



# THE TIMES OF INDIA

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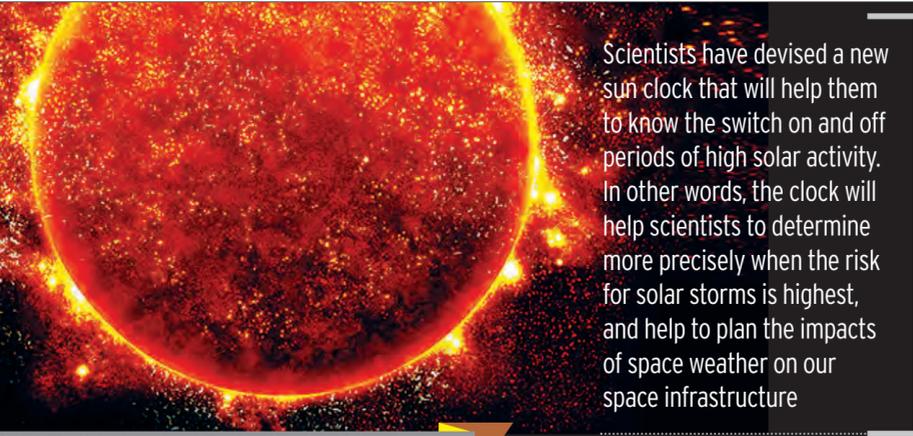
STUDENT EDITION

WEDNESDAY, JUNE 24, 2020



WEB EDITION

## A 'SUN CLOCK' to predict when the sun will WAKE from its SLEEP



Scientists have devised a new sun clock that will help them to know the switch on and off periods of high solar activity. In other words, the clock will help scientists to determine more precisely when the risk for solar storms is highest, and help to plan the impacts of space weather on our space infrastructure

### How it works

The sun clock uses the daily sunspot number record available since 1818 to map solar activity—over 18 solar cycles to a standardised 11 year cycle or 'clock.' No two solar cycles are the same, but using a mathematical technique, known as the Hilbert transform, the researchers were able to standardise the solar activity cycle for the first time. The clock revealed that the transitions between quiet and active periods in solar activity are sharp. Once the clock is constructed from sunspot observations, it can be used for observations of solar activity and space weather.

### ALL ABOUT SUN AND ITS CYCLE

#### What is a solar cycle?

Our sun, which is a huge ball of electrically-charged hot gas, generates a powerful magnetic field and goes through a cycle. This cycle is called the solar cycle.

#### What is the time period of this cycle?

This cycle lasts 11 years on an average. Every 11 years or so, the sun's magnetic field completely flips. This means that the sun's north and south poles switch places. Then it takes about another 11 years for the

sun's north and south poles to flip back again.

#### What are sunspots?

Sunspots are dark, cooler areas on the sun's surface. They are more prominent halfway through the 11-year cycle.

#### How can solar cycles be tracked?

- One way to track the solar cycle is by counting the number of sunspots. The beginning of a solar cycle is a solar minimum, or when the sun has the least sunspots. Over time, solar activity and the number of sunspots increases.
- The middle of the solar cycle is the solar maximum, or when the sun has the most sunspots. As the cycle ends, it fades back to the solar minimum, and then a new cycle begins.

### WHY SUN CLOCK IS IMPORTANT

The sun clock will help in predicting when the solar activity is set to increase, which in turn could potentially protect astronauts in the orbit. It will also help in preventing technologies like satellites, computers, power grid and aviation technology from being destroyed.



Extreme space weather or solar storms occur when the sun shoots out boiling-hot plasma in the form of solar flares and winds. Although most solar storms are usually harmless, a large one hitting the Earth could have catastrophic effects



### INDIA'S FIRST COVID-19 DRUG FABIFLU LAUNCHED

Genmark Pharmaceuticals has launched an antiviral drug Favipiravir for treatment of mild-to-moderate Covid-19 cases, after it received the Indian drug regulator's approval.

#### BREAKTHROUGH

It will be available under the brand name FabiFlu as a prescription-based medication for ₹ 103 per tablet, with a recommended dose of 1,800 mg twice a day on day 1 and 800 mg twice a day up to 14th day, according to the Mumbai-headquartered global pharmaceutical company. Favipiravir could be used for Covid-19 patients with comorbid conditions, like diabetes and heart disease, the company said. It would offer rapid reduction in viral load within four days, and faster symptomatic and radiological improvement, the company added.



### NEWS IN BRIEF

#### ITALY COVERS GLACIER WITH GIANT WHITE SHEETS TO SLOW MELTING



A team of researchers in Italy has begun the process of laying vast tarpaulin sheets to cover over 100,000 sq metres of the Presena glacier in Northern Italy to prevent it from melting due to global warming. According to reports, the six-week

process is repeated every year once the ski season is over and summer begins in full force. The coverings are geotextile tarpaulins that reflect sunlight, maintaining a temperature lower than the external one, and thus preserving as much snow as possible.

### SCIENTISTS MAP SUBMERGED CONTINENT OF ZEALANDIA FOR THE 1ST TIME

In a first, scientists have launched interactive maps of Zealandia, a continent which is 94 per cent submerged underwater. Located in the south of the Pacific Ocean, the maps show the bathymetry—the study of underwater depth of ocean floors, and the tectonic origin of the continent. It covers about 5 million square kilometres areas, where New Zealand and some island territories of the South Pacific, such as New Caledonia, is located.

According to previous researches, the continent of Zealandia was formed after breaking away from the former super-continent of Gondwana, 85 million years ago during the dinosaur era. During this process of separation, which ended with the near-total collapse of Zealandia, some of the deepest pits on the ocean floor were formed. The continent's geology, consisting of granite, sedimentary and volcanic rocks, shows similarities to Oceania and Antarctica. In 2017, after years of debate, it was concluded that Zealandia is an almost entirely submerged continent rather than a micro-continent or a continental fragment, as it was previously considered to be

### ONLINE ORCHID COMPETITION TO CREATE AWARENESS FOR A CAUSE

At a time when the country is fighting the Covid-19 pandemic, the Orchid Society of Assam (OSA) is geared up for a different battle—to create awareness and stop illegal trading of the exotic plants through a national level online competition, following the cancellation of the state's first ever orchid festival in April, due to the pandemic.

To participate in the competition, just click a selfie with the orchids and upload it on the official Facebook page, Orchidophiles, with address details. The top three winners will get an award of ₹ 10,000, ₹ 7,000 and ₹ 5,000, respectively. A five-member jury will announce the top three winners on July 5. The last date to upload the entries is June 30.

### YEMEN GUY BUILDS TALLEST 'EGG TOWER'

A 20-year-old man from Yemen has just broken the world record for building the tallest stack of eggs ever, and getting it to stay for at least five seconds. Mohammad Muqbel, a resident of Kuala Lumpur in Malaysia, built a stack of three eggs that were stacked neatly, one on top of the other. According to The Khaleej Times, the feat was acknowledged at the Guinness World Records (GWR), which said that the tower was indeed the "largest stack of eggs" ever made.

According to GWR rules, the eggs had to be fresh hens' eggs and no additional material, such as

#### IN THE RECORD BOOK

adhesive or strings could be used to balance the eggs. The video went viral on social media, with many complimenting the boy's skills and patience

### RATAN TATA URGES ONLINE COMMUNITY TO PUT A PAUSE ON HATE, BULLYING

2020 has been a year full of challenges and ups and downs. With the Covid-19 pandemic wreaking havoc on the economy—lay-offs and pay cuts becoming the order of the day, industrialist and philanthropist Ratan Tata, recently took to Instagram, urging people to support one another instead of being hurtful.

#### CELEB TALK



This year has been full of challenges for everyone on some level or the other. I see online community being hurtful to each other, bringing each other down, harshly, and with quick judgements. I believe this year, specially, calls for all of us to be unified and helpful. It is not the time to pull each other down  
RATAN TATA, Chairman Emeritus, Tata group

### WORD WATCH

**CRUX** - Means a puzzling or difficult problem; an unsolved question; an essential point requiring resolution or resolving an outcome; a main or central feature (as of an argument). In Latin, crux referred literally to an instrument of torture, often a cross or stake, and figuratively to the torture and misery inflicted by means of such an instrument.

### I RECOMMEND

Check out Penguinsters on Facebook and Instagram



Penguin Random House India has launched a social media page on Facebook and Instagram called Penguinsters, especially for young readers, teenagers, parents, teachers and book lovers. This platform will give readers an opportunity to explore some of the greatest books and writers, access to resources that will shape their minds and host exciting and fun content about books published by the three imprints of the children's division: Puffin, Penguin and Duckbill Books.

### BOOK REVIEW

THE STORY OF SCIENCE by Joy Hakim

A three-book series, 'The Story of Science', follows the evolution of scientific thought. The author takes us on a journey through time, following the lives of some of the greatest scientists in the world, who awakened the world with their curiosity, research, experiments and discoveries. The book is especially a joy to read, as the author explains concepts through wonderful pictures of original experiments and notes.  
RACHNA AMMUNJE NAYAK, class X, Innisfree House School, Bangalore



### VIEWPOINT

## Include yoga as part of online programmes: Vice President

Vice President M Venkaiah Naidu has urged educational institutions to include yoga as part of online learning programmes that are being conducted in the wake of the Covid-19 pandemic to improve immunity. Addressing a digital yoga session organised by SPIC MACAY on Yoga Day, the VP said, children must be introduced to the ancient Indian technique at a young age.

### WHY YOGA

- Observing that the 5,000-year-old tradition is not a mere workout, Naidu said, "It is a science that emphasises balance, poise, grace, equanimity, peace and harmony".
- Various components of yoga, such as postures, breathing exercises and meditation techniques together help in bringing about a positive transformation in the human body and mind in innumerable ways, he said.
- Yoga as a mode of therapy or Yog Chikitsa has become extremely popular. He said that a large number of studies offer scientific evidence for its potential to treat a number of diseases.
- Yoga can be an effective solution for the high level of stress that the pandemic has created in our lives, he added.

Share your views at timesnie175@gmail.com/toinie175@gmail.com

## Apple WWDC 2020 begins: iOS 14, iPadOS 14 and watchOS 7 come with next-gen features

On the first day of the four-day event on Monday, the iPhone-maker introduced a host of software updates to the Apple ecosystem – iOS 14, iPadOS 14 and WatchOS7, MacOS and tvOS

**IOS 14:** The next version will release later this year. The home screen will come with widgets. After installing iOS 14, users can pin or drag the widgets like a calendar and maps on the home screen. Apple users can also create a Smart Stack of widgets, which will use on-device intelligence to surface the right widget based on time, location, and activity.

**IPADOS 14:** Apple previewed the all-new iPadOS 14 with a new compact design for incoming FaceTime and phone calls, Siri interactions, and Search to help users stay focused on the on the task at hand.

**WATCHOS7:** The new watchOS7 will deliver enhanced customisation tools and powerful new health and fitness features to Apple Watch. The smartwatch will come with new watch face configurations and health features, like sleep tracking, automatic handwashing detection, additional workout types, including dance, and a new hearing health feature.

