the other. An elliptical reflector has this property because of its specific geometrical shape.

## SCIENCE PROJECT

Surat Municipal Corporation had organized 'Science Fair' at Art Gallery, Science Centre, Surat on 30th and 31st August 2019. Maharani Tarabai Primary School No. 175 had presented their project on 'Drone Ambulance'.

The aim of the project is to help and save in the shortest time in occurrence like floods, earthquakes and accident.

In the procedure of this project ice cream stick is placed on the CD and motor was mounted on it. After that circuit and motor is joint by solder. Fan was mounted on the motor. In this way, prepare the drone to facilitate the patient below it and to place a kit for medical assistance, an ambulance was created.



### >> Application of this project is as follows:

1. Assistance can be quickly reached in the event of an accident in a remote mountainous region.
2. Occurrence of any incident in the urban area, the injured can be rushed to the hospital.
3. Assistance can be quickly reached in the emergency case.
4. Food, medicine or help can be delivered in the incidents of flood, earthquake, fire and accident.
5. This drone is useful for evacuate the wounded in the valley.



## SCIENCE CENTRE

Science Centre forms the main part of the entire complex; it displays thematic galleries in the field of Science and Technology. The ground floor of Science Centre showcases 3D Theatre and Souvenir Shop. The first floor of Science Centre showcases Planetarium, Fun Science Gallery, Entering space Gallery and Power of play gallery Nad Second floor of Science Centre showcases Diamond Gallery and Astronomy through ages gallery . whereas Polar science Gallery and Textile Gallery are under development.

3d Show	Tuesday to Friday (Time)	Saturday, Sunday & Holidays (Time)																																	
English	09:15, 11:20, 12:00, 02:40, 04:00, 04:30	11:20, 12:00, 01:10, 02:40, 04:00,																																	
Hindi	09:45, 10:15, 10:40, 12:40, 01:20, 02:00, 03:20	12:40, 01:40, 02:10, 03:20, 04:40, 05:20, 06:00, 06:30																																	
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Above 18 Years	Rs. 100	Above 18 Years Rs. 60																																	
3 Years to 18 Years	Rs. 65	3 Years to 18 Years Rs. 40																																	
<b>Science Centre + Museum + Diamond Gallery</b>		<b>Astronomy Gallery</b>																																	
Above 18 Years	Rs. 60	Above 18 Years Rs. 60																																	
3 Years to 18 Years	Rs. 40	3 Years to 18 Years Rs. 40																																	
<b>Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show</b>		<b>Planetarium+ Fun science Entering Space +Gallery</b>																																	
Above 18 Years	Rs. 120	Above 18 Years Rs. 100																																	
3 Years to 18 Years	Rs. 80	3 Years to 18 Years Rs. 80																																	
<b>Planetarium</b>		<b>Diamond &amp; Astronomy Gallery</b>																																	
Above 18 Years	Rs. 50	Above 18 Years Rs. 100																																	
3 Years to 18 Years	Rs. 40	3 Years to 18 Years Rs. 80																																	
<b>3D Show</b>		<b>Planetarium + Fun science +Entering Space Gallery</b>																																	
Above 18 Years	Rs. 60	Above 18 Years Rs. 100																																	
3 Years to 18 Years	Rs. 40	3 Years to 18 Years Rs. 80																																	
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