

SCIENCE CENTRE NEWS LETTER

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SCIENCE CENTRE

Volume 2, Issue 11

WHAT'S NEW IN SCIENCE

India Launches Record - Breaking 104 Satellites on single Rocket.

The Indian Space Research Organization (ISRO) had achieved a major milestone on 15th Feb, 2017 with a successful record-setting launch of 104 satellites on a single rocket. The Polar Satellite Launch Vehicle (PSLV) ignited off successfully from India's Satish Dhawan Space Centre, SHAR, Sriharikota, Andhrapradesh at 09:28 p.m. IST with three satellites namely Cartosat-2D, INS-1A and INS-1B and 101 smaller nano satellites (also called nanosats) from five other countries :one each from the U.S., the Netherlands, Israel, Kazakhstan and Switzerland, 96 satellites amongst 101 was from United State of America in which 88 were Dove and 8 were LEMUR satellites. This number crushes the previous record of 37 satellites sent into orbit aboard a single



Russian Dnepr rocket in June 2014.

The mission's aims was to launch the Cartosat-2 series satellite for Earth's observation and the other 103 co-passenger satellites into polar sun-synchronous orbit at an altitude of 314 miles (505 kilometers), ISRO officials said. 88 amongst the 101 nano satellites that were launched into space were cubesats owned by Planet labs, an Earth imaging private company based in belong to the U.S based Earth observing company Planet. These tiny satellites also called Doves. India's Prime Minister, Narendra Modi, also congratulated the ISRO for a successful launch.

Courtesy : Vidhyakunj Higher Secondary School, Surat

SCIENTIST OF THE MONTH

Govind Swarup

Govind Swarup was born on March 23, 1929 at Thakuradwara in Uttar Pradesh. He received B.Sc degree in 1948 and M.Sc in Physics in 1950 from the Allahabad University and Ph.D from Stanford University in 1961.

Returning from Stanford to India in 1963, he joined Tata Institute of Fundamental Research (TIFR) as a Reader at the request of Dr. Homi Bhabha. During 1953-65 Prof. Swarup made the discovery of 'Type U' solar radio bursts developed a gyro-radiation model for explaining the microwave solar emission and made studies of the radio emission from the Quiet sun. In 1959, he developed a round trip transmission technique for phase measurements. During 1963-70, he constructed a 530m long and 30m wide parabolic-cylindrical radio telescope of a unique and

innovative design at Ooty in South India. During 1984-96, he conceived and directed the design and construction of the Giant Metrewave Radio Telescope (GMRT). At present he is making observation with the GMRT of the emission and absorption of atomic hydrogen from objects in the early Universe.



Professor Swarup was awarded Padma Shree in 1973, The Shanti Swarup Bhatnagar Prize in 1973, The P.C Mahalanobis Medal in 1984, The Biren Roy Trust Medal in 1986, Dr. Vainu Bappu Memorial Award in 1987, The Meghnad Saha Medal in 1987, The R.D. Birla Award in Physics in 1990, The C.V Raman Medal in 1993, The H.K. Firodia Award in 2005 and The Homi Bhabha

Award for Lifetime Achievement by the Prime Minister of India in 2009.

Courtesy : Vidhyakunj Higher Secondary School, Surat



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 MARCH 2017

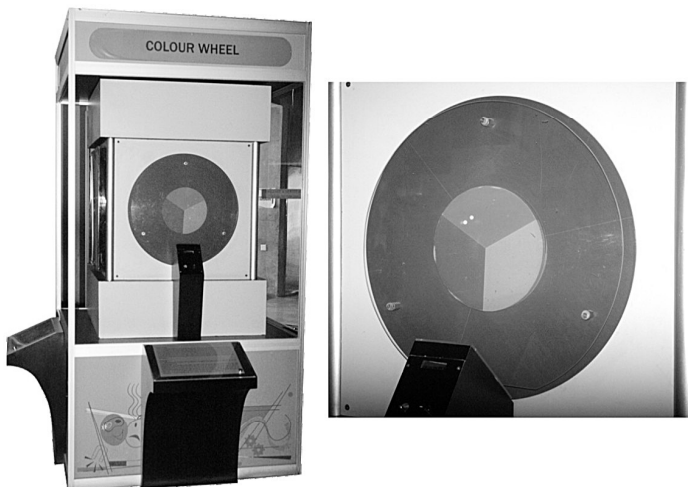
1 March	Self Injury Awareness Day.
3 March 1838	American Astronomer, George W. Hill (who plotted the Moon's Orbit) was born on this day.
3 March 1847	Mr. Alexander Graham Bell (Inventor of Telephone) was born on this day.
3 March 1969	India's first Rajdhani Express train having speed of 140 km/h traveled for first time between Delhi and Hawrah.
4 March 1754	Benjamin Waterhouse (inventor of Smallpox vaccine) was born on this day.
6 March 1937	Valentina Tereskowa (Lady Astronaut who was the first lady to enter in to the space) was born on this day.
8 March	International Women's Day (by UN).
8 March 1879	German physicist and chemist, Otto Hahn (Discoverer of radiothorium and actinium) was born on this day
9 March 1934	Uri Gagarin (world's first Astronaut) was born on this day.
10 March 1876	Mr. Alexander Grehambel experimented for the first time to talk on telephone with his assistant Botish on this day.
13 March 1781	Planet "Uranus" was discovered by well-known Astronomer Herschel.
14 March 1879	Sir Albert Einstein (discoverer of Theory of Relativity) was born on this day.
16 March 1789	George Simon Ohm (discoverer of Ohm's Law) was born on this day.
18 March 1858	German engineer, Rudolf Diesel (inventor of diesel motor) was born on this day.
21 March 2016	It is the day when Day and Night time becomes equal.(Vernal Equinox)
21 March	World Down Syndrome Day.
22 March	World Day for Water.
23 March	World Meteorological Day. (WMO)
24 March 1854	Start of Telegram era in India by delivering first telegram from Kolkata to Agra.
27 March 1845	Wilhelm Conrad Rontgen (Noble prize winner & inventor of invisible 'X' rays) was born on this day.
29 March 1967	Making of world's biggest submarine "9 Redoubtable (S611)" by France, which is having weight of 7780 ton and length of 419 feet.
	U. N. : United Nations

Quiz Answers: (1) C (2) B (3) C (4) C (5) C

KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

Colour Wheel

Press the switch to rotate the colour wheel made of red, green and blue segments. Observe the disc turn grey. Now switch on the strobe light and change the frequency slowly. Observe that the colour and segmentation pattern on the disc changes dramatically, when the colour wheel is rotated fast and is seen under normal light, the coloured segments pass before our eyes so quickly that their images persist in our brain and hence we see a mixed colour, which is grey for the shades chosen here. But seen under a pulsed beam of light from the strobe, different secondary colours appear depending on the frequency of light pulse.



SCIENTIFIC QUESTION

What is Melting Point and Boiling Point?

Matter is any physical substance or object that exists in the three dimensions of space. It can be as huge as a planet or a star, or as small as one atom. Whatever it's size, matter also exists in one of three main form, solid, liquid, and gas. These are called three states of matter.



temperature is called its boiling point. For pure water at standard pressure, the melting point is 32°F (0°C) and the boiling point is 212°F (100°C).

Matter can change in state,

from solid to liquid, or liquid to gas, or back again. This usually happens when heat is given to matter at constant pressure. The added heat



provides extra energy to the atoms and molecules which makes them move around more. When a solid is heated, eventually its atoms or molecules have enough

energy to break free from their rigid framework. They begin to move around more freely, and the solid turns into a liquid. This is called melting. Each substance has its own

particular temperature at which it melts. This is known as its melting point. Similarly, when a liquid is heated, at a certain temperature it gets converted into gas. This

When a gas turns into a liquid, this is called Condensation. This can be carried out by taking heat away from the gas, which is known as cooling or it



can be carried out by compressing the gas - squeezing it to make it take up less space. The atoms and molecules of the gas squash closer together and change state into liquid.

SCIENCE QUIZ

(1) What is the number of Galilean moons of Jupiter discovered by Galileo Galilei in January 1610?

- (a) 2 (b) 3 (c) 4 (d) 5

2) Which element is required in largest quantities by plant ?

- (a) Phosphorus (b) Nitrogen (c) Calcium (d) Sulphur

3) Which Country does not have an element named after it?

- (a) America (b) Poland (c) Hungary (d) France

4) The Fibonacci sequence is an example of which kind of formula?

- (a) Arithmetic (b) Geometric (c) Recursion (d) No formula

5) The velocity of light was first measured by

- (a) Einstein (b) Newton (c) Romer (d) Galileo

EXHIBITION

Astrophotography Exhibition

The Astrophotography Exhibition was organized from 15th to 23rd February, 2017 on First floor of Art Gallery at Science Center. Photographs on Milky Way, Solar System (Sun, Moon, Planets, Comet), Night Sky, Star trail, etc. was displayed. 179 photographs were displayed by 36 photographers from Gujarat.



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 and Power of Play Gallery and second floor of Science Centre showcases Diamond Gallery, whereas Entering into Space, Textile Gallery, Cosmos Gallery and Polar Science 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	11:20, 12:00, 02:40, 04:00
Hindi	10:00, 10:40, 12:40, 01:20, 02:00, 03:20	12:40, 01:20, 02:00, 03:20, 04:40, 05:20, 06:00
Science Centre + Planetarium + Museum + Diamond Gallery		
Above 18 Years	Rs. 100	
3 Years to 18 Years	Rs. 65	
Science Centre + Museum + Diamond Gallery		Planetarium
Above 18 Years	Rs. 60	
3 Years to 18 Years	Rs. 40	
Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show		
Above 18 Years	Rs. 120	
3 Years to 18 Years	Rs. 80	
Planetarium		
Above 18 Years	Rs. 50	
3 Years to 18 Years	Rs. 40	
3D Show		
Above 18 Years	Rs. 60	
3 Years to 18 Years	Rs. 40	