



THE TIMES OF INDIA

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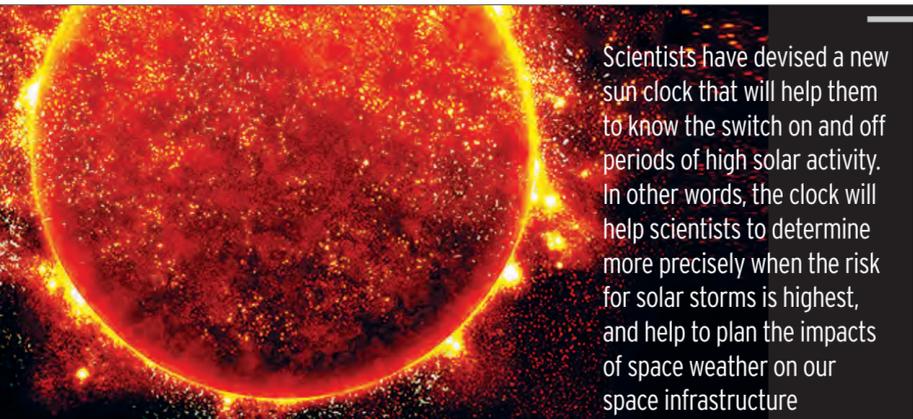
STUDENT EDITION

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

CLICK HERE FOR MORE

ITALY COVERS GLACIER WITH GIANT WHITE SHEETS TO SLOW MELTING



ENVIRONMENT

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.

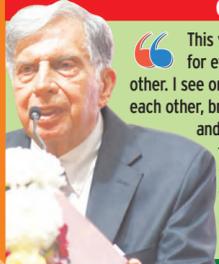
➤ The continent's geology, consisting of granite, sedimentary and volcanic rocks, shows similarities to Oceania and Antarctica.

➤ 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

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

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

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.

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.



Disney released 'Artemis Fowl', a film based on author Eoin Colfer's book series by the same name that opened up a magical world of fairies, dwarves, and centaurs. Times NIE readers offer a review of the film; and why you must read the books

Has Disney failed Artemis Fowl?

MOVIE VERDICT: Lost the plot

The film version has slaughtered the uniqueness of the book series and turned it into a good guy-bad guy cliché. They have placed characters and plot lines from different Artemis Fowl books in one place. The film has acquired lowest rating out of all Disney+ independent films released, with Rotten Tomatoes giving it 9 per cent. **What didn't work for me?** The knowledge of fairies was unknown to the movie-Artemis who found this information after his dad's disappearance; unlike book-Artemis who knew about the fairies and was

determined to crack their mystery.

ANUSHKA DETHA, XI, Jayshree Perival Global School, Jagatpura, Jaipur

The Artemis Fowl books portrayed humans as creatures whose basic desire was selfishness. The appeal of the character was that he was motivated by selfish desires but slowly redeemed himself. The movie, on the other hand, focuses on

friendship. Besides this, the carefully sculpted universe that Eoin Colfer spent years creating is lost in the film. Each page of the books have a secret sentence in code

which when deciphered all together reveal a short story. **AARON MUKHOPADHYAY, class XII, NPS Koramangala, Bengaluru**

CONTEST:

We have a task for you Fowl fans out there. Watch the first episode, then answer the following question:

Q: Name five ways in which Film-Artemis is different from Book-Artemis.

The best answers will be printed here. Word limit: 100 words. Email at timesnie175@gmail.com

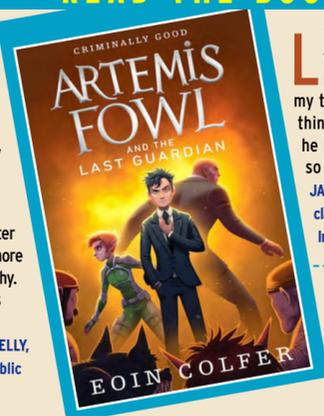
TRIVIA TIME

- The film has been in development since 2001. Eoin Colfer has jokingly stated that the movie would be finished two years after he died.
- Colin Farrell's involvement in the film wasn't announced until March 2020 - nearly a year and a half after the teaser trailer.
- Artemis Fowl author Eoin Colfer has a cameo in the film. Colfer shot his cameo in one day. "The only direction they gave was: Walk across the field and don't look at the camera. I have a new respect for actors," he said.

READ THE BOOK FIRST, SAY FANS

The story of a 12-year-old who ran his father's crime empire... what more do you want? At first, Artemis seems to be cold and ruthless. However, throughout the series his character changes, becoming more honest and trustworthy. This alone makes this series a lovely read.

MATHEW KARTHIK SHELLEY, class X, Gregorian Public School, Ernakulam



Like Artemis, I too got into the habit of rubbing my temples when thinking because he made it look so 'cool'!

JATIN YASHROY, class XI, Singapore International School

It's the complete package - sci-fi, action, comedy, fantasy, adventure and a plethora of interesting new words that will add to your vocabulary.

BHAVYA GULATI, class XII, Bhavan Vidyalaya, Panchkula

Artemis is an evil genius. But don't judge. This book is not just about a criminal mastermind but also an arrogant twelve-year-old who changes.

CHARUMATHI M, class XII, SBOA Mat. Hr. Sec. School, Chennai

Besides portraying the protagonist as a tween criminal genius, we meet interesting characters like Captain Holly Short, the fierce fairy and Butler, the bodyguard. Colfer's fairies have highly advanced technology that augments their magic. The science behind it is logical.

MANJISTHA MAURYA, Class XII, La Martiniere Girls' College

Books (NYT Bestseller Lists)

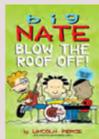
THE ONE AND ONLY BOB

by Katherine Applegate
In this sequel, Bob sets out on a dangerous journey in search of his long-lost sister. (Ages 8 +)



BIG NATE

by Lincoln Peirce
Where Nate goes, trouble is sure to follow. (Ages 8 to 12)



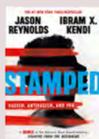
LITTLE DREAMERS

by Vashti Harris
The inspirational true stories of 40 women creators. (Ages 8 to 12)



STAMPED

by Jason Reynolds and Ibram X. Kendi
An exploration of racism and anti-racism in America. (Ages 13 to 17)



STAR WARS: QUEEN'S PERIL

by E.K. Johnston
Newly elected Queen Amidala prepares for a peaceful transition of power. (Ages 13 to 18)



THE BETROTHED

by Kiera Cass
Lady Hollis Brite and King Jameson are set to be married, but will a commoner steal Hollis' heart? (Ages 13 to 17)



Phrases from Greek Mythology

Harp on

MEANING: Dwell tediously on the same subject

ORIGIN: In Greek mythology, harpies were birds with the heads of women who were winged spirits known for stealing Phineus' food. Harpy means that which snatches.

Example: Her daughter kept harping on about buying that toy but she did not budge.

Beware of Greeks bearing gifts

MEANING: Do not trust enemies who bring you presents - they could very well be playing a trick.

ORIGIN: This phrase originates from the story of the wooden Trojan horse, which was a gift by the Greeks to the Trojans in the story of the Aeneid. The Trojans thought that the horse



was a gift given as a peace offering to end a war. However, the Greeks hid soldiers inside the horse.
Example: A: "I can't believe the opposing team made us cupcakes before the big game!"
B: "Yeah, I'd beware of Greeks bearing gifts if I were you."

the future ruler of Asia. Alexander the Great allegedly cut the Gordian knot in one blow.

Example: Mark has tamed the mad elephant. I have no idea how he did it, but he sure cut the Gordian knot.

Exercise: Can you think of more phrases from Greek mythology? Mail at timesnie175@gmail.com

Cut the Gordian knot

MEANING: To solve a difficult problem in a very direct way by doing something forceful or extreme

ORIGIN: The phrase alludes to Gordius, the king of Phrygia, who tied a knot that an oracle proclaimed would only be cut by

Achilles' heel

MEANING: A weakness or vulnerable point

ORIGIN: The legend of Achilles has it that he was dipped into the river Styx by his mother in order to make him immortal. His heel wasn't covered by the water and he was later killed by an arrow wound to his heel.
Example: Though he was a good person, his short temper was his Achilles heel.

Quiz time

CURRENT AFFAIRS

Q.1) Where is the US Pentagon located?

- A. New York City B. Texas
C. Las Vegas D. Washington

Q.2) Who has been elected as the new President of Tunisia?

- A. Nabil Karoui B. Beji Caid
C. Abidine Ben Ali D. Kais Saied

Q.3) The 2019 World Artistic Gymnastics Championships

was organised in which country?

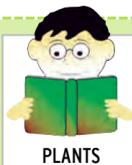
- A. Spain B. Germany
C. Japan D. Canada

Q.4) Who has been named as the ambassadors for 'Bharat Ki Laxmi' by PM Modi?

- A. P. V. Sindhu B. Deepika Padukone
C. Geeta Phogat D. Both A and B

ANSWERS

1. D) Washington 2. D) Kais Saied 3. B) Germany 4. D) Both A and B



PLANTS

KNOWLEDGE BANK

Queen Sago

Queen Sago or Cycas Circinalis, is a species of cycad found in southern India and Sri Lanka. It resembles a palm with its feather-like leaves arranged in a rosette that crowns a single trunk. The solitary trunk can grow up to 20 ft high. The dark green pinnate leaves with narrow foot long leaflets are used for decoration. The female plants produce large orange seeds in a cone-like structure located in the centre of the rosette of leaves. Queen sago is endemic to Western Ghats. The seeds-considered poisonous-are used as food after cleaning, drying and powdering.



GARDENING

Easy-to-grow veggies in your kitchen garden

Have you been thinking of growing some vegetables in your backyard or kitchen garden but don't know how to go about it? There is a whole list of vegetables you can easily grow at home - without a gardener's help. Check this list and get going.



Cucumber:

If your garden gets a lot of sunlight, cucumber is your best bet. This vegetable needs a lot of sun and it doesn't even take too much space as it grows vertically.



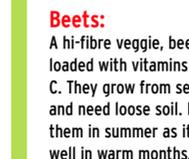
Bell peppers:

This grows well in warm temperatures and a well-drained soil that is rich in organic matter. Bell pepper tastes great in salads, curries, pasta etc.



Lettuce:

This one is a very fast-growing vegetable that can tolerate shade and moderate temperatures too. It is ideal for small garden spaces.



Beets:

A hi-fibre veggie, beets are loaded with vitamins A and C. They grow from seeds and need loose soil. Plant them in summer as it grows well in warm months.

LOCKDOWN DIY

MAKE ORGANIC DEODORANT IN 5 STEPS

Now that you have more time due to partial or complete lockdown (depending on your area and city), try your hand at something you haven't done before like making an organic zero waste deodorant. Here's the DIY recipe:



INGREDIENTS: > 3 tablespoons arrowroot powder > 1 tablespoon shea butter > 1 teaspoon coconut oil > 1/2 teaspoon baking soda > 10-15 drops essential oil of your choice

HOW TO MAKE: 1. Take a microwave-safe bowl and put 1 tablespoon shea butter and 1 teaspoon coconut oil. 2. Microwave it for 40 seconds until both are liquid. 3. Add 3 tablespoons of arrowroot powder to the mixture with 1/2 teaspoon baking soda. Mix all the ingredients ensuring there are no lumps. 4. Add 10-15 drops of any essential oil. Mix everything and transfer to an airtight container. 5. Freeze the container for 3-4 hours so that you get a creamy and textured deodorant that's easy to apply. Enjoy the chemical-free freshness. TNN



CURRICULUM EXERCISES

Q1. How do you define momentum?

Q2. Fill in the blanks:

- A. The friction experienced by a body, when in motion, is known as ____.**
B. The velocity ratio in case of an inclined plane inclined at angle θ to the horizontal and weight being pulled up the inclined plane by vertical effort is ____.

Q3. Identify the following monument.



Answer: (1) It is the quantity of motion of a moving body, measured as a product of its mass and velocity. (2) A) dynamic friction B) $\sin \theta$ (3) Topkapi Palace Museum