

SCIENCE CENTRE NEWS LETTER

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SCIENCE CENTRE

Volume 04, Issue 07

WHAT'S NEW IN SCIENCE

Three new species of fish discovered in the extreme depths of the Pacific Ocean

An exploration to one of the deepest places on earth has captured rare footage of what is believed to be three new species of the elusive Snailfish. Involving a team of 40 scientists from 17 different nations, including Dr Alan Jamieson and Dr Thomas Linley from Newcastle University, UK, the expedition to the Atacama Trench has uncovered a wealth of information about life in one of the deepest places on earth. Among the new discoveries are what the team believe to be three new species of snailfish. Temporarily named 'the pink, the blue and the purple 'Atacama Snailfish', the footage shows the fish feeding and interacting in their secret world 7,500 metres below the surface. These fish are part of the Liparidae family and do not conform to the preconceived stereotypical image of what a deep-sea fish should look like. Instead of giant teeth and a menacing frame, the fishes that roam in the deepest parts of the ocean are small, translucent, bereft of scales and highly adept at living where few other organisms can live or reside. Dr. Thomas Linley, from Newcastle



University, said "There is something about the snailfish that allows them to adapt to living very deep. Beyond the reach of other fish they are free of competitors and predators. "As the footage clearly shows, there are lots of invertebrate prey down there and the snailfish are the top predator, they seem to be quite active and look very well-fed. "Their gelatinous structure means they are perfectly adapted to living at extreme pressure and in fact the hardest structures in their bodies are the bones in their inner ear which give them balance and their teeth. Without the extreme pressure and cold to support their bodies they are extremely fragile and melt rapidly when brought to the surface.

"Amazingly, the team did manage to catch one the new species of snailfish which followed its amphipod prey into one of the traps. The single specimen was in very good condition and, following careful preservation, is currently being described by the Newcastle team with the help of colleagues from the United States and the Natural History Museum, London.

Courtesy : Joyous English School

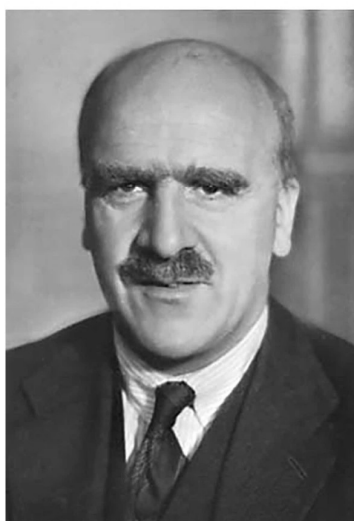
SCIENTIST OF THE MONTH

John Burdon Sanderson Haldane

John Burdon Sanderson Haldane was born on November 5, 1892 at Oxford, England. His father's name was John Scott Haldane. He did his post graduation from the Oxford University and got degree from the University of Paris. In the year 1960, Professor Haldane became an Indian citizen and devoted himself to the development of science in India. His work in the field of Genetics and Bio-chemistry is extremely valuable. He made an estimate of the rate of mutation of a human gene.

His calculation showed that the Darwin's

theory of evolution is correct. Some of his discoveries in Bio-chemistry have already become laws of enzyme chemistry. Such was his dedication to the cause of science that he conducted many experiments upon his own body to rest the effect of the chemical on the body under different conditions. Professor Haldane was conferred the Russel Prize in the year 1908 and the Legion of Honour in 1937.



Courtesy : Joyous English School



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 NOVEMBER 2018

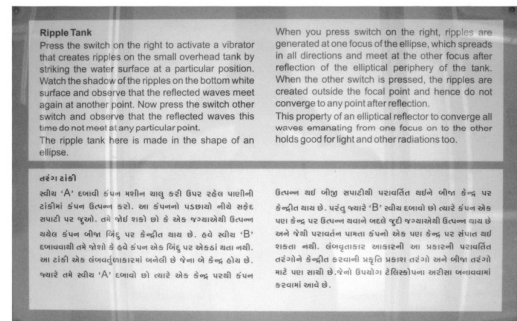
Aviation Month, Good Nutrition Month, National Diabetes Awareness Month

3 rd Nov 1957	Soviet Union launched an artificial Earth Satellite "Sputnik-2" which was the first satellite to carry a living organism i.e. A dog named 'Laika -1'.
3 rd Nov 1960	America launched "Explorer 8" satellite into the space to discover atmospheric Composition of the Ionosphere.
5 th Nov 1855	French Meteorologist Leon Teisserenc de Bort (Discoverer of Stratosphere) was born.
6 th November	International Day for preventing the Exploitation of the Environment in war and Armed conflict. (Recognised by U.N.)
7 th Nov 1867	French Scientist Mary Curie (Discoverer of Radium) was born.
7 th Nov 1888	Indian Famous Scientist Chandrashekhara Raman (Discoverer of Raman Effect) was born.
8 th Nov 1922	South African Surgeon Christian Bernard (Who made first successful Heart Transplant) was born.
9 th Nov 1801	Gail Borden (Father of Modern Dairy Industry) was born.
9 th Nov 1897	British Chemist Ronald G.W. (Inventor of Flash Photolysis Methodology) was born.
10 th November	World Science Day for Peace & Development (by UNESCO)
12 th Nov 1896	Dr. Salim Ali (Internationally honoured Indian Ornithologist known as "Birdman of India") was born.
13 th Nov 1893	American Bio-chemist Adverd A Doicy (Inventor of process to make Vitamin K1) was born.
14 th November	World Diabetes Day [by WHO]
14 th Nov 1776	Henri Dutrochet (discoverer of process of Osmosis) was born on this day
14 th Nov 1863	Belgian Chemist Leo Baekeland (Inventor of Bakelite) was born.
18 th Nov 1897	British Physicist Petrik M.S.Bleckett (Discoverer of Nuclear Reaction) was born.
19 th Nov 1997	Kalpna Chawala's (First Woman Astronaut of Indian Origin) first flight in space.
19 th Nov 1912	Cell Biologist George E Palade (Discoverer of Ribosomen) was born.
20 th November	Universal Children's Day. (by U.N.)
21 th November	World Television Day. (by U.N.)
29 th Nov 1803	Austrian Physicist Christian Doppler (Discoverer of Doppler effect Radar) was born.
30 th Nov 1858	Sir Jagdishchandra Bhagwanchandra Bose (Great Indian Scientist and Botanist) was born.
30 th Nov 1917	Sir Jagdishchandra Bose started "Bose Research Institute" for research on Plants and Animals at Calcutta.
<p>U. N. : United Nations WHO : World Health Organization UNESCO : United Nations Educational Scientific & Cultural Organization</p>	

KNOW THE EXHIBIT AT FUN SCIENCE GALLERY

Ripple Tank

Press the switch 'A' on the right to activate a vibrator that creates ripple on the small overhead tank by striking the water surface at a Particular position. Watch the shadow of the ripples on the bottom white surface and observe that the reflected waves meet again at another point. Now press the switch 'B' and observe that the reflected waves this time not meet at any particular point. The ripple tank here is made in the shape of an ellipse. When you press switch 'A' on the right, ripples are generated at one focus of the ellipse, which spreads in all directions and meet at the other focus after reflection of the elliptical periphery of the tank. When the switch 'B' is pressed the ripples are created outside the focal point and hence do not converge to any point after reflection. This property of an elliptical reflector to converge all waves emanating from one focus on to the other holds good for light and other radiations too.



SCIENTIFIC QUESTION

Why Is the Sky Blue?

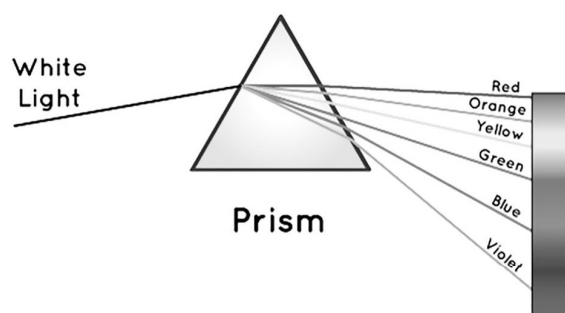
The sky looks blue but really it is made up of all the colours of the rainbow. Each of these colours has a different wavelength. Some of these are smoother while others are choppy. Blue light waves travel in short, choppy waves. Like each of the other colours, blue light waves are scattered and reflected as they enter Earth's atmosphere and collide with gases and other particles. Because the colour blue has the shortest wavelength, it collides with nearly everything in its path and is scattered about the sky. This is why the sky appears blue.

Nitrogen, which makes up 78 percent of Earth's atmosphere, is the gas that blue light mostly collides and reflects off of as it makes its way toward Earth. If not for nitrogen and the short wavelength of the colour blue, the sky might be a different colour.

(A) What Is the True Colour of the Sky?

The sky has no true colour. While

most of the time it is blue, sometimes it is not. It can often be pale blue, gray, or even white. The reason for this is pollution. Below is a table listing the different colours the sky the cause of its changed colour.



(B) Colour of the sky and its Causes as following:-

Deep blue sky:- This colour means the sky is very clean. This often occurs when a cold front brings clean air from the north, or when clean air from the ocean moves onto land.

Medium blue sky:- This colour means there is lots of water vapor in

the sky. It can also suggest the presence of sulfur from coal-burning operations. Lastly, it may be caused by the chemical emissions of plants and trees, such as those found in The Smokey Mountains of North Carolina and Tennessee.

Pale or milky-white sky:-

This colour indicates considerable air pollution from coal-burning power plants or chemical power plants. This condition often occurs in the summer when the air is still. There are also natural causes, such as volcanic activity or ocean plankton.

Gray or dark gray:-

Smoke from forest fires or agricultural burns can cause the sky to appear this colour.

Brown or brownish orange :-

Emissions from cars and trucks can cause a layer of this colour to form over the horizon. The main component of this kind of pollution is nitrogen dioxide.

Courtesy : Joyous English School

Science Project

Surat Municipal Corporation had organized 'Science Fair' at ground floor, Art Gallery, Science Centre, Surat on 03rd and 04th August 2018. Acharya Pralhad Keshav Atre Prathamik School no. 260 had presented their project on 'Bio Plastic'. Bioplastic is a good alternative to plastic used in everyday life, which can minimize the waste of the plastic in the world. Bio plastic can be made from vegetable oil, Corn Flour etc. Bio plastic is biodegradable. Bio plastic is example of green chemistry where as simple plastic is made up of petroleum product which increase the green house gases.

Aim:- 1. To aware the society about the damage of environment through the plastic which we use in our daily life.

2. Encourage the people about the use of bio plastic as an alternative of traditional plastic.

Principle:- Starch is a natural polymer and by Water Split of amilopectin of starch, we can make a good quality natural plastic. Corn flour, which is the source of starch, water, vinegar and Glycerin is the required materials of this project. Corn flour has a natural polymer starch. starch has amiloze and amilopectin. Amiloze has a easy chain structure polymer. If there is more quantity, then a good quality plastic is available. Amilopectin has a subchain structure polymer. if there is more quantity, then a brittle plastic is available. Vinegar break some sub chain of amilopectin by water splitting and give strong plastic. Glycerin works as a lubricant.

Application:- For Packing, for making of tools used in home, for making heat resistant.



Gandhi Exhibition

Surat Municipal Corporation had organized exhibition about Mahatma Gandhi's life on the occasion of 'Gandhi Jayanti' at first floor of Sardar Vallabhbhai Patel Museum at Science Centre from 30 September to 10 October, 2108. This exhibition consists of the replica of the things which Gandhi used in their daily life, illustrated literature and books on life Gandhi and replica of the pictures which Gandhi visited during the freedom agitation by Shri Rathin Mitra



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		
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