SCIENCE CENTRE NEWS LETTER

December 2015
Issue 8

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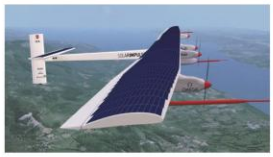
WHAT'S NEW IN SCIENCE

Geomagnetic Field Of Earth Getting Weaker But Not Flipping Within Human Lifetime

In the past two hundrestate.This led some scientists tod years, the strength of the Earth's magnetic field has experienced a continuous weakening deliberate if the planet's magnetic field is due for a reversal at a distant future.A new study revealed that the planet's protection against solar winds might just be waning down from a high rate.

Researchers from the Massachusetts institute of Technology and Columbia University's Lamont-Doherty Earth Observatory analyzed the planet's average, steady magnetic filed intensity in the past five million



years.Using ancient rock samples emitted from the Galapagos Island's volcanoes, they found that the magnetic field's past intensity is only 60 percent of today's field strength.

The volcanoes are located on the planet's equator where the magnetic field's strength is precisely half of the poles' strength. Rocks emitted from the volcanoes contain iron, which align with the planet's magnetic field just like tiny magnets. This suggests that the current states of the planet's protection won't flip in the foreseeable future. Findings suggest that humankind has a long way to go before the field reaches an unstable level which could prompt a reversal.

"It makes a huge difference, knowing if today's field is a long-term average or is way above the long-term average. Now we know we are way above the unstable zone. Even if the [field intensity] is dropping, we still have a long buffer that we can comfortably rely on,"said laed author Huapei Wang, a postdoc at the Department of Earth,

Courtesy : Sir J. J. English School, Surat.

SCIENTIST OF THE MONTH

Srinivasa Ramanujan Aiyangar

Srinivasa Ramanujan Aiyangar Was born on December 22,1887 in Tamil Nadu,Ramanujan was an Indian Mathematician and autodidact who, with almost no formal training in pure mathematics, made extraordinary, contributions to mathematical analysis, number theory, infinite series, and continued fractions.

Ramanujan was born into a poor Brahman family, his father worked as a clerk in a cloth merchant's shop.He went to a local school in Kumbakonam. Ramanujan is very well known for his efforts on continued fractions and series of hypergeometry. when Ramanujan was thirteen, he could work out Loney's Trigonometry exercises without any help.At the age of fourteen, he was able to acquire the theorems of cosine and sine given by L.Euler.Synopsis of Elementary Results in pure and Applied Mathematics by George shoo bridge Carr was reached by him in 1903. the book helped him a lot and opened new dimensions to him which enabled him to introduce about 6,165 theorems for himself. as he had no proper and good books in his reach, he had to figure out on his own the solutions for all the questions.it was in this quest that he discovered many tremendous methods and new algebraic series.

In 1904, Ramanujan received a merit scholarship at Government College, kumbakonam and became more

indulgent into Mathematics. he lost his interest in all other subjects due to which he lost his scholarship. Even after two attempts, he did not succeed to get a first degree in the field of arts.in 1909 Ramanujan married and, in order to earn a living, he obtained clerical work. he continued with his investigations of Mathematics side by side with his clerical work.Finally in 1911, he published some of his results.

It was in January 1913 that he sent his work to a Cambridge professor named G.H.Hardy but he did not appreciate Ramanujan's work much as he had not really

Courtesy : Sir J. J. English School, Surat.

SCIENCE FACTS JULY 2015

1 July	Birthday of famous Physician & Bharat Ratna Awarded Bidhan Chandra Roy which is celebrated as 'Doctor's Day' in India.
2 July 1938	Chandrakumar Naranbhai Patel (inventor of the Carbon Dioxide Laser) was born on this day.
4 July 2005	Successful collision of NASA's satellite "Deep Impact" with comet into the space was held at the distance 13.04 million km from the Earth.
5 July 1996	First Clon Mammal (Genetically identical individuals) 'Dolly' (a sheep) was born on this day.
5 July 2014 (First Saturday of July)	International Cooperative Day (by U.N.)
6 July 1906	Daulat Singh Kothari (well known Indian physicist) was born on this day.
6 July 1885	Vaccine for Rabies first time used on human on this day.
11 July	World Population Day. (by U.N.)
16 July 1945	The first detonation with code name "Trinity" conducted by United States at "Los Alamesh" was done on this day. This date is known as the beginning of Atomic Age.
16 July 1969	Successful launching of "Apollo 11" was done with the help of "Saturn V" rocket from Kennedy Space Center at Florida.
18 July	Nelson Mandela International Day for freedom, justice and democracy. (by U.N.)
18 July 1980	Launching of Indian satellite "Rohini RS-1" into the Space.
19 July 1814	Samuel Colt (inventor of Revolver) was born on this day.
24 July 1969	Successful landing of "Appolo-11" in the pacific Ocean.
25 July 1978	"Louise Joy Brown" the world's first successful Test Tube Baby was born in Great Britain.
25 July 2014 (Last Friday of July)	14th Annual System Administrator Appreciation Day. (Also known as Sysadmin Day).
	U. N.: United Nations

Science Quiz Answers : (1) A, (2) B, (3) C, (4) A, (5) C, (6) A

Timings

Tuesday to Friday
9.30 am to 4.30 pm

Saturday - Sunday & Public Holidays
9.30 am to 6.30 pm

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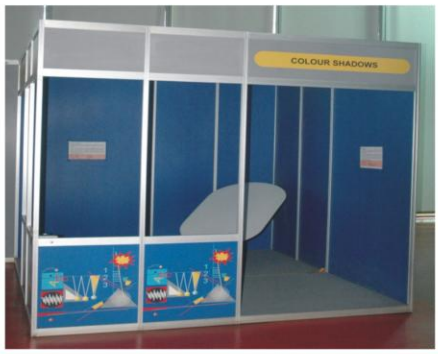
KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

Impossible Mixture

Rotate the circular disctoturn the tube up side down.coloured liquids inside the glass tube seen to mix at first,but gradually separate them selves and occupy their original position orange top, yellow at the middle & durk brown at the bottom.



Rotate again to find that the liquids do never mix the three liquids are mutually insoluble just as oil and water, and have different densities.so that the heaviest one always settle at the bottom, and the lightest one floats to the surface.

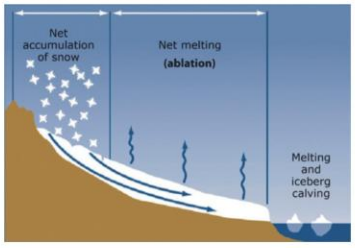
SCIENTIFIC QUESTION

How RADAR works ?

Tornadoes are violent storms that strike as a powerful rotating mixture of wind and thunder-storm clouds, extending from the clouds to the grounds in a funnel shape. They are know to be the most powerful and destructive atmospheric generated phenomena(wind system),and are very common in the USA, particularly from the middle belt extending to the east cosat. Every years, there is an average of 800 tornadoes that hit various parts of the USA. Even though many of them are very mild and could be seen very devastating and flattened many homes, schools and structure along its path.

Tornado incidents are distributed all year through, forming particularly in late spring(March) with the most incidents, occuring in the summer(May and June),and reducing in numbers and strengths in the fall.

How is Glacier formed?



Snow that falls on low ground does not lie for long and soon melts away in the first warmth of early spring. On higher ground snow remains for a longer time but even there it is usually all melted away by May, but there are places where even the summer sunshine cannot banish the snow. This is on mountains like the Alps at height of more than 3,000 meters.

This height is known to geographers as the snow line or the limit of persistent snow.

It varies according to location on the globe in the tropics, for example, the snowline is much higher at about 5,500 meters and in the polar regions, it is practically at sea -level.

If all the snow that falls on the earth were to slay on the ground winter after winter. All the highest mountain tops would be covered many times over, but snow only stays on valleys and hollowed-out mountain sides to form snow fields.

When snow falls it is light and feathery. A piece of snow of the type measuring a cubic meter weights about 75 kg., but as the snow heaps up on the ground its weight causes the bottom layers to freeze in to a hard glassy mass and the weight of a cubic meters rises to about 900 kg. The upper slopes of the world mountain ranges are covered in this masses of snow. Once it finds an outlet this frozen snow begins to move slowly like a gigantic river of ice and a glacier is born.

Courtesy : Sir J. J. English School, Surat.

1.The temperature on surface of sun is about.....

(A) 600K (B) 6,000K (C) 60,000K (D) 500K

2.What series of Satellites is launched in space by india for country-wide classroom?

(A) INSAT series (B) IRS series (C) Rohini Series (D) None of these

3.Outer cover of which planet is made of white clouds of co_2?

(A) Venus (B) Mercury (C) Mars (D) Saturn

4.A heavenly body of large size that cannot burn completely & strikes the surface as a fire ball is known as.....

(A) meteors (B) ceres (C) meteorites (D)comets

5. Poles of mars are covered by.....

(A) Dry-ice (B) Water-ice (C) Nitrogen (D) Iron

6.Distance of Geostationary satellite from the earth's surface is .....Km.

(A) 43,000 (B) 37,956 (C) 35,786 (D) 23,123

Courtesy : Sir J. J. English School, Surat.

NATIONAL AND INTERNATIONAL LEVEL EXHIBITIONS AT SCIENCE CENTRE SURAT:

Science Center surat had organized Rangoli Exhibition at Art Gallery from 7-11-15 to 27-11-15. In this Exhibition 65 Rangoli Artists have made Rangoli. using different mediums and materials like karothi, solt, paper, cloth, zari, Diamond, etc. They have made beautiful Rangoli on different subjects like portrait, Natural scene, craft, 3D, Rangoli in glass tube etc..

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 Fun Science Exhibits and Second floor of Science Centre showcases Diamond Gallery where as Entering into space, Textile Gallery, Power of Play 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	09:15, 11:20, 12:00, 02:40, 04:00
Hindi	10:00, 10:40, 12:40, 01:20, 02:00, 03:20	10:00, 10:40, 12:40, 01:20, 02:00, 03:20, 04:40, 05:20, 06:00

		Planetarium			
Science Centre + Planetarium + Museum + Diamond Gallery		**Tuesday to Friday**		**Saturday, Sunday & Public Holidays**	
Above 18 Years	Rs. 100	09:30 to 10:20	English	09:30 to 10:20	English
3 Years to 18 Years	Rs. 65	10:30 to 11:20	Gujarati	10:30 to 11:20	Gujarati
Science Centre + Museum + Diamond Gallery		11:30 to 12:20	Gujarati	11:30 to 12:20	Gujarati
Above 18 Years	Rs. 60	12:30 to 01:20	English	12:30 to 01:20	English
3 Years to 18 Years	Rs. 40	01:30 to 02:20	Hindi	01:30 to 02:20	Hindi
Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show		02:30 to 03:20	hindi	02:30 to 03:20	hindi
Above 18 Years	Rs. 120	03:30 to 04:20	Gujarati	03:30 to 04:20	Gujarati
3 Years to 18 Years	Rs. 80			04:30 to 05:20	English
Planetarium				05:30 to 06:20	Gujarati
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				