

Child Friendly News



4 Events from Modern
History you should know about



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A HISTORIC COMET LANDING

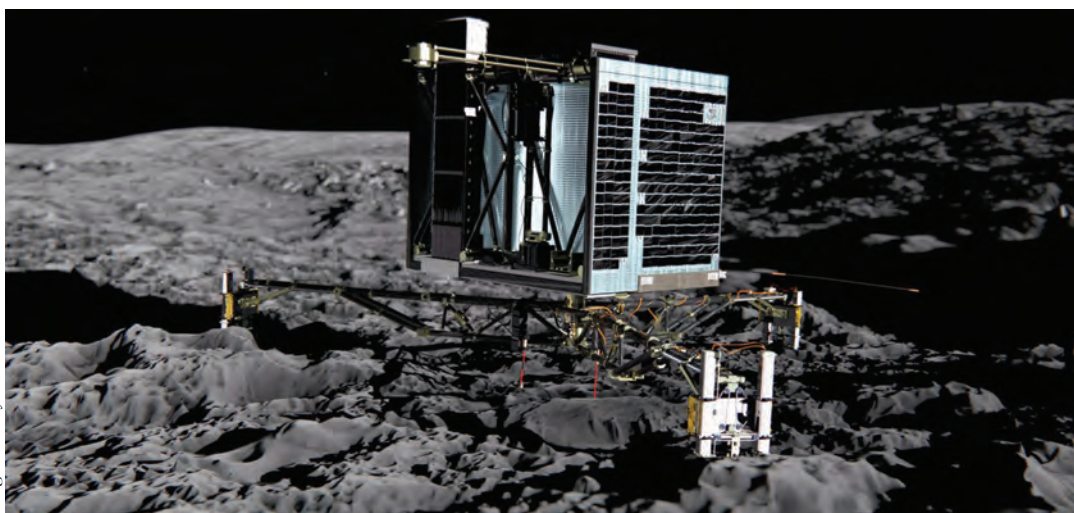


Image Courtesy: ESA

Philae lands on the comet

The European Space Agency (ESA)'s Philae probe made history on November 12 when it managed to land on a comet, the very first Earth-made machine to do so. The probe, which is a pilot-less craft as big as a washing machine, landed on the comet known as 67P/Churyumov-Gerasimenko, which is headed towards the sun. The probe was launched from the Rosetta spacecraft that has been following the comet for 10 long years.

Comets are celestial (belong to space) bodies that are made up of ice and dust. They orbit the sun. Comets are thought of as 'fossils' from the early days of the solar system and studying them is expected to reveal more about how the universe was born.

So, there was much excitement when the probe began to descend towards the comet. It however bounced twice on landing, finally settling in a spot that was a little away from its original

destination. The spot it landed in didn't have enough sunlight to charge the probe's batteries, as a result of which Philae's battery died out within a few days.

The good news

The brighter side of the story is that Philae was able to transmit (send back) a lot of information on the comet before its battery died out. Nearly 90% of the data it was to obtain has been sent back to Earth. It has beamed back detailed photographs of the comet's rough surface, analyzed the gases surrounding the comet, and taken the comet's temperature. It also used radio waves to investigate the comet's nucleus (the very centre of the comet deep beneath its surface) and studied the matter on the comet's surface.

A sliver of life

Before its batteries died out Philae also managed to 'sniff' the planet's atmosphere and detect organic molecules that had the element

CAN PHILAE BE REVIVED?

In the 57 hours it had on the comet before its batteries died out, Philae managed to do a lot of work and send back useful information. Scientists are now discussing whether Philae can be revived (brought back to life) by re-charging its batteries. As the comet nears the sun, it is possible that Philae may be able to expose its charging panels to sunlight and thus re-charge its batteries. If that happens, it would be able to investigate the comet further.

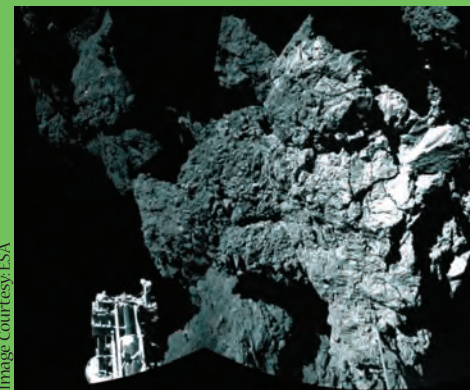


Image Courtesy: ESA

A close up image of the comet taken by Philae

carbon in them. Carbon is one of the basic elements (elements are the building blocks of things on Earth) found on our planet and is associated with all life forms. Philae also drilled a hole into the comet in its hunt for more living matter but it is not clear if it managed to analyse its findings. In an interesting find, the probe also encountered hard ice just 10-20 centimeters below the surface of the comet.

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MYSTERY OF THE GIANT RED SPOT SOLVED

Scientists at United States space agency NASA may have solved the mystery behind Jupiter's giant red spot. It appears to be an effect of sunlight on the planet's atmosphere.

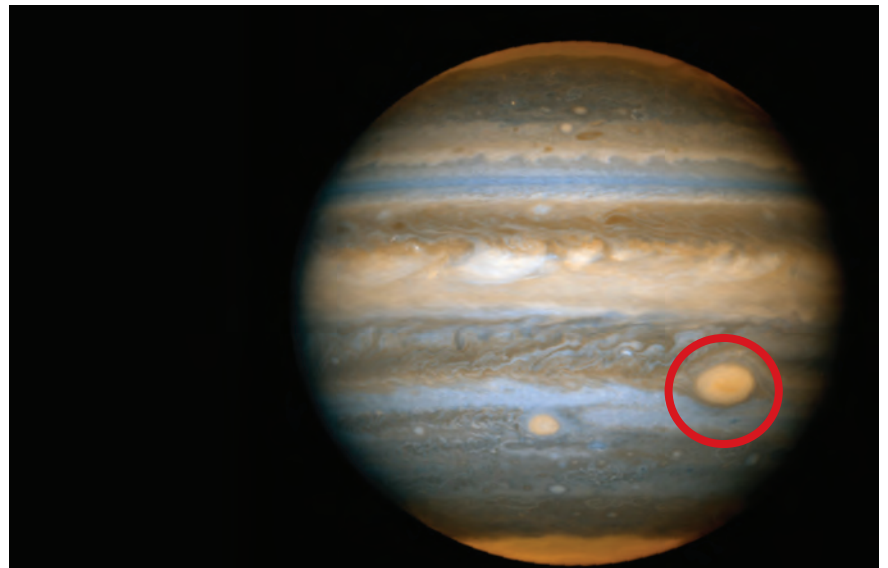
The red spot is the most visible (easily seen) feature on the surface of the Solar System's largest planet. The red spot is huge – it is large enough to contain two Earths!

NASA's space craft Cassini, which flew past Jupiter on its way to Saturn, has sent back information that shows that the rosy-red colour may be created when sunlight breaks apart simple chemicals in Jupiter's atmosphere.

How did the scientists confirm this?

In a lab, the researchers blasted ammonia and acetylene gases - chemicals known to exist on Jupiter - with ultraviolet lights (similar to that sent out by the sun). This produced a reddish material similar to what appears around the red spot. Do remember though that no craft has landed on Jupiter or brought back materials from the red planet so the work of the scientists is based purely on lab experiments and analysis (study).

The scientists who studied Cassini's findings have also analysed that beneath the layer of red, ordinary whitish clouds may exist. So the red spot is actually a part of Jupiter's atmosphere rather than a physical spot on the planet's surface.



DID YOU KNOW THIS ABOUT JUPITER?

- It is 2.5 times bigger than all the other planets combined
- It is mainly made up of gases and is called the 'gas giant'
- It is one of five planets visible to the naked eye from Earth
- The ancient Babylonians were the first to spot Jupiter

Can the next Ms. Curie stand up please?

Girls, are you interested in science and technology? Dying to design and create things? You may want to check out Avasara, a Pune based organization that organizes short workshops that lets girls get hands-on with science.

Urvashi Bahuguna of Avasara points out: "Avasara Young Scientists (the name of the programme) is a series of enquiry sessions in STEM (Science, Technology, Engineering and Mathematics) subjects. Over each four day session, girls take part in hands-on activities that help them engage with STEM such as, engineering the best helmet to protect motorcyclists, designing a pill coating for slow-release medicines, solving a crime using real-life forensic techniques, and even coding a computer game!"

Why is this only for girls? Avasara believes that fewer girls than boys pursue career (work) in science and technology and they want to change this by getting more girls interested in these subjects. The first set of Avasara Young Scientists workshops concluded a few weeks ago and the next set is planned for the Christmas holidays. If this sounds interesting, you can get in touch with Avasara's academic director Tamara Philip at tamara.philip@avasara.in



Participants at the workshop investigate if the boat they built will pass the floating test

A BATTERY SO SMALL...

It's no bigger than a postage stamp, but this tiny battery has enough power to charge your mobile phone, laptop or any other device in about 12 minutes. Amazed? You should be, for this invention could change our gadgets forever.

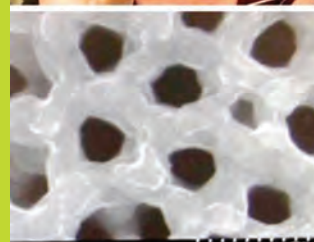
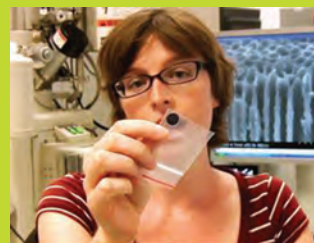
The battery has been invented at the University of Maryland in the United States. It is made up of tiny structures called nanopores, each no bigger than a grain of sand, which contain electrolyte (a kind of liquid or gel found in batteries) that transports the electrical charge. Many millions of these

nanopores can be crammed into one larger battery the size of a postage stamp.

This tiny battery is super-efficient and can be charged in around 12 minutes. Not only can gadgets be charged fast, the battery also makes possible electric cars that can be charged rapidly. Slow charging is one of the reasons that environment friendly electric cars are not popular.

The new battery has been made in the lab, but plans are afoot to manufacture (make) them in large numbers in factories.

A scientist holds up the tiny battery and (below) what the battery looks like in close-up. You can see the nanopores





Language is the biggest difference that separates humans from animals evolutionarily

— Arik Kershenbaum, Lead author of the “Proceedings of the Royal Society B,” article cited below.



Features

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NATURE MATTERS

Do animals have a language of their own?

We’ve all heard birds chirping, dogs barking and mice squeaking. These animals are all clearly communicating with each other – perhaps signaling the arrival of a dangerous predator or the discovery of a food source. But can they be actually speaking a language?

A new study on animal calls has found that calls of certain species may be more complex (difficult) than previously thought. This study was published recently in the “Proceedings of the Royal Society B,” a journal that published articles written by scholars on the subject of biology.

The study specifically found that the calls made by killer whales and free-tailed bats were language like, and were not random sounds.

How did they figure it out?

The scientists behind the study mapped the sounds to alphabets and looked at the patterns created by the way one kind of sound (example: a high pitched call) followed another (low sound). The researchers thus analyzed the vocal sequences of chickadees, finches, bats, orangutans, killer whales, pilot whales and hyraxes. The patterns that emerged were not simple sets of certain kinds of sounds repeated again and again, but more complex ones that resemble the way we join up sounds to make words that represent people and objects. Of course, a lot remains to be discovered such as the code that will help us understand what the sounds mean.

Right now, the sound patterns may not add up to a language like one we humans use. But they may represent an in-between stage – lower than human language levels but superior to random calls. They may in fact help us understand the way that human language itself developed, leading to the even more interesting question – Are animals still evolving their language skills and will they one day have as complex a spoken tongue as ours?



Mexican free-tailed bats in the sky



Image courtesy: Wikipedia Commons

Killer whales

THE BOOK NOOK

The Hobbit by J R R Tolkien

In the 1930s, an English professor at Oxford was correcting exam papers when he came across a blank sheet. In a fit of inspiration (or boredom) he wrote, “In a hole in the ground, there lived a hobbit...” on the sheet.

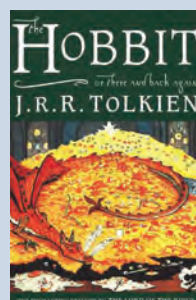
The professor’s name was John Ronald Reuel Tolkien and the book was “The Hobbit”.

Eventually published in 1937, “The Hobbit” is a timeless classic, a children’s book that, like all good children’s books can be read and enjoyed by people of all ages. It also spawned a three-part sequel, The Lord of the Rings. All the books are set in Middle Earth, a fictional (or imaginary) world invented by Tolkien and over time, he wrote many more books that fleshed out (explained in detail), the history of Middle Earth. The Lord of The Rings books even required

Tolkien to come up with an entire language and script.

But the Hobbit came before all this, an adventure woven into a journey – like most books of this type, called fantasies, usually are.

It involves treasure, a dragon, and all sorts of monsters, but, at its heart, it is a book about an unlikely hero – not the smartest, nor the strongest, and definitely not endowed with magical powers (although he does have friends who are, and, in the course of the book, acquires a magical ring) but true of heart, brave, and faithful.



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Those who do not remember the past are condemned to repeat it.

—George Santayana



4 Events from Modern HISTORY you should know about

When you look back in time, it's easy to spot the major events that have changed the history of the world. It is harder to do that for events that have occurred recently. We've taken a shot at identifying four of the most important events in recent history (3 out of the 4 have occurred in the last 30-40 years) and here is our list.



People climb over the wall in November 1989, as East Berlin is freed

Fall of the Berlin Wall and the end of the Cold War

Last week, the people of Berlin celebrated an important anniversary by releasing 8000 balloons into the air. They were celebrating the collapse of the Berlin Wall which divided East Berlin from West Berlin from 1961 to 1989.

The Berlin Wall was built to mark the border between East and West Germany. After the World War II ended in 1945, Germany, which lost the war to the United States and Great Britain, was divided into two parts. East Germany became a close friend of Russia and followed the socialist form of government under which most everything (companies, schools, factories) were controlled by the government. West Germany followed the example of the US and Britain by allowing its citizens more freedom.

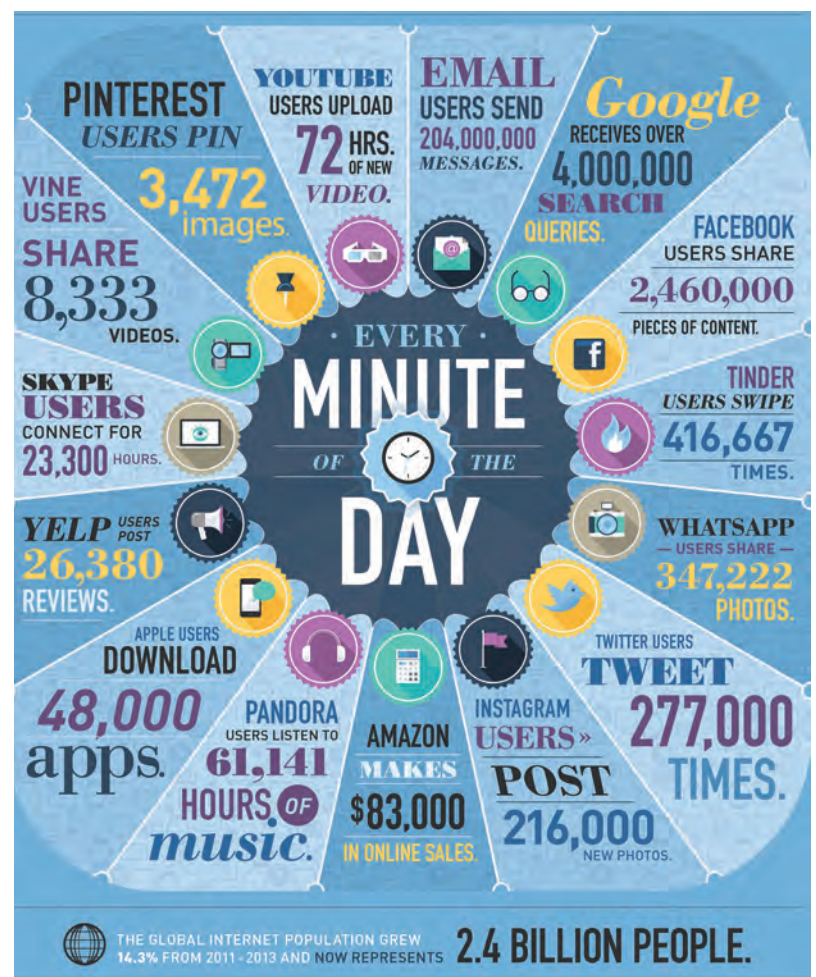
The years during which the Berlin Wall stood (1961-1989) are part of what was called the 'Cold War' period. This was not an actual war fought with guns, but a time when the world was divided into two camps. On one side were the socialist countries such as Russia and East Germany. In the other camp were the US, Britain and countries of Western Europe which allowed great freedom to their people.

After 1988, the Cold War started to thaw (disappear) as Russia became less powerful. The following year one of the most powerful symbols of

the Cold War – the Berlin Wall – started to collapse. On the night of November 9, 1989, the gates of the Berlin Wall were thrown open allowing people of East and West Berlin to cross over and back freely, for the first time in history. In the months that followed, the Wall was broken literally brick by brick by people on both sides. The city of Berlin and the country of Germany were finally united as a single unit by 1990.

The Invention of the Web

HOW BIG IS THE INTERNET TODAY?





The Internet and the World Wide Web are so much a part of our lives today that it is hard to imagine not being able to send an email, see a video or look up information on the Internet. Yet both are modern inventions that date back just two dozen years.

In 1989 two computer scientists – Tim Berners-Lee and Robert Cailliau – created a plan for a network of information that could be 'browsed' freely by people. From this was born the World Wide Web (that's the WWW in website names). With useful information available on a network of computers, the web started becoming very popular and hence the network became the massive Internet we know today. Millions of computers are linked to the Internet and there are websites that give you information on every topic under the sun. With the Internet it is easy to communicate with people around the world – news now travels in seconds, rather than hours or days.

The rise of democracy

Quick, think of all the Kings and Queens you know. Elizabeth II of Great Britain, King Jigme Wangchuck of Bhutan, King Abdullah of Saudi Arabia... can you think of anymore? It's hard isn't it? There are hardly any countries left that are ruled by kings and queens. Monarchy as a form of government is slowly dying out.

What is replacing it are forms of democracy – where every citizen has a say in selecting the leader. This trend of common people wanting to rule themselves began 200 years ago and gathered steam in the 20th century (between 1900 and 2000). Countries like India, Pakistan, Cambodia, Sudan, Tunisia, Kenya and Portugal all overthrew their foreign rulers and became independent democracies in the middle of that period. When the Cold War ended, countries like Russia and Russia's allies (friends) such as Poland, Romania, Bulgaria and Hungary, slowly changed from being dictatorships (where power is concentrated in the hands of few people) into countries with elected governments.

Between 2010 and 2011, countries in West Asia and northern Africa saw massive people's movements that resulted in dictatorships being overthrown. The centre of action was in Egypt where dictator Hosni Mubarak was overthrown.

Enter the dragon

Thirty years ago, little was known of China, other than what was fed to international newspapers by the dictators who ruled the country. The nation, though the largest in Asia, had little impact on the rest of the world. All that changed in the 1980s. Today the Chinese influence is visible in all our lives – the mobile phones we use are made in China, many of the toys in Indian shops are Chinese-made and her companies are building roads and factories all over the world.

In a few years, China will become the largest economy in the world overtaking the United States – it will make and use more things than any other country in the world. It already has more factories than most nations and these produce machinery, electronics and clothes. To make these things, China buys one third of the iron, steel and coal made in the world. The Chinese are also becoming powerful far and wide. From Central America to Africa, Chinese companies are building roads, airports, ports and factories.

The country's domination even extends to the world of sports. With huge training programs in place for many sports, Chinese athletes dominate sports like badminton, gymnastics, diving swimming and table tennis. China won 88 medals at the London Olympics of 2012, bagging second place. It came in at No 1 in the Beijing Olympics of 2008.

Truly the country to watch in today's world.



In a democracy everyone has the right to vote



A sea of humans protested at Cairo in Egypt between 2010 and 2011 asking for democracy

DID YOU KNOW?

We live in the golden age of democracy. Of the 196 countries in the world, over 120 practice democracy. That is around 2/3 of the world!



China's factories make everything, from shoes to smartphones, from clothes to cameras



Unless we practice conservation, those who come after us will have to pay the price of misery, degradation, and failure for the progress and prosperity of our day.

—Gifford Pinchot



INDIA

Important Bird Areas at threat

The Bombay Natural History Society (BNHS), an agency which works for the protection of nature, has said that ten Important Bird and Bio-diversity Areas, or IBAs as they are called, are under severe threat and may be in danger of being lost forever. The biggest threat to these areas comes from humans and changes to the environment created by development of roads, buildings and factories.

Some of the IBAs in danger include the Flamingo City in Kutch, Gujarat, Asia's largest breeding ground for the Lesser Flamingo (can you now understand how the IBA got its name?), the Sewri Creek in Mumbai which is host to many birds and flamingos and Basai, which is part of Gurgaon, near Delhi. Basai attracts huge numbers

of migratory birds and many rare birds have been spotted here.

Why are these IBAs in danger?

Destruction and disturbance caused by humans and what we build plus over-grazing by cows, goats and sheep on 'wild' areas have all led to the problem. Pollution from factories and waste water from cities has poisoned many habitats which have also been affected by farmers who use large amounts of pesticides on their crops.

Why should we protect IBAs?

IBAs are hot-spots of bio-diversity (areas where many kinds of animals and plants live) and we must protect them, else we may end up destroying many species on this planet.



Basai plays host to Bar-headed Geese from Ladakh which spend the winter in this

INDIA

Leopard dies on highway

A leopard was found dead on the National Highway 8, which connects Delhi to Jaipur, last week. This was the fifth such case of a leopard death in this zone (area) in the last seven to eight months.

The leopard was found in an area called Manesar which is close to Delhi. It seemed that the leopard had been hit by a heavy truck when it was crossing the road.

The number of leopard deaths on the highway is increasing as the animals venture out of the forest due to disturbances in their wild zones. As Delhi and Gurgaon swell in size, Aravalli forest areas are being developed for homes and farmhouses. This forces the leopard to look further afield for food and water, placing it in danger at times. The Aravalli range, the oldest in India, needs better protection in order to save the last few species of wildlife that remain within.



The leopard is carried away by officials of the forest department.

WORLD

Now, China too heads for Mars



The surface of Mars

No doubt spurred (motivated) by the success of India's Mars orbiter 'Mangalyaan', the Chinese have announced plans to send up a rover to Mars. Unlike an orbiter, the rover is a pilot-less craft that actually lands on the surface of the planet/celestial body it is studying.

So far, only the Americans have been successful in landing a rover on Mars and have landed rovers such as Curiosity, Spirit and Opportunity on the planet. All Russian attempts have failed. The Chinese plan to launch their rover by 2020. The rover's mission will be to look for food and water on Mars – almost the same objectives as the US and Indian missions. So far, signs of frozen water have been found by the US missions.

Photo Courtesy: NASA



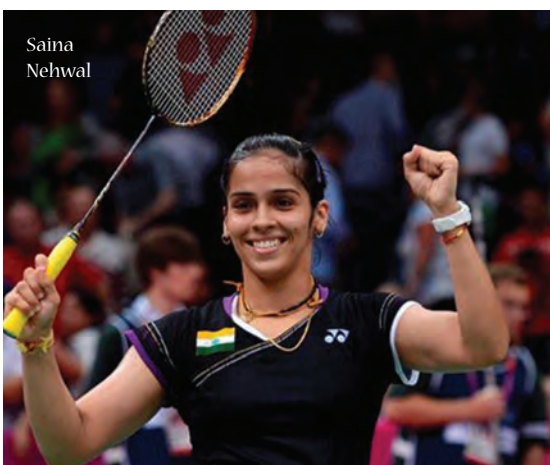
Super Sunday for India



Kidambi
Srikanth

Badminton: Kidambi Srikanth shocks Lin Dan

It was a David versus Goliath contest. On one hand, the towering talent that is Lin Dan, the Chinese player who has dominated the world of badminton for years and is thought of as the best badminton player ever. On the other, Kidambi Srikanth, a talented Indian player who was yet to win a major title in the sport. Until Sunday that is. On November 16, Srikanth shocked the world (and himself) by beating Lin Dan 21-19, 21-18 to lift the China Open. The 21 year old started playing singles only a few years ago, and only when his coach told him he had to move beyond doubles. Although Srikanth had been beaten by Dan before, he didn't let that get to him. And, despite the fact that the home crowd was noisily supporting Dan, Srikanth beat the world champion in two games.



Saina
Nehwal

Badminton: Saina makes it a double

Saina Nehwal made it a double celebration for India by winning the women's singles title at the China Open. She beat Japan's Akane Yamaguchi 21-12, 22-20 and has now moved to number five in the world rankings. It was her third major title of the year and marks a revival of her form after a poor run in the past few months.

Cricket: India makes it a clean sweep with a 5-0 win

Virat Kohli played a captain's innings for India smashing 139 runs to help India win the fifth and final One Day International (ODI) against Sri Lanka. India batted second in the match and the quick fall of wickets almost took the match away from them, but Kohli's batting won the day for the Indians. India beat Sri Lanka 5-0 to lift the series trophy.

Record-setter Rohit

In the fourth ODI of the series, batsman Rohit Sharma set a world record by hitting 264 runs, thus becoming the first player to score 250 runs in an ODI. He now also owns the record for the highest score in an ODI; the previous record of 219 runs was held by Virendra Sehwag. Sharma has also become the first player to hit two double centuries (scores of 200 or more) in ODIs.



Rohit
Sharma

India's win over Sri Lanka in the series has established the team as the No 1 ODI team in the world. Hot on its heels though are Australia and South Africa, which are just a few points behind India in the ICC team rankings.



Anand matches wits with Carlsen

It's like last year all over again – it's the World Chess Championship and India's Vishwanathan Anand is battling it out with Norwegian Magnus Carlsen. Except, that this time, Carlsen is the defending champion (he won the title last year at the Championships held in Chennai) and Anand is the challenger.

The other big difference is that Anand is playing much better this time. The first game was drawn, but Carlsen was quick to snatch a win in the second. Anand rebounded with a win in the third game

but lost the advantage with Carlsen winning the sixth game. The remaining games, including the seventh which lasted a marathon 122 moves (one of the longest in World Championship history), ended in draws with the players equally dividing the points. (You get 1 point for a win and ½ for a draw). At the end of eight games, Carlsen leads with 4.5 points to Anand's 3.5 points.

Five more matches remain to be played before the Championships end on November 28.



Changing the world

Here are images of leaders who changed the course of world history. Can you identify them?



- Answers
1. Napoleon Bonaparte of France who changed the history of Europe
 2. Adolf Hitler of Germany who caused World War II
 3. Mahatma Gandhi who won freedom for India
 4. Mikhail Gorbachev of the USSR (as Russia was then known) who ended the Cold War

UNSCRAMBLE THE WORDS

Re-arrange the alphabets to find the word

Hint: All clues are linked to the theme of history

- Answers
1. DateLine
 2. Excavation
 3. War
 4. Culture

1. EEIADNLT

2. XAANTVCEIO

3. RWA

4. UULETRC

FIND THE HIDDEN PICTURES

Can you find the eel, parrot, hairbrush, key, anchor, palm tree, turtle and pineapple in the picture?



Top Reads for Kids and Young Adults

1. Heroes of Olympus: The Blood of Olympus by Rick Riordan
2. National Geographic Kids Almanac: 2015
3. Diary of a Wimpy Kid: The Long Haul by Jeff Kinney
4. The Kingdom of Fantasy: The Search for Treasure by Geronimo Stilton
5. Dork Diaries: Once Upon a Dork by Rachel Renee Russell
6. Opal Plumstead by Jacqueline Wilson
7. Amulet: The Stonekeeper by Kazu Kibuishi
8. Moriarty by Anthony Horowitz
9. With Love from the Hills by Ruskin Bond
10. The Secret of Falcon Heights by Ranjit Lal



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