

Child Friendly News



NUMBERS IN NATURE

PG 4-5



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WATCH OUT FOR SWINE FLU

With more than 14,000 people affected across India, H1N1 swine flu has become a big health problem in the country. As it spreads easily between people, the flu has affected people in almost every state in the country. 841 people have died from the disease this year.

This is the largest outbreak of the flu since 2009-10 and the speed with which it has spread across the country has caught everyone by surprise.



Hospitals are getting many patients with swine flu

How is it detected?

Since it creates the same problems as other kinds of viral fever (such as high temperature, cold, cough, sore throat), swine flu can be detected only after a lab test. This test is not cheap – it costs around Rs.4000 – making it difficult for poor people to get themselves tested.

How does it spread?

When people who have swine flu sneeze or cough, they spray tiny drops of the virus into the air. If you come in contact with these drops or touch a surface (such as a doorknob or sink) that an infected person has recently touched, you can catch H1N1 swine flu. As you can see, it spreads quite easily.

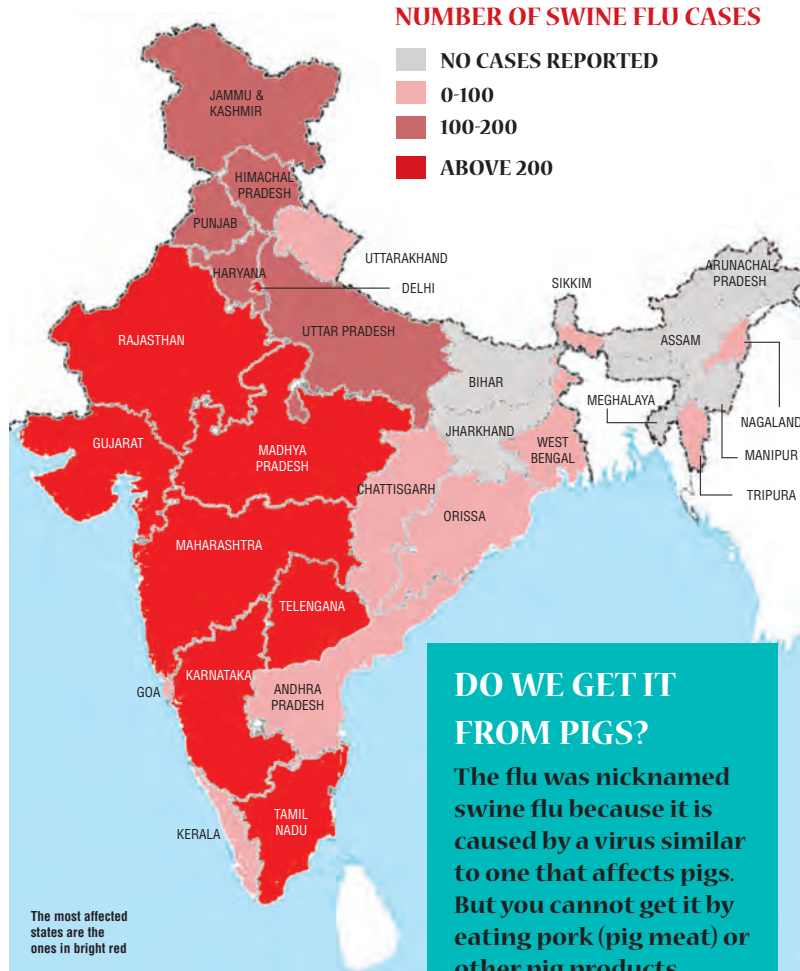
PRECAUTIONS FOR YOU

- Wash your hands or use a hand sanitizer regularly
- Don't touch your face, nose and mouth frequently
- Take a flu shot – it offers good protection against swine flu
- Don't go to school if you have fever



NUMBER OF SWINE FLU CASES

- NO CASES REPORTED
- 0-100
- 100-200
- ABOVE 200



DO WE GET IT FROM PIGS?

The flu was nicknamed swine flu because it is caused by a virus similar to one that affects pigs. But you cannot get it by eating pork (pig meat) or other pig products.

Can it be stopped?

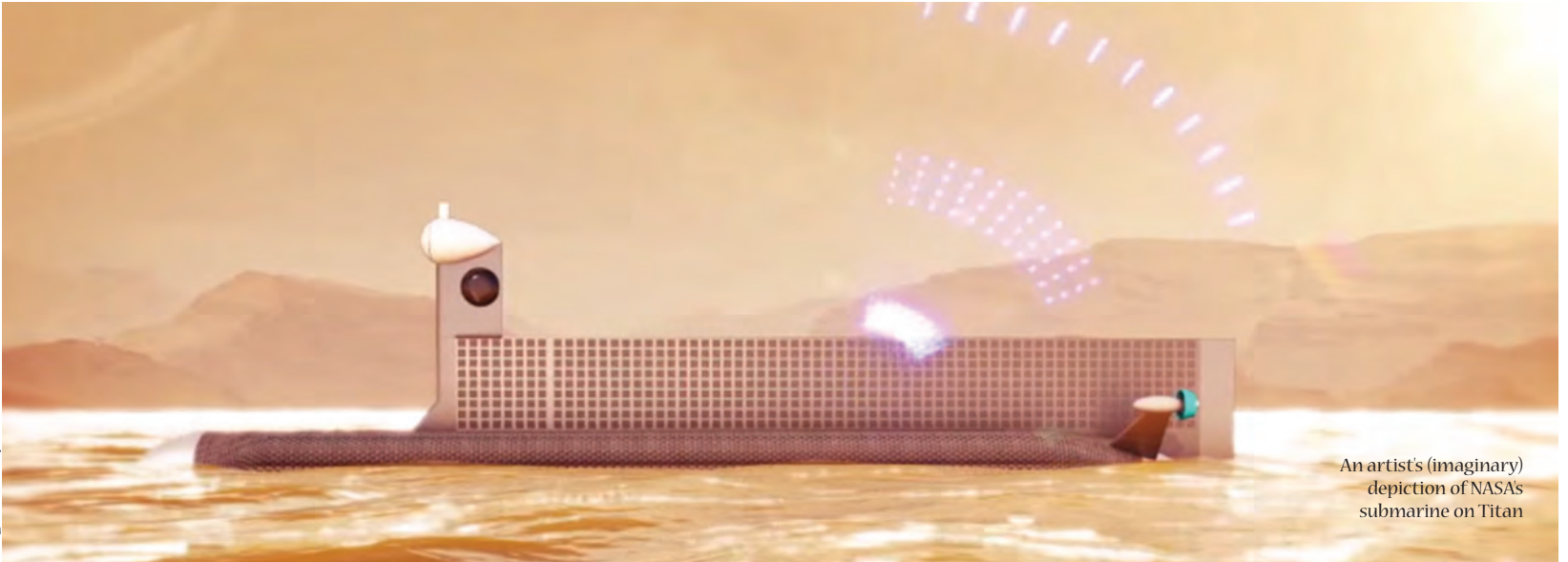
The virus that causes swine flu thrives (flourishes) in cool weather, so the arrival of summer could slow the outbreak naturally. Since the virus spreads easily in crowds, in cities like Ahmedabad that have a large number of cases, there is a ban on public meetings (except weddings or funerals) unless special permission has been obtained.

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A SUBMARINE FOR TITAN



An artist's (imaginary) depiction of NASA's submarine on Titan

Over the past few decades (a decade is ten years), United States (US) space agency has landed unmanned exploration vehicles on Mars (remember Curiosity the rover?) while the European Space Agency recently landed a probe on a comet. Now, NASA has come up with plans to send a submarine into space to explore Titan, one of the planet Saturn's moons.

Why a submarine you may ask? Well, unlike Mars that has a solid surface, Titan has vast seas of methane and ethane – these are similar to Liquefied Natural Gas or LNG that we use as a source of fuel/energy

on Earth. To navigate these seas, you'd need a special type of vehicle and NASA has come up with the idea of using a submarine that will be able to explore below the surface of Titan's seas as well as along their coasts.

The target destination is 'Kraken Mare', Titan's largest sea. As there is a possibility of life on Titan, the submarine will look for life forms in the seas and on the coastline.

Work on this project is at an early stage though and the journey to Saturn's moon won't happen before 2040.

INDIAN WOMAN SHORTLISTED FOR MARS TRIP

An eighteen year old girl from Kerala, Sharadha Prasad, has been short-listed by Dutch organization Mars One for an ambitious plan that will see 24 humans attempt a settlement on Mars.

Mars One plans to send out its astronauts to Mars by 2024, and last year it began an international astronaut search. Over 2 lakh people applied from all over the world – that group was narrowed to 600 people, from which 100 have made it to the third round. Eventually 24 people will be chosen from this 100 to be Mars One astronauts and they will travel to the red planet starting the year 2024.

These astronauts will get a one way ticket to Mars – as they will not come back and instead make the red planet home. Why does Sharadha want to go to Mars? She told *'The Times of India'* newspaper: 'I am keen on settling down on Mars as I have a passion for space sciences and technology. This apart, I also enjoy taking risks and doing something adventurous. The one-way trip to Mars combines the two.'

The chosen astronauts will be trained by Mars One at a replica (copy) of the facility they will be living in on Mars. If the plan succeeds, Mars One will be sending the first ever humans to the red planet.

Photo Courtesy: Mars One



Sharadha Prasad



This is how the Mars One settlement on the red planet will look

ANTS MAINTAIN TOILETS INSIDE THEIR COLONIES

A new study by researchers in Germany has revealed that ants maintain separate toilet areas in their colonies. Though the exact reason for this is not known, given the large number of ants that live in colonies, such organization is very important to maintain order inside a busy colony.

Researchers who studied common black garden ants in labs found that these ants usually piled up their waste in specific corners. Each group of ants had their own separate toilet areas. This kind of behavior may reflect on the generally tidy nature of ants but it may also be a way for the group to keep their nests germ and disease free. One other possibility is that waste matter may contain nutrients that help ant larvae (very young ones) grow.





NATURE MATTERS

YES, YOU CAN CLING LIKE A LIMPET

For years, the phrase 'cling like a limpet' has been used to describe people (mostly children) who cling to others, and refuse to move away from their chosen protector. Did you know that the word limpet refers to an actual marine creature that sticks stubbornly to rocks and pillars of piers (structures that built out from the shore into the sea)? It has now been found that these limpets have extremely strong teeth made out of a material that is even stronger than spider silk.

The source of strength

So far, the strongest known natural material was spider silk – the material with which spiders weave their webs. It is considered so strong that bulletproof vests can be made from it. But now, analysis (study) of the limpet's teeth has thrown up a natural material that is even stronger.

When it clings to rocks, the limpet uses a kind of tongue called a 'radula' to feed. This radula is embedded with rows of sharp teeth that allow the limpet to scrape algae from the rock. Research by scientists in England has shown that these teeth are the strongest natural materials on earth.

The scientists used an electron microscope (used to study the tiny, tiny atoms that make up everything) to study a sliver (a tiny piece) of the teeth 100 times thinner than human hair. Inside the teeth, they discovered a mineral called Goethite which is what makes the teeth really, really hard.

Small or large, size no object

The curved nature of the limpet's teeth also adds to its strength. Another important discovery was that no matter the size, the teeth remained strong, which is unusual as objects typically lose their strength as they grow in size.



What could it be used for?

Given its unique properties, the Goethite inside limpet teeth could be copied to create super strong materials for boats, aircrafts and to even build racing cars. What a discovery inside a tiny marine creature!

THE BOOK NOOK

'The Elements: A Visual Exploration of Every Known Atom in the Universe' by Theodore Gray

How often is it that a book can brag that it covers every known thing in the universe? Theodore Gray's 'The Elements: A Visual Exploration of

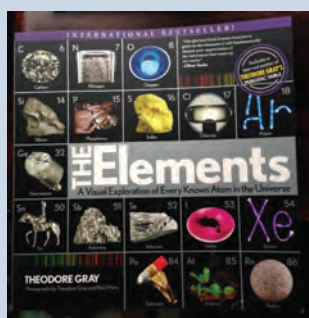
Every Known Atom in the Universe' can do that as the book covers every kind of atom in the world. Since everything in the world (including the newspaper you are reading this in) is built from these atoms, Gray wouldn't be wrong in boasting that about his book.

Students of chemistry know that the master list of atoms is the Periodic Table of Elements, so Gray's book starts with an explanation of the Table. Then we go on to the elements (substances that are made of only one kind of atom), all 118 of

them.

Almost every atom has a double page devoted to it. If the atom can be photographed, there is a large image while the facing page has images and details of things that are created from the atom.

The book is written as though Gray is having a conversation with the reader, so it makes light reading of a very heavy topic. A must for library shelves as well as shelves of chemistry/science buffs.



Published by: Black Dog and Leventhal

Available on: www.amazon.in for Rs. 1034



NUMBERS IN NATURE

Math goes beyond the sums in a workbook and marks in your tests. If you look around carefully enough, you will be able to see math in the natural world. Puzzled? Here is a guide to get you started.



The volcano cone

Shapes in nature

The shapes you learn in geometry are echoed in natural forms. Take the round shape of the Earth, the cone shaped volcano or the parallel lines of a tree trunk— these are geometric shapes. The bee hive has a more complex shape – it is built from six sided hexagons. Nature seems to have chosen this shape as it allows individual wax cells of the hive to fit closely together without leaving any gaps.



Spot the hexagons!



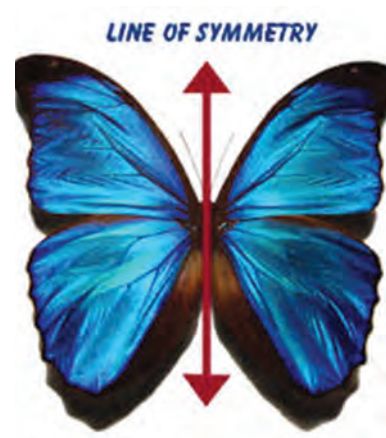
The round Earth

Symmetry

Many natural things have a symmetrical shape – when you divide them in two, each part is a mirror image of the other. It is almost as if Mother Nature is designing her creations with an invisible set of instruments.



For an example of symmetry, just look in the mirror. Each half of your face is a mirror image of the other.



The butterfly's body is also perfectly symmetrical



The examples above have one line of symmetry. With other objects – such as the orange fruit or a flower – you can draw multiple lines of symmetry that divide the object into multiple parts that are exactly alike.

The Fibonacci Numbers

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144

See the pattern of numbers? Each number in the sequence is the sum of the previous two numbers. So, 1 is equal to 0+1, 2 is equal to 1+1, 3 is equal to 1+2 and so on.

This is called the Fibonacci sequence and it is named after an Italian named Fibonacci who described it in the year 1202, though the concept was discovered much earlier by ancient Indians.

How trees branch

The Fibonacci sequence is connected to things in nature such as the way leaves and branches are arranged on trees. Studies of tree branches have shown how from the main trunk (1), two branches split (2), then one of these two branches splits again, while the other one lies dormant, leading to three branches at the third level (3), then five branches (5) at the fourth level, and so on. See the numbers in brackets? 1, 2, 3, 5 ... it's again the Fibonacci sequence.





[The universe] cannot be read until we have learnt the language and become familiar with the characters in which it is written. It is written in mathematical language, and the letters are triangles, circles and other geometrical figures, without which means it is humanly impossible to comprehend a single word.

—Galilei, Galileo



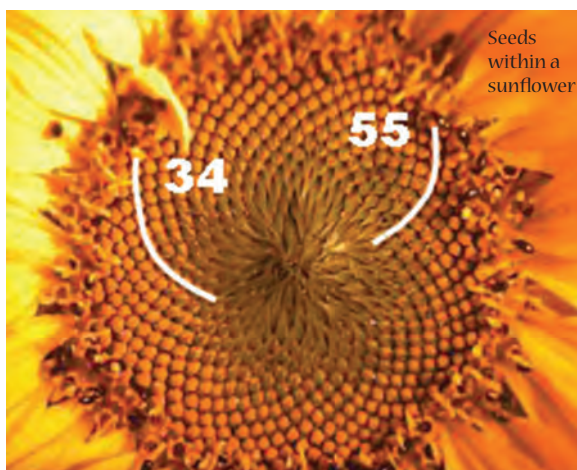
Petals of flowers

Let's look at the number of petals in a flower. In many cases, the number of petals is a Fibonacci number – for example the lily (5 petals), buttercup (5 petals) and the wild daisy (34 petals on average).

The seeds of a sunflower are also a beautiful example of the Fibonacci numbers at work. These seeds are arranged in spirals, some turning clock-wise and some anti-clock-wise. The number of each set of spirals is typically a Fibonacci number – such as 34 and 55 spirals in each direction.



A buttercup flower



Seeds within a sunflower

Scientists believe that plants and trees use Fibonacci numbers in order to grow and develop in the most efficient way possible.

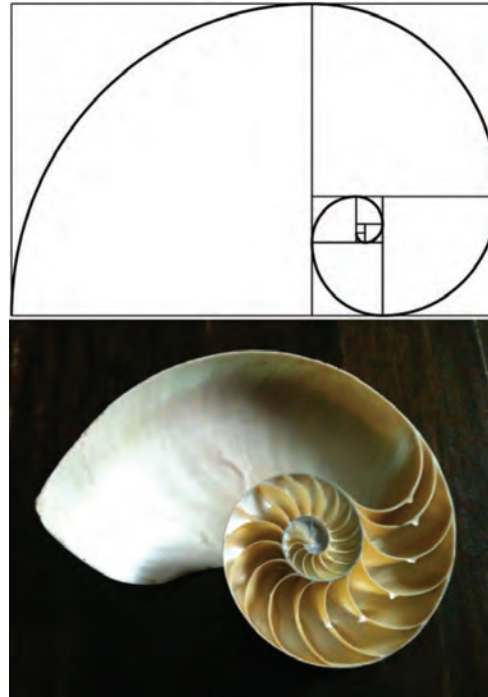
The Golden Ratio

The ratio of two consecutive Fibonacci numbers (such as 5 and 18, 55 and 34) is always close to 1.61. This ratio of 1.61 is called the golden ratio and it too is echoed in nature. Take a look at how your own body demonstrates the use of the golden ratio.



Cicadas and prime numbers

One of the most fascinating examples of math in nature is seen among the cicadas of North America. A few years ago, it was discovered that the cicadas were appearing periodically and this cycle was usually tied to a prime number – that is, they were appearing once every 13 or 17 years in some places. As you know, a prime number is divisible only by 1 and the number itself. By appearing in a prime number cycle, the cicadas may be trying to avoid predators that may appear in two, four or six year cycles. Since the prime number has limited factors, there would be fewer predators appearing in a prime number year (unless the predator itself followed a prime number cycle!). This would reduce the number of newly emerged cicadas killed by predators such as the wasp and praying mantis.

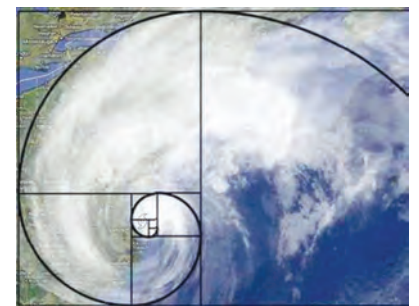


The Nautilus Shell resembles the Fibonacci spiral...

...as does this hurricane

Nautilus Shell

The Nautilus Shell spiral is a beautiful example of the Fibonacci numbers at work. If one were to draw a set of nested squares (one inside another) whose sides correspond to the Fibonacci numbers (1, 2, 3, 5, 8, 13...) and trace a line through their diagonals (line connecting opposite corners), the result would be a spiral called a Fibonacci spiral. The Fibonacci spiral can be seen in the design of the Nautilus shell, spiral galaxies and even hurricanes.



Patterns on animal coats

Have you wondered how the zebra got its stripes and the leopard its spots? The answer may lie in math and in the work done by a British mathematician named Alan Turing. A brilliant man who cracked a top secret German code during the Second World War, Turing was also the father of the modern computer. It was Turing who showed, using a set of mathematical equations (or formulas) how animal cells develop and eventually create unique patterns such as spots and stripes.





INDIA

Farmers up in arms

Prime Minister Narendra Modi's government is headed for a fight with farmers over a law that the government is trying to get passed in Parliament. The law, which allows the government to purchase land from farmers for various kinds of projects, takes away the freedom of the farmer to say 'no' to such a purchase. Under the old land law, the majority of the farmers whose land was being bought had to agree to the sale. The changes brought in by Modi's government allows the government to take over farm land for factories, building of roads as well as homes for poor people, even if the farmers do not want to sell the land. Of course, they will be given money against the land taken but they will not have the freedom to say no to the take-over of their land. The new act is being bitterly opposed by Anna Hazare, who had campaigned against the old Congress government saying it was very corrupt. Anna Hazare protested in Delhi this week along with his followers and many farmers. The Aam Aadmi Party (AAP) and the Congress (both political parties) are



Anna Hazare

also against the law. This may make it difficult for Modi to get the law passed in Parliament.



Kashmir's famous Dal lake

INDIA

New government for Jammu and Kashmir

The Bharatiya Janata Party (BJP) will get to run Jammu and Kashmir for the very first time, along with the People's Democratic Party (PDP). The PDP has been demanding more freedom for the state which is heavily policed by the Army due to India's border problems with Pakistan. With the PDP leading the government, we may see the Army loosening control over some parts of the state. PDP head Mufti Mohammad Sayeed is likely to become the Chief Minister.

WORLD

Oscar for Big Hero 6

Disney cartoon Big Hero 6 won the 'Best Animated Picture' award at the Oscar Awards earlier this week. The Oscars are the most famous film awards in the world.

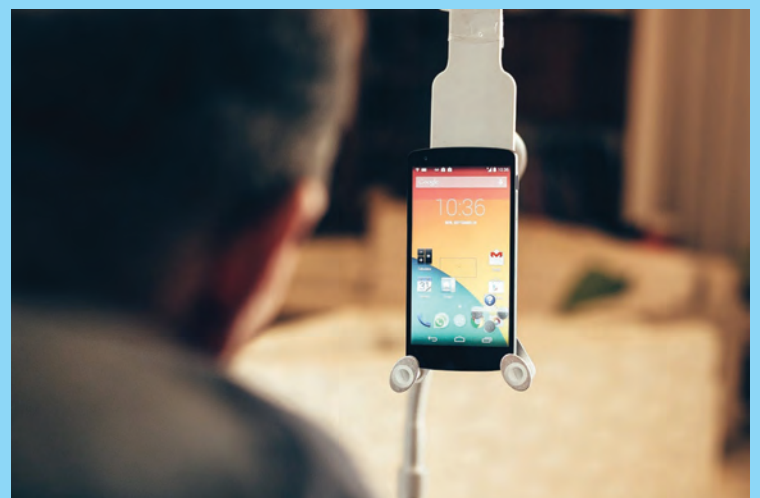
Big Hero 6 is set in the future and features a teenager named Hero Hamada who is a robotics expert. Hiro comes across a massive inflatable robot called Baymax. A special friendship develops between them and the two along with four other friends set out to save their hometown from a terrible villain.

You should watch the film if you like comedies that come with a dose of action-adventure.



WORLD

A phone for those who truly need it



Sesame Enable Ltd., a company from Israel (a country in West Asia) has developed a smartphone for people who are unable to move their hands and arms due to health problems. Smartphones usually work on touch (you touch a part of a screen to make a call or read a message) but if you can't use your hands, then they are pretty much out of reach. The new invention can be operated by simple head movements.

Called Sesame, the phone is mounted on a stand, and its front facing camera uses a powerful computer program to take commands from the user's head movements. Certain moves of the head cause a cursor (a small moving icon) to move on the screen to select various buttons. This way, people who can't use their hands can still make calls, watch videos and communicate with their loved ones.

Yuvraj heads to Delhi

The Indian Premier League (IPL) player auctions held recently offered a few surprises. Yuvraj Singh, who wasn't selected for the Indian World Cup team, has been picked by Delhi Daredevils (DD) for the huge sum of Rs.16 crore. Yuvraj Singh played for Royal Challengers (RCB) last year. Dinesh Karthik who played for Delhi last year moved to RCB in an exact reverse of Yuvraj Singh's move. Delhi Daredevils, which is trying to re-build its team after a poor season in 2014, also snapped up Sri Lankan ODI (One Day International) captain Angelo Mathews for Rs.750 crore. The other big surprise came from an unknown player – off spinner K C Cari-

Why are players 'bought'?

Player selection in IPL happens through auctions – this means that teams bid amounts of money for players, and the team that bids the most gets the player. There is intense competition for players such as Yuvraj Singh, so the price of the player goes up.



Not all team players get auctioned each year – each IPL team retains a core set of players who are kept out of the auction pool. That's why you won't see KKR's Gautam Gambhir or Chennai Super Kings (CSK)'s M S Dhoni being auctioned.

The IPL starts on April 8, 2015.



Yuvraj Singh



K C Cariappa

appa – who was bought by Kolkata Knight Riders (KKR) for Rs.2.40 crore.

Strangely, some excellent T20 players failed to find buyers - Sri Lankans Mahela Jayawardene and Tillakaratne Dilshan, Indian pacer Irfan Pathan, South African batsman Hashim Amla and New Zealand batsman Ross Taylor were not picked up by any team. But they will be re-auctioned before the IPL starts and may find takers second time around.

ICC Cricket World Cup: Surprises at the start



Brendon McCullum

It's been less than two weeks since the World Cup began but there have already been a few surprises popping out of Australia and New Zealand's green cricket fields. Here are some:

England knocked over by New Zealand

The English team, which is much more high profile than the Kiwis (nickname for the New Zealanders), were flattened by the New Zealanders, crumbling to 123 all out in their batting innings. Embarrassingly, the Kiwis won the match in just 12.2 overs, with Brendon McCullum smashing 77 from 25 balls in

the fastest World Cup half century (50 runs) ever.

Irish go one up on the Windies

The Irish are famous for their World Cup upsets (remember the win over England in 2011?). On February 16th, playing at Nelson in New Zealand, they defeated the more fancied West Indies by four wickets. Batting first, the Irish batsmen led by Paul Stirling, Ed Joyce and Niall O'Brien made 307. Fast work by the Irish bowlers resulted in the quick fall of West Indies wickets, leading to a famous win.



Gayle becomes first double centurion at World Cup

Chris Gayle of the West Indies became the first man to hit a double century in a World Cup match by smashing 215 runs in 147 balls to help the West Indies get a massive total of 372 against Zimbabwe.

Gayle scored 16 sixes and 10 fours in his typical fashion, smashing the hapless (helpless) Zimbabwe bowlers. His score accounted for the bulk (large part) of the West Indies' overall score of 372. Naturally, the West Indies won the match.



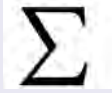


Pin down the Symbol

Here are some common math symbols.
Do you know what they mean?



1



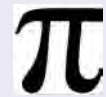
2



3



4



5



6

Answers
1. Infinity
2. Sum
3. Subset
4. Cube root
5. Pi
6. Phi or the Golden ratio (1.61803398875)

UNSCRAMBLE THE WORDS

Re-arrange the
alphabets to
find the word

Hint: All clues are
linked to the theme
of math

1. **CLLCAUAOINT**2. **RUCLACTOLA**3. **OEZR**4. **QTOINEAU**

Answers
1. Calculation
2. Calculator
3. Zero
4. Equation

SUDOKU TIME

		4			2
	1	3			
	5	1			
			3	5	
			6	4	
6			2		

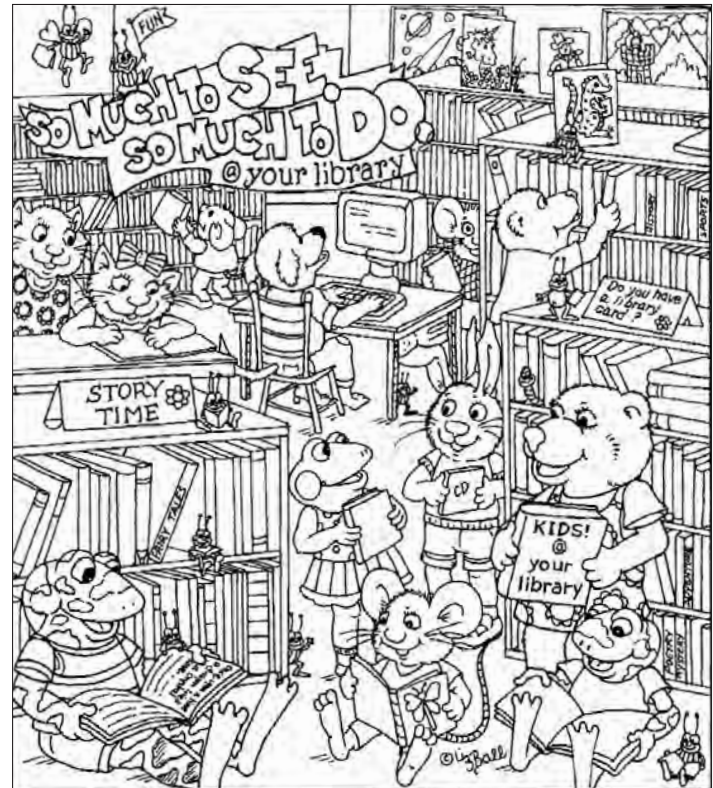
Try your hand at this
Sudoku. Remember that
numbers 1 to 6 can
appear only once in
each of the six rectan-
gles. They can also
appear only once in
each row and column of
the overall square.

3	6	4	5	2	1
5	1	3	2	6	4
4	2	6	3	5	1
3	5	1	4	2	6
2	1	3	5	6	4
5	6	4	1	3	2

Answer

FIND THE HIDDEN PICTURES

Can you find the objects listed at the bottom of the picture?



Top Reads for Kids and Young Adults

1. *Malgudi Schooldays* by RK Narayan
2. *Awful Auntie* by David Walliams
3. *The Kaboom Kid: The Big Switch* by David Warner
4. *Girl Online* by Zoe Sugg
5. *Back in Time* by Geronimo Stilton
6. *Ranji's Wonderful Bat & Other Stories* by Ruskin Bond
7. *Pashu: Animal Tales from Hindu Mythology* by Devdutt Pattanaik
8. *The Incredible History of India's Geography* by Sanjeev Sanyal
9. *Dragons at Crumbling Castle* by Terry Pratchett
10. *Warrior Heroes: The Gladiator Victory* by Benjamin Hulme-Cross



To know more about these books and to buy them, check out

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Child Friendly News or CFN is an age appropriate newspaper for children in the age group 7-13. The newspaper comes out every fortnight. Every issue is written using language that young readers can understand on their own interspersed with pictures and imagery. Quick explanations of difficult words and terms and boxed elements that explain concepts accompany every article — this is to help build vocabulary as well as context understanding. Special reports take up one topic in depth

while regular columns on everyday technology concepts keep children up-to-date with the world around them. A subscription costs Rs. 650 for the year.

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