



THE TIMES OF INDIA

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TODAY'S EDITION

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STUDENT EDITION
WEDNESDAY, OCTOBER 20, 2021



Apple launches M1 Pro, M1 Max chips



Apple has unveiled its two latest computer-focused ARM-based Systems-On-a-Chip (SOCs), the M1 Pro and M1 Max. According to the firm, the GPU in M1 Pro is up to 2x faster than M1, while M1 Max is up to an astonishing 4x faster than M1, allowing pro users to fly through the most demanding graphics workflows.

- 1 The M1 Pro and M1 Max introduce a system-on-a-chip (SoC) architecture to pro systems for the first time.
- 2 The M1 Pro has an up-to-16-core GPU that is up to 2x faster than M1 and up to 7x faster than the integrated graphics on the latest 8-core PC laptop chip.
- 3 It offers up to 200GB/s of memory bandwidth with support for up to 32GB of unified memory.

CLICK HERE: PAGE 1 AND 2

CBSE releases date sheet for X, XII term-1 exams



The first term Board exams for class X will begin from **November 30**, while the exams for class XII is scheduled from **December 1**, the Central Board of Secondary Education (CBSE) announced on Monday. The exams for minor subjects for classes X and XII will begin from November 17 and November 16, respectively.

Bifurcating the academic session, holding two term-end exams and rationalising the syllabus were part of the special assessment scheme for class X and XII CBSE Board exams for 2021-22, which were announced in July in view of the Covid-19 pandemic. The CBSE had last week said that the first-term Board examinations for classes X and XII will be conducted offline in November-December

- The CBSE is offering 114 subjects in class XII and 75 subjects in class X. Out of these, 19 are major subjects in class XII and nine in class X
- For class X, the first exam for major subjects is scheduled on **November 30** (social science) followed by science on December 2, home science on December 3, mathematics standard and mathematics basic on December 4, computer application on December 8, Hindi courses A and B on December 9 and English on December 11

Fly more, pollute less



The great aviation conundrum

The aviation sector is facing a great dilemma: How can it fulfil its ambition of doubling passenger numbers while meeting its goal of reducing its massive greenhouse gas emissions? Slashing pollution from the industry is among the major challenges facing the world, as leaders meet later this month for a key climate summit in Britain.

HOW BAD IS IT

- Airlines transported 4.5 billion passengers in 2019, belching out in the process 900 million tons of CO2, equivalent to two per cent of total global emissions
- Passenger numbers are projected to double by 2050, meaning a parallel doubling of CO2 if no action is taken

WHAT ARE THE PLEDGES?

- 1 The International Air Transport Association (IATA) committed itself earlier this month to zero net emissions of CO2 by 2050, after having previously targeted a cut of just 50 per cent
- 2 A group representing European airlines, airports and aerospace companies has made a similar commitment

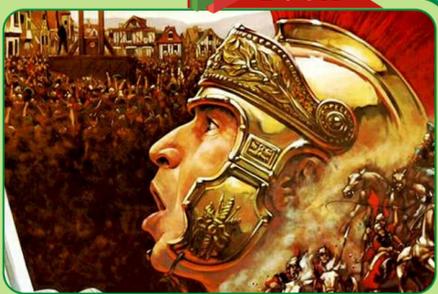
THE PLAN OF ACTION

- The IATA hopes to accomplish two-thirds of its emissions reductions by using SAFs – non-conventional fuels derived from organic products including cooking oil and algae
- SAFs, which is four times more expensive than kerosene, accounted for less than 0.1 per cent of the fuel used in aviation in 2019
- The aviation sector is also betting on synthetic fuels, or e-fuels, made with hydrogen produced from renewable sources of energy and with CO2 captured from the atmosphere
- E-fuels are supposed to be the main type of SAF in the future

Mel Brooks' classic, 'History of the World, Part I', to get a sequel

The Mel Brooks comedy classic, 'History of the World, Part I', which was released in 1981 to mixed reviews, will have a sequel in the form of an eight-part series titled 'History of the World, Part II', to be streamed on the OTT platform Hulu in the Spring of 2022, reports 'Variety'.

BOOK



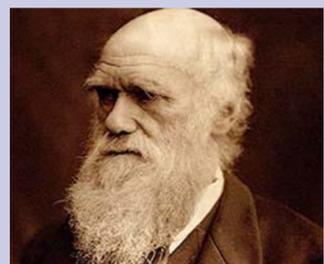
- The original film, which saw Brooks play five roles, including that of Moses, was made up of segments, each parodying different periods of world history—from the Stone Age to the French Revolution
- Brooks, who is 95 years old and a World War II Battle of the Bulge veteran, is one of the very few actors who have won an EGOT -- Emmy, Grammy, Oscar and Tony

FACTOID

£350,000



Price of a microscope owned by Charles Darwin that is likely to fetch at an auction in December. The scientific instrument – originally gifted to Charles' son, Leonard – was designed by the English microscope maker Charles Gould for the firm Cary in 1825. It



The instrument comes in, and is assembled upon, a mahogany box, and was passed from Leonard Darwin to his great-nephew, Edward Leonard Darwin

is one of the six known surviving microscopes associated with the British naturalist, who is best known for his contributions to our understanding of evolution. At the time when the microscope was manufactured, Darwin was studying 'zoophytes' such as corals, sea anemone and sponges from the Firth of Forth. It is likely that Darwin used this instrument in these studies, as the only other microscope he is known to have owned at that time, would have been ill-suited to the task.

FACEBOOK TESTING NEW FEATURE TO FEED POSTS TO INSTAGRAM

Social media giant Facebook is testing a feature that would allow users on its platform to cross-post their posts, including photos or videos over to their Instagram. The company noted the option is currently a global test that's only available to a

small group of people who already have their Facebook profiles linked to a personal, creator or business account on Instagram, reports TechCrunch. Facebook already allows users to cross-post their Instagram Stories and Reels to Facebook.



- 1 When available, one would see the feature in Facebook's compose box where one can create posts. The new toggle would appear besides those for editing the audience for the post and creating a new album
- 2 When tapped, the user would be taken to a new screen where one can choose to share the individual

Facebook post to the connected Instagram account, as well

3 As per the report, users will be able to cross-post to Instagram single photos, single videos or multi photo albums up to 10 photos.

4 Currently, other formats, like GIFs, polls, photos albums with more than 10 photos are not eligible for cross-posting at present

Pokemon Unite, most-downloaded mobile game for Sep



GAMING ZONE

Pokemon Unite from The Pokemon Company, in collaboration with Tencent, emerged as the most-downloaded mobile game worldwide for September 2021 with approximately 33 million installs. The global mobile games market generated 4.2 billion downloads across the App Store and Google Play in September 2021, marking a decline of 4.3 per cent year-over-year.

Destiny Run from Voodoo was the second most-installed mobile game worldwide last month with 26.8 million installs. It was followed by Garena Free Fire from Garena



Beginning the journey of learning in an alphabetical order, Times NIE takes you through one concept from each subject every week



TEACHERS, IF YOU HAVE A CONCEPT THAT CAN CHANGE A CLASSROOM, SHARE IT ON

toinie175@gmail.com WITH YOUR PHOTOGRAPH

CLASSROOMS TO EXPERIENCE ZONES

BIOLOGY

TEMPERATE GRASSLAND

Grasslands are defined as places where grasses are dominating the trees and shrubs. Two major kinds of grasslands in the world are Savannas and Temperate grasslands. Temperate grasslands are characterised by the predominant vegetation i.e. grasses. They generally have no trees.



FEATURES OF TEMPERATE GRASSLAND

Different types of grasslands have some similar characteristics. Savannas have scattered trees and exist in certain parts of Africa, South America, Australia, and Asia. Steppes have shorter grasses whereas prairies have taller grasses due to higher precipitation. Both types of temperate grasslands exist throughout North America and Europe.

PLANTS AND ANIMALS FOUND

Grasses make up the grassland biome. But, still, there are many species of flowers that grow there. Seasonal drought, wildfires in the grass prevents the growth of large trees and shrubs. But willows, oaks, and cottonwoods grow where water is available. Animals such as prairie dogs, wild horses, bison, jackrabbits, wolves, and deer live in the American prairies. The African veldt is having a varied group including gazelles, zebra, and rhinoceroses. Steppe fauna also includes rabbits, mice, antelope, badgers, foxes, and many others.



Teacher Prompt: Discuss in Class

- 25% of the Earth's surface comprises the grassland biome
- Grassland biomes are mainly between a forest and a desert
- Fires on grasslands can spread as fast as 600 feet per minute
- Forbs are the leafy and soft-stemmed plants that grow in the grasslands that aren't grasses

DIORAMAS ARE FUN!

TEACHER PROMPT:

Ask students to create a diorama depicting the features of temperate grassland

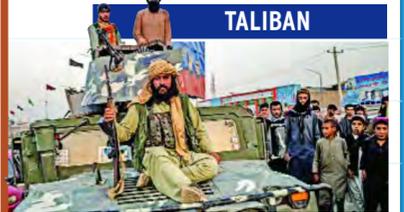
ACTIVITY: MARK ON A MAP

- PRAIRIES:** Grasslands that cover around 1.4 million square miles of the central US, besides Canada and Mexico.
- STEPPEs:** These are grasslands that cover southern Russia all the way to the Ukraine and Mongolia. The steppes stretch over 4,000 miles of Asia including the Silk Road from China to Europe.
- PAMPAS:** Found in South America, they cover around 300,000 sq miles between the Andes and the Atlantic Ocean.



G KNOWLEDGE

TALIBAN



The Taliban, which means "students" in the Pashto language, emerged in 1994 around the southern Afghan city of Kandahar. It was one of the factions fighting a civil war for control of the country following the withdrawal of the Soviet Union and subsequent collapse of the government. It originally drew members from so-called "mujahideen" fighters who, with support from the US, repelled Soviet forces in the 1980s. Within the space of two years, Taliban had gained sole control over most of the country, proclaiming an Islamic emirate in 1996 with a harsh interpretation of Islamic law. Other mujahideen groups retreated to the north of the country.

WHAT IS TALIBAN'S IDEOLOGY?

During its five years in power, the Taliban enforced a strict version of the Sharia law. Women were predominantly barred from working or studying, and were confined to their homes. Public executions and floggings were common. Western films and books were banned, and cultural artefacts seen as blasphemous under Islam were destroyed.

THE FOUNDER

The Taliban's founder and original leader was Mullah Mohammad Omar, who went into hiding after the Taliban was toppled. So secretive were his whereabouts that his death, in 2013, was only confirmed two years later by his son.

INT'L RECOGNITION OF TALIBAN

Following the Sept 11, 2001 attacks in the United States by Al-Qaeda, US-backed forces in the north swept into Kabul in November under the cover of heavy US air strikes.

Only four countries, including Pakistan, recognised the Taliban government. The vast majority of other countries, along with the United Nations, instead recognised a group holding provinces to the north of Kabul as the rightful government-in-waiting. The US and the UN imposed sanctions on the Taliban, and most countries show little sign it will recognise the group diplomatically.

ACTIVITY TIME

TEACHER PROMPT: After discussing about Afghanistan crisis, ask children to make a scrap book on popular figures who fought the Taliban like Malala Yousafzai



SOURCE: REUTERS

LANGUAGE

TEXT & SUBTEXT

By **Martik Bajoria**
Jaipur-based
Communication Skills
Educator & Writer



Text and Subtext, together, is an immensely useful tool as well as concept to understand both language and writing (literature). It is a wonderful creative way of expression, particularly with regard to fiction writing. The simplest way of demonstrating this would be through an example. But some basic definitions first.

TEXT: It is simply stating what is actually taking place. For example, if Kevin is angry with Mira, the writing would simply state, "Mira, I am angry with you!" straightforward writing with nothing hidden from the audience/reader.

SUBTEXT: It is what the hidden meaning and/or emotion is. However, this truth is NOT reflected in the dialogue or the writing. This is more natural and closer to real life. For example, if Kevin is angry with Mira, instead of stating it in an obvious way, the writing might say, Kevin left for work without making the usual cup of tea that he did every morning for Mira. Now, armed with this information, the reader has something to conclude, the situation beckons the audience to think, get involved, and draw own conclusions.

Writing in a sub-textual manner is always more creative, immersive, interesting and involving.



ACTIVITY FOR THE CLASS

TEACHER PROMPT: Ask students to write a dialogue and use direct and indirect expressions while communicating with each other. Explain to students how sometimes 'sub-text' could also include the body language of a person

MATHS

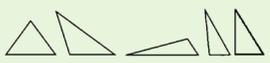
By **Sandeep Srivastava**
Educator since 20 yrs, he specialises in making Maths easy and fun

T FOR TRIANGLES

We will explore triangle in a more fundamental way (such as importance, congruency, similarity), rather than routine details (such as, types of triangles, angles properties).

The importance of triangles

Triangles are the most under-appreciated geometric figures. They can be made to order – the number of triangular shapes is almost infinite, compared to the limited ways in which squares, rectangles and pentagons can be drawn. For example, a square can only be made bigger or smaller:



Triangles are unique polygons

Triangle is the simplest polygon and all other regular polygons having equal sides) and irregular polygons can be divided up into triangles. Thus, triangles offer an alternative way of understanding all of other polygons. To top it all, even a circle can be divided into infinite triangles!



Why not called trilaterals or 'tri-cornered'?

All polygons ('gon' means side) are named after sides, except triangles (i.e., it's not called trilateral); for example, 4-sided polygons are called 'quadrilateral'. This is because only a few types of quadrilaterals are possible, based primarily on differences in sides, but triangles are all unique, and infinite variations are possible.

Congruence of Triangles

In elementary geometry, the word 'equal' is often used in place of 'congruent.' Two circles are congruent if they have the same diameter.

Two congruent figures below are exactly the same in all respects except for



their position and orientation. If we pick one of them and place on top of the other it fits exactly. Such figures are called congruent.

The two footprints are congruent because one can be reflected onto the other. It means that one shape can become another using Turns, Flips and/or Slides:

If two figures are congruent, such a movement can always be done by a sequence of translations, rotations and reflections. Two square are congruent if they have the same length of sides.

Comparing for Congruency

Two square are congruent if they have the same length of sides.

Congruency of triangles

It may be evident from the above example that congruency is a simple concept, and visually apparent in many instances. However, triangles are a category of their own – there are infinite ways of making triangles. We need more in-depth mathematical understanding of congruency in triangles.

When can two triangles be congruent?

It may be evident from the above example that congruency is a simple concept, and visually apparent in many instances. There are only three possibilities.

- All corresponding sides equal (SSS) – this is the basic definition of two triangles being congruent.
- All corresponding angles equal (AAA).
- All corresponding sides and angles equal (SSS & AAA) – this is automatic if SSS holds.

Why AAA does not work?

Consider $\triangle ABC$ and $\triangle DEF$. Both are equilateral triangles, which means that the measure of each of the angles, $\angle A, \angle B$ and $\angle C$ in $\triangle ABC$ is 60° . Similarly, $\angle D, \angle E$ and $\angle F$ in $\triangle DEF$ are also 60° each. As we can see, although the corresponding angles are congruent (60°), still the two triangles are not congruent.

SSS congruency

SSS stands for 'side, side, side' and means that we have two triangles with all three sides equal. In fact, it's the only con-

dition for congruency of two triangles. For example:

There is often a catch

Many a times the SSS congruency is not explicitly stated and we have to infer/verify if the given conditions of congruency of triangles do imply SSS congruency. Such conditions may be SAS, ASA, AAS, RHS equivalence.

Let's consider SAS congruency

SAS ('side', 'angle', 'side') represents any two sides and the contained angle of a triangle. So, if two triangles are said to be SAS congruent then it means their two corresponding sides, and the corresponding included angle are the same. In a triangle, three pairs of SAS can be found:

The first pair includes sides x and y with angle B , the second pair includes sides x and z with angle C and the third pair includes side z and x with angle A .

Exactly, two triangles are congruent if they have exactly the same three sides and therefore, exactly the same three angles.

But we don't have to compare all the three sides and all the three angles of the two triangles for equivalence or congruency. We have already seen in SSS that the equivalence of just three sides of the six dimensions (3 sides and 3 angles) can prove the congruency of two triangles.

So, we just have to see if the equivalence of the included angle (A in SAS) is enough to ensure that the third side is also equal (two other sides are already given to be equal in SAS).

Incidentally, and interestingly, the third side is the side opposite to the included angle.

Similarity

What does it mean for two shapes to be similar? You may have seen the Taj Mahal. At some gift stores, you may also have seen miniature models of the Taj Mahal. The model is 'similar' to the real Taj Mahal in every respect except its size!

Similarly, if we consider two or more circles with different radius, we find that they are similar to each other. Two or more line segments are similar to each other. We can stretch or rotate one line segment and make it exactly resemble the other.

How is congruency different from

Similarity?

Similar triangles have the same shape, but their sizes may vary. Congruent triangles have their sides with same length and angles with same measure. Thus, two triangles can be superimposed side to side and angle to angle. All congruent triangles are similar, the other way may not be true.

Resizing is the key

Yet another way of finding similar figures is also if one figure can completely overlap another using resizing (also called dilation, contraction, compression, enlargement or even expansion), then the figures are similar.

HISTORY

TERRACOTTA FIGURINES

Mahia Bashir writes for Times NIE about interesting events and terms from History. The author is pursuing BA programme at St Stephen's College, and interning at the History Diaries - an initiative to revamp the current pedagogical system of History through tours, drama in schools

Terracotta is an ancient art form, conceivably one of the initial articulations of creativity of the human mind. It is made from a moderately coarse, porous type of clay, shaped or sculpted



and then glazed until hard. In ancient times, it was left to solidify in the hot sun; later it was baked in primitive ovens created in the ashes of open fires.

Terracotta figurines were often linked to the artistic and religious expressions

FIGURE THE ORIGIN

All major civilisations made Terracotta figurines, the most prominent among them are the anthropomorphic and animal terracotta figurines from HARAPPA AND OTHER INDUS VALLEY CIVILISATION SITES i.e. Kalibangan and Gujarat sites.

The mother goddess, Harappan Courtiers, with flower head dresses and tiaras, bearded males with coiled hair, the terracotta mask of a horned deity, toy carts with wheels, whistles, rattles, birds and animals, gamesmen and discs rendered in terracotta are some of the finest examples. **TERRACOTTA ARMY OF THE CHINESE EMPEROR QIN SHI HUANG**, which was found in his tomb. More than 7,000 life-sized terracotta war-

ACTIVITY FOR THE CLASS

- Look around your house and find terracotta figurines
- Discuss benefits of using terracotta
- Check out YouTube videos on how terracotta figurines are made



riors were sculpted to guard the tomb of the Emperor – it is the biggest terracotta finding till date.

Small terracotta figurines from the **EARLY BRONZE AGE**, as early as 3000 BCE, have been found in Greece, and larger objects dating from the 7th century BC have also been found. Most of these were used to decorate the temples. **THE INTERSECTION BETWEEN THE GREEKS AND THE MAURYAN COURT** can also be easily traced by noticing the figurines unearthed from Patna (Bihar) from the Mauryan period.

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