

SCIENCE CENTRE NEWS LETTER

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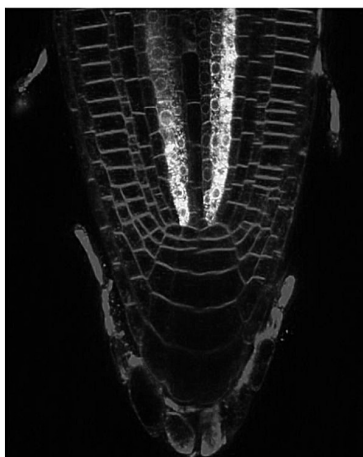
SCIENCE CENTRE

Volume 3, Issue 01

WHAT'S NEW IN SCIENCE

How plants form their sugar transport routes

In experiments on transport tissues in plants, researchers from Heidelberg University, Germany were able to identify factors of crucial importance for the formation of the plant tissue known as phloem. According to Prof. Dr Thomas Greb of the Centre for Organismal Studies (COS), these factors differ from all previously known factors that trigger the specification of cells. The findings of the Heidelberg researchers substantially expand our understanding of the metabolic processes in plants. Their results were published in the journal *Current Biology*.



These factors are the proteins SMXL3, SMXL4 and SMXL5. They act in the nuclei of cell that develop into phloem tissue and from there alter the calls to specialise in transport.

the researcher explains that the factors are similar to other involved in hormonal signal transmission but they do not react to these hormones. This unresponsiveness is crucial for building robust phloem tissue and therefore for the growth of the plant in general.

How plants react to their environment through the formation of bast could also be studied in greater detail.

"That gives us vital clues

about the evolution to plants" says Prof. Gerb.

Phloem, also called bast, is a vascular tissue that runs through all the organs of plants. It transports sugars formed in the leaves during photosynthesis.

Courtesy : Vidhya Bharati Hindi Vidyalaya, Bhatar, Surat .

SCIENTIST OF THE MONTH

Edward Jenner

Dr. Edward Jenner, the inventor of the smallpox vaccine was born on May 17, 1749 in Gloucestershire, England. His father was a vicar. where he turned out to be a good student especially interested in biology. He began studying to become a doctor. At 21, Jenner joined the St. George Hospital in London to undergo training under the great surgeon and anatomist Dr. John Hunter. Dr. John Hunter of the St. George Hospital was an inquisitive and restless soul. Encouraged by Hunter, Jenner Concentrated his research on cowpox. He examined 27 Patients suffering from this disease. He published his findings in 1796. He conducted a unique and bold experiment after convincing the parents, Jenner injected an eight-year-old boy Jimmy Fipps with lymph

from a cowpox vesicle. It made the healthy boy sick. He followed this with injection taken

from small pox pustules. The boy did not develop small-pox. The world honoured him and the parliament conferred 'Knighthood' on him. He was now Sir Edward Jenner. Oxford University bestowed on him an honorary degree. The Czar of Russia gifted him a gold ring and Napoleon congratulated him for his path-breaking discovery. Jenner spent his later life at his country house in Gloucestershire. His Vaccine has ensured a small pox-free

society. He died in January, 1823.



Courtesy : Vidhya Bharati Hindi Vidyalaya, Bhatar, 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 MAY 2017

1st May	International Worker's Day.
3rd May	World Press Freedom Day. (By U.N.)
3rd May	International Energy Day.
5th May 1961	"Freedom 7" the first piloted Mercury space craft launched by America.
8th May	World Red Cross Day.
11th May	National Technological Day.
11th May 1998	India conducted nuclear tests at the Pokhran range in Rajasthan Desert.
12th May	International Nurses Day
13th May 1857	Sir Ronald Ross (Inventor of medicine for Malaria) was born on this day.
14th May 1686	Daniel Gabriel Fahrenheit (inventor of Thermometer) was born on this day.
14th May 1796	Dr. Edward Jenner tested his hypothesis first time on a eight years old boy.
16th May 1831	David Edward Hughes (inventor of carbon microphone & teleprinter) was born on this day.
17th May	World AIDS Vaccine Day.
17th May 1749	Sir Edward Anthony Jenner (Inventor of smallpox vaccine) was born on this day.
18th May	International Museum Day.
19th May 1910	Halley's Comet brushes the Earth with its tail.
19th May 1971	Soviet Union had sent "Mars-2" for journey to Planet Mars which was crashed at Mars's Land.
24th May 1844	First telegraphic message was sent by well-known Scientist Samuel Morse.
30th May 1971	America launched space craft "Mariner 9" to Planet Mars.
31st May	World No Tobacco Day (by U.N.).

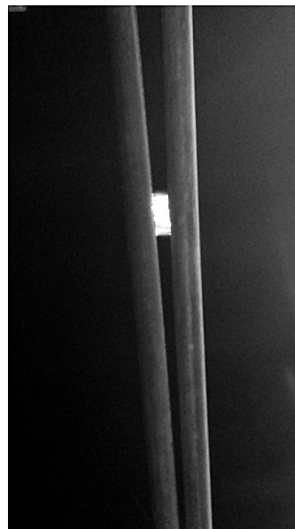
Quiz Answers: (1) B (2) D (3) B (4) B (5) C

KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

Rising Arc

Press the switch and observe how the electric arc moves up until it breaks at a point, The arc strikes the narrowest part of the gap where insulation of air is broken by applying 25000 volts across the two copper rods. The arc is forced up wards by a combination of heating of air and electro- magnetic effects. Thus the arc takes an increasingly longer path until applied voltage becomes insufficient to maintain the arc.

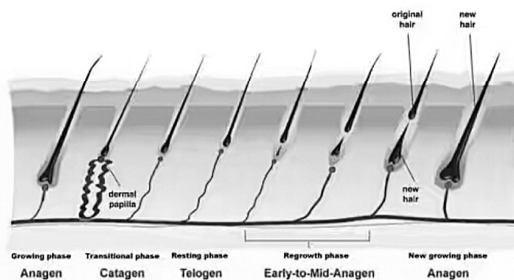
This phenomenon is observed in horn gap arresters used to provide temporary earthing to protect electrical equipment form transient High voltages.



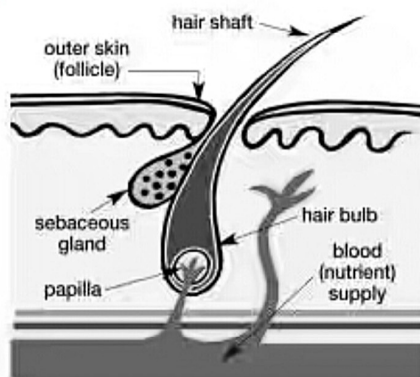
SCIENTIFIC QUESTION

How does Hair Grow?

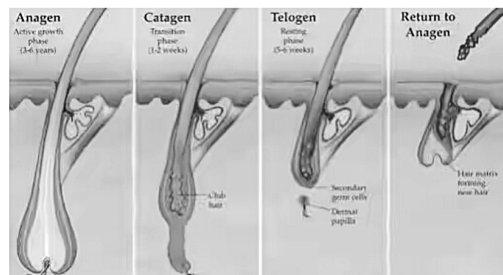
The hair originates from the horny layer of the skin. It develops, When a part of this skin goes down into the lower layer and strikes roots there. Then it shoots upwards through the layers of the skin and comes out as hair. In the roots of the hair there are four



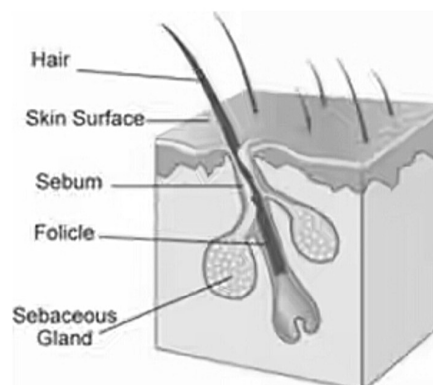
at night, then speeds up in the morning, again slows up till late afternoon and then grows faster again. The life span of hair varies according to sex. The hair on a man's head lives about three to five years, Where as on a woman's it has a life span of seven years. Our eyelashes live



lie on top of one another like shingles. Near the cells of the root there are big, round, fat cells from which come the materials to build the hair. Our hair grows at a rate of about 12 millimetres a month. But the growing speed is not the same at all times. Hair grows very slow



different layers of cells. They divided and multiply and push the shaft of the hair up through the skin. As they move farther away, the hair cells change into a horny material like that of our outer layer of skin. On the outside Surface of the hair the cell become flattened out and



only about six months. On an average, a fully grown up man has about 300,000 to 500,000 hair in his skin.

SCIENCE QUIZ

(1) The colours of stars depend on:

- (a) Distance (b) Temperature (c) Atmospheric Pressure (d) Pollutants of Air

(2) The instrument used to study the laws of vibrating string is:

- (a) Hydrometer (b) Electrometer (c) Hygrometer (d) Sonometer

(3) Which device is used to measure the wave length of X-rays?

- (a) Framing Square (b) Spectrometer (c) Manometer (d) Nennermeter

(4) The hydraulic press depends upon

- (a) Coulomb's Law (b) Pascal's Principle (c) Boyle's law (d) Bernoulli's Principle

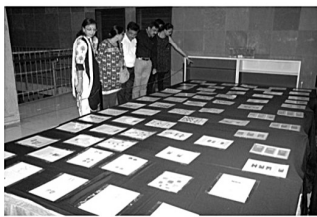
(5) The largest organ of human body is?

- (a) Brain (b) Heart (c) Skin (d) Liver

EXHIBITION & NIGHT SKY GAZING

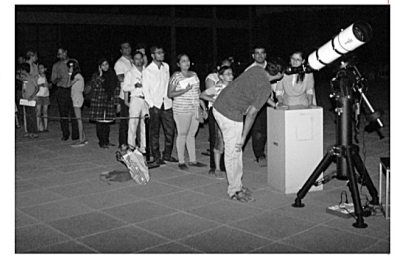
Coin Exhibition

Coin and Currency exhibition was opened to public at first floor of Sardar Vallabhbhai Museum in Science Centre from date 13th to 23rd April 2017. In this exhibition history related harrapen seals punch marked coins and Indian coin age was displayed coins of Mughal, Annas, Half Annas, 1 Paisa, 2 Paisa, 5 Paisa, 10 Paisa, 20 Paisa, 25 Paisa, 50 Paisa, 1 Rupee, were also displayed. A proof set of Indian



Coins was also displayed. Abroad Currency of Oman, Germany, U.S.A., U.K., France, etc. were also displayed as well as new and old currency notes of Rs. 500 and Rs.1000 were also displayed.

Surat Municipal Corporation has purchased Indias first Referector Telescope made by Sky watcher company. Science Centre Surat had organized Night Sky Observation on 8th and 9th April 2017. In this event more than 300 people observed planet Jupiter through this Telescope at science centre, surat.



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	Tuesday to Friday
3 Years to 18 Years	Rs. 40	Saturday, Sunday & Public Holidays
Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show		09:30 to 10:20 English
Above 18 Years	Rs. 120	10:30 to 11:20 Gujarati
3 Years to 18 Years	Rs. 80	11:30 to 12:20 Gujarati
Planetarium		12:30 to 01:20 English
Above 18 Years	Rs. 50	01:30 to 02:20 Gujarati
3 Years to 18 Years	Rs. 40	12:30 to 01:20 English
3D Show		01:30 to 02:20 Hindi
Above 18 Years	Rs. 60	02:30 to 03:20 Hindi
3 Years to 18 Years	Rs. 40	03:30 to 04:20 Gujarati
		02:30 to 03:20 Hindi
		03:30 to 04:20 Gujarati
		04:30 to 05:20 English
		05:30 to 06:20 Gujarati