SCIENCE CENTRE NEWS LETTER

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SCIENCE CENTRE

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WHAT'S NEW IN SCIENCE

Growing food in Space

Is it possible in the real world to produce food in space? The answer: it's not easy, but it can be done. NASA has been experimenting with growing food in space through its pioneer space farming project called veg-01. Recently, researchers from wageningen University in the Netherlands announced that the vegetable and cereals they spent two years growing in "martian" soil were found to be safe for human consumption. The all agreed that fresh and nutritious food would keep cosmonauts happy in space.

When humans venture farther from our blue marble, being able to grow our own food will become increasingly important. Presently, the ISS keeps enough food for six months, when resupply flights generally return. Given how costly it is to even send something into space, the system is far from ideal. And, of course, it simply won't work for manned missions. Therefore, self-sustainability is an important concept. There are health and psychological benefits to growing and harvesting your own food. The micro-agriculture provides astronauts with healthier and more fulfilling food, while the preparation of food can be therapeutic. If anyone needs these benefits, it's the people who may one day spend years cooped up in a tiny spaceship as they travel to unexplored places in our solar system.

Taste, according to astronauts, changes in space; or, at least until the body adjusts to space conditions. Astronaut Chris Hadfield, in 2013, explained that blood flow misdirection caused congestion and clogged sinuses that made food taste prosaic or essentially tasteless. So this was a much-needed development. So these, manned space flight will become more practical on both a technological and psychological level.

Courtesy : Joyous Primary/Secondary English School

SCIENTIST OF THE MONTH

Sir. Mokshagundam Visvesvaraya

Born on 15 September 1860, Sir Mokshagundam Visvesvaraya was a notable Indian engineer, scholar, statesman and the Diwan of Mysore during 1912 to 1918. He was a recipient of the Indian Republic's highest honour, the Bharat Ratna.Sir M.V. Practiced the panning model during his tenure as chief engineer and diwan of mysore during the first decade of 20th century.

Sir M V suggested India to be put under the industrialized nations as he believed that India can become developed Country through industries. Sir M V strongly believed in establishing an empirical relationship between industry and scientific research institutions. He gave the vision to start the Department of Metallurgy, Aeronautics, Internal Combustion Engines at the Indian Institute of Science. Since river beds were costly, he came with an efficient ways of filtering water through 'Collector Wells' in 1895 which was rarely seen anywhere in the world. He has the credit of inventing 'automatic sluice gates' and 'block irrigation system' which are still considered to be marvels in engineering.

There are lots more of hidden facts about sir M.V. waiting at the exhibition named "Sir Mokshagundam Visvesvaraya The legendary nation Builder" at Visversvaraya Industrial and Technological Museum here at Kasturba Road, Bangalore. Apart from being an engineer sir M V was statesman, a visionary and a nation builder. The first prime minister of the country pandit Jawaharlal Nehru who is considered to the architect of modern India borrow his ideas of planned economy from sir M V, who lead and active life for almost a century.

Courtesy : Joyous Primary/Secondary English School

SCIENCE FACTS SEPTEMBER 2016

5 Sep 1962	India's first Vice President Dr. Sarvapalli Radhakrishnan was born on this day. (" Teacher's Day ")
6 Sep 1766	John Dalton (Discoverer of Law of partial pressure & Thermal Expansion) was born on this day.
8 Sep	"International Literacy Day". (UNESCO)
10 Sep 1869	Reverend Jon Scobie invented First Autorickshaw in Japan
10 Sep 1892	Arthur Holly Compton (Inventor of Compton effect) was born on this day.
12 Sep 1992	Mae Jemison, first black woman who went into the Space.
14 Sep 1959	Russian first Spacecraft "Luna-2" reached at the surface the moon
15 Sep 1830	World's first inter city passenger railway started between Liverpool and Manchester.
15 Sep 1916	First Tank ever used in Combat by British Army, during battle of the "Somme".
16 Sep	"International Day for the preservation of the Ozone Layer". (U.N.)
21 Sep	"International Day of Peace"(U.N.).
22 Sep 1791	Michael Faraday (Discoverer of electromagnetic Induction) was born on this day.
23 Sep	Winter equinox: On this day, Day and night becomes equal on the earth.
27 Sep	"World Heart Day". (WHO)
28 Sep	"World Rabies Day". (WHO)
29 Sep 1901	Enrico Alberto Fermi (Noble Prize winner in physics for his work on "Induced Radioactivity) was born on this day.

U.N. United Nations

WHO : World Health Organization

Ans : 1)-C 2)- B 3)- C 4)-C 5)-A 6)- C

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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KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

Vibrating Rings

Press the Switch. the speaker cone on which the three are placed begins to vibrate with the set frequency. Adjust the frequency by turning the knob such that the largest ring vibrates vigorously while the others do not. This is the resonant frequency for the largest ring. Do the same for the other rings.

Each of the rings has a natural frequency of vibration depending on its shape and size. If you make one vibrate at its own natural frequency. It starts vibrating vigorously and is said to be in resonant vibration.

SCIENTIFIC QUESTION

When we cut onions, why do our eyes get wet ?

It is not the strong odour of the onion that makes us cry, but the gas that the onion releases when we cut this member of the lily family. The onion itself contains oil which contains sulphur, an irritant to both our noses and to our eyes. Cutting an onion arouses a gas contained within the onion. The gas is named propanethiol S-oxide which then couples with the enzymes in the onion to emit a passive sulphur compound. When this upwardly mobile gas encounters The water produced by the tear-ducts in our eyelids, it produces sulphuric acid. In response to the caustic acid, our eyes automatically blink and produce tears which irritate our eyes and which flush out the sulphuric acid. Another response to rid the eyes of a foreign substance is to rub them with the hands. This often worsens the situation because the hands are coated with the caustic, sulphuric acid producing oil from cutting the onion, which we, then, rub directly into our eyes.

So, How do you keep from tearing up? Use a sharp knife to cut the onion to reduce the amount of damage to the onion cells. Cool the onion in a refrigerator. Soak the onion in water to dissolve the amino acids (Cutting the onions in half or quarters before soaking them is even more effective). Wear swimming goggles while cutting the onion. Use a ventilator or fan to blow the sulfide away.

Courtesy : Joyous Primary/Secondary English School

SCIENCE QUIZ

1) How many times is the mass of neutron than that of electron?

(A) 1836 (B) 1863 (C) 1838 (D) 1883

2) What is the atomic weight of an atom of an element having 9 electron, 9 protons and 10 neutrons?

(A) 18 (B) 19 (C) 9 D) 28

3) In which direction is the rainbow observed during evening time?

(A) North (B) South (C) East (D) west

4) Which colour is exactly in the middle in the spectrum obtained by a prism?

(A) Red (B) Blue (C) Green (D) Violet

5) What is the absolute refractive Index of water?

(A) 4/3 (B) 3/4 (C) 1.5 (D)1

6) How many Microamperes make 1 ampre?

(A) 10^{-3} (B) 10^{3} (C) 10^{-6} (D)10^{6}

SCIENCE CENTRE

Flag Exhibition was exhibited at Science Centre Surat from 9th to 21st August, 2016. In this exhibition thorough information of history and evolution of Indian National flag, various National symbols were displayed through photographs. Replica of national flags from 11 countries along with information on various countries comprising National flag, map and various other facts such as capital, currency, language, population etc. were displayed, too.

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 showcases Diamond Gallery. Recently developed Power of Play Gallery is at first floor of Science Centre which will be opened soon for visitor, where as 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	
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

Planetarium

Tuesday to Friday		Saturday, Sunday & Public Holidays	
09:30 to 10:20	English	11:30 to 12:20	Gujarati
10:30 to 11:20	Gujarati	12:30 to 01:20	English
11:30 to 12:20	Gujarati	01:30 to 02:20	Hindi
12:30 to 01:20	English	02:30 to 03:20	Hindi
01:30 to 02:20	Hindi	03:30 to 04:20	Gujarati
02:30 to 03:20	Hindi	04:30 to 05:20	English
03:30 to 04:20	Gujarati	05:30 to 06:20	Gujarati