



Secret connections of the coral reefs!

Coral reefs are secretly connected across vast oceans and that's crucial for their survival

Lord Howe Island lies in the middle of the ocean, about 700 km northeast of Sydney. It's covered in lush forest and fringed by the world's most southerly coral reef ecosystem. This reef system isn't as famous as its northern neighbour, the Great Barrier Reef.

Our new research in the *Journal of Applied Ecology* shows it plays an outsized role in keeping vast coral regions across the Pacific connected and alive. A small number of other reefs in the region serve a similar function.

Coral babies in a vast ocean

Coral reefs are in global decline, but this loss is not just about dying corals — it's about breaking the natural connections that allow reefs to recover after marine heatwaves, cyclones and other threats. Right now, climate change is rapidly reducing the ability of coral larvae to travel between reefs, shrinking their chances of survival by undercutting recovery. These tiny coral babies can sometimes spend many weeks in the surface waters of the open ocean, carried by currents across hundreds or even thousands of kilometres before settling and beginning to grow.

The movement of larvae provides a constant source of replenishment for reefs, both near and far away, which is especially important when reefs are damaged. Without this constant replenishment, some damaged reefs cannot recover. Connectivity isn't a nice-to-have for coral reefs. It's their lifeline.

Tracking across 850 reefs

Our study used ocean circulation models to simulate the trajectories of coral larvae across the southwestern Pacific Ocean from 2011 to 2024, tracking the movement of larvae across 850 reefs. These reefs spanned the Great Barrier Reef, New Caledonia, the Coral Sea and Lord Howe Island. We traced how two key coral growth forms (fast-growing branching corals and slower-growing massive corals) move between reefs under current conditions and under projected global climate warming scenarios of 1°C, 2.5°C and 4°C above pre-industrial temperatures.

We then examined how corals moved between different types of reefs, including reefs that were naturally resistant to heat stress, those that recover quickly after disturbance, and those that stay cooler because of local water currents and upwelling that



naturally reduce water temperature around the reef. This allowed us to ask not just which reefs are connected, but which kinds of reefs are sending and receiving different types of larvae.

A fragile network

We found that only a handful of reefs act as genuine hubs — places where larvae both arrive from distant sources and depart to "seed" reefs far away. Lose these stepping stones, and the entire network begins to fragment.

The Coral Sea reefs emerged as crucial bridges in this network, linking the southern Great Barrier Reef with New Caledonia and beyond. But perhaps the

most striking finding involves Lord Howe Island. Our modelling identified Lord Howe as a potential refugium: a place where corals may be able to persist even as warming intensifies, potentially owing to its more temperate, southerly

position. Yet its very isolation — what makes it a likely survivor — also means it has limited natural connectivity with surrounding reefs. This situation, therefore, cuts both ways: while isolation helps protect the coral from extreme heat stress, it also means the reef relies less on new larvae that others could need for recovery. It therefore also means Lord Howe needs protection — not just for itself, but for the entire regional reef system that may one day depend on it.

Another important finding is that the reefs most resistant to heat stress (those classified as naturally resistant) tended to export larvae to a relatively smaller number of reefs within the wider network. But some techniques enable the intentional movement of larvae from heat-tolerant reefs to more vulnerable locations. These include assisted gene flow, in which scientists deliberately move warm-adapted adult corals to reefs that are more vulnerable to heat stress, helping to spread heat-tolerant genes more quickly across reef networks.

Protecting our marine superhighways
Our results make clear that marine protected areas should not be managed as isolated reserves but as an interconnected network, with trans boundary cooperation between Australia and Pacific Island nations.

Reefs are already fighting against warming oceans. The waters of the Lord Howe Rise and South Tasman Sea, the vast oceanic region between Australia and New Zealand through which these larval corridors flow, are under threat from industrial fishing.

Industrial fishing, pollution and climate change are pushing these ecosystems to the brink, with longlines intersecting surface waters. This cumulative pressure across these newly identified larval transport superhighways adds yet another layer of pressure onto these already stressed ecosystems.

Our research adds a new and crucial dimension to high seas protection. Our region sits directly across the larval corridors that connect and sustain coral reef systems. Protecting this ocean is not just about what lives here. It is about what passes through — fundamental for migratory and connected populations.

The least we can do is protect the superhighways through which their future flows — invisibly, at the ocean surface, some larvae no bigger than a grain of rice, carrying the genetic potential to rebuild what we stand to lose.

The writers are Kate Marie Quigley from James Cook University and Elise Therese Gisele Dehont from Memorial University of Newfoundland, Melbourne. THE CONVERSATION PHOTOS: PEXELS



Have you been following the news headlines?

- 1 Who wrote the book *When There Are Wolves Again*?
- 2 The Chernobyl plant is in which country?
- 3 _____, which started life as an illustration on a 1970s vinyl coin purse, is emblematic of Japan's lucrative culture of "kawaii", meaning cute.
- 4 True or False: NAFTA was a 1994 treaty between the U.S., Canada, and Mexico.
- 5 Which state is the Wallis Annenberg Wildlife Crossing in?

Answers on page 3

Dehradun's 'Upside-Down' school is rewriting the rules of learning

Take a look at this school where lessons go beyond textbooks: children study plants in nearby fields, observe insects, understand seasonal changes, and even connect art forms like mandala designs with mathematical concepts...



DEHRADUN, UTTARAKHAND: In a quiet village surrounded by lush greenery and rolling hills, a small school in Katapatthar is challenging the very idea of what a classroom should look like. Here, learning does not remain confined within four walls — it often unfolds under the shade of trees, across fields, and amidst the rhythms of nature.

This unique initiative, driven by a program called Surah — meaning "a meaningful path" — is reshaping early education by blending traditional learning with real-world experiences. At this school, nature itself becomes a living textbook. The institution caters to around 70 children from nursery to Class 5. But what sets it apart is not just its scenic setting — it is the philosophy that learning should be driven by curiosity, participation, and connection to the environment. Teachers here do not see themselves merely as instructors but as facilitators who learn alongside their students.

Away from conventions

English teacher Niranjana Chakravarti explains that the approach is vastly different from conventional schooling. "In most schools, learning is limited to classrooms. Here, nature plays a central role in how children learn. They don't just exist in this environment — they actively engage with it, ask questions, and explore," she says. The idea for the school was conceived by Shrey Rawat, who grew up in Vikasnagar in Dehradun district. Having witnessed firsthand how education in hilly regions often fails to connect with children's lived experiences, Rawat envisioned a model that bridges this gap.

In 2023, he stepped away from city life to establish a learning space rooted in

inquiry and experiential education. Interestingly, locals often refer to it as the "ultra-pulta" (upside-down) school. But what may seem unconventional is, in fact, its biggest strength. Instead of rote memorisation, children are encouraged to think critically, ask questions, and relate their lessons to the world around them. Teacher Savita Bhatt notes that traditional systems often restrict learning to books, whereas this model integrates environment and academics. "Here, students not only learn concepts but also understand their relevance in real life. It helps them think, connect, and grow," she says.

From students

Students, too, reflect this enthusiasm. Paridhi Tomar, a student, says the school offers opportunities rarely available in rural settings. "We don't just study subjects — we connect them with nature. It makes learning more interesting and meaningful," she says.

Another student, Kavya Verma, recalls a lesson on grains that took place in the fields. "We observed plants, measured their height, and even studied the insects around them. It helped us understand things much better," she shares. This small school in Katapatthar offers a powerful glimpse into an alternative vision of education — one where learning is not limited to textbooks but enriched by experience, curiosity, and the natural world. As India continues to explore reforms in education, such initiatives highlight an important truth: when the method of learning evolves, education becomes more than just acquiring information — it becomes a tool to nurture creativity, confidence, and a deeper understanding of life itself.

REPORT/PHOTO: ANI

WHEELS ON FIRE



A youngster practices skateboarding at a park in the La Campanera housing complex in Soyapango, El Salvador. PHOTO: AFP



20-MINUTE ACTIVITY FOR CHILDREN - 1511

GK Corner (3 mins)



This aerial photograph shows a distributary of the Rupsha river flowing through the lush green cover at Dacope in Bangladesh's Khulna district near the Sundarbans. The Sundarbans is the world's largest mangrove forest, spread across the delta of the Ganges, Brahmaputra and Meghna rivers. It is shared by both India (in West Bengal) and Bangladesh forming a vast network of tidal rivers, mudflats and dense mangrove trees. This unique landscape is not just rich in biodiversity, it is also one of the most important wetland ecosystems in the world. The Sundarbans is a designated "Ramsar Site." What does this title signify in the world of conservation? PHOTO: AFP

Ans: A wetland of international importance

Two-minute comprehension

Read the paragraphs below and answer the questions

Thousands snapped selfies beside sleek Chinese electric vehicles on Friday at the world's biggest car show in Beijing, where automakers are seeking to lure buyers in a cut-throat market.

Rows of influencers posed in front of gleaming models at the cavernous international exhibition centre in the capital, darting to suitcases stuffed with outfit changes, while animated CEOs worked the crowds in front of massive LED screens.

Legacy overseas brands such as Volkswagen, Toyota and BMW once dominated in China, but have lost market share in recent years to domestic firms that beat them to the electric vehicle revolution and undercut them on price.

Chinese manufacturers, including BYD, Xiaomi and Xpeng, are now also at the forefront of integrating AI software and autonomous driving technology into their EVs.

The Auto China exhibition, hosted at two side-by-side venues, spans 380,000 square metres (four million square feet), according to organisers — more than 50 football pitches.

More than 1,400 vehicles from hundreds of Chinese and foreign companies are on display from Friday, when the show opened to industry professionals and the media, and later to the public from April 28 until May 3.

- 1) Where is the world's biggest car show?
.....
- 2) Name a few legacy overseas car brands.
.....
- 3) Name three Chinese car manufacturers.
.....

Unscramble - in a minute





A noun, the word means help or an act of helping behaviour.

Ans: Assistance

Character Crossover

Given below are two characters from different fictional worlds. How would a conversation between them go? Continue the conversation provided.

 <p>Description Jack Sparrow from 'Pirates of the Caribbean' is an intelligent but unpredictable pirate with a talent for getting out of dangerous situations.</p> <p>Jack Jack: It's quite exciting to meet a young lass who can speak with and tame the stormy seas.</p>	 <p>Description Moana from the Disney movie 'Moana' is the daughter of the chief of her village who has the power to converse with the ocean.</p> <p>Moana Moana: The ocean is not something I control, Sparrow. I was chosen by it to return a relic.</p>
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PHOTOS: AP

Journal Writing

5 minutes

Dear Diary,

If I could become the head of any country in the world, it would be...

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LIT-WIT IN TWO MINUTES

Guess the author

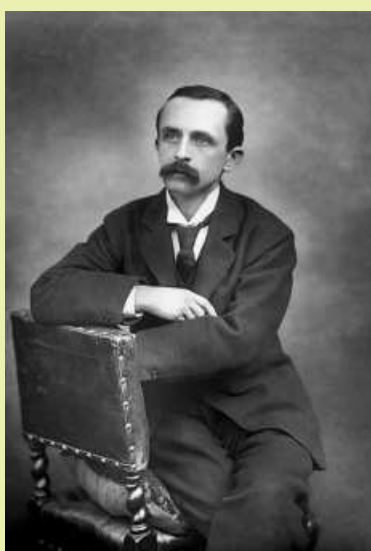


PHOTO: WIKIMEDIA COMMONS

1. This author is best known as the creator of *Peter Pan*.
2. This author is known for popularising the name 'Wendy'.
3. This author was made a baronet by King George V in 1913.
4. Some other works by this author include: *The Little White Bird*, *Quality Street*, etc.

Answer: J. M. Barrie.

WORD BUILDER

How many words can you make with the letters in the word

MANUFACTURERS

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Word of the Day

- 2 minutes

FORTITUDE

Pronounced as: FOR-tuh-tood

Meaning: Fortitude is a formal word that refers to the strength of mind that enables someone to encounter danger or to bear pain or adversity with courage.

Origin: The word originates from the Latin word fortis, meaning "strong."

Usage: To reach the mountain top, the climbers needed immense fortitude.

Activity: Now, use the word in your own sentences.

.....

.....

MINI QUIZ 2 mins...

Today's quiz is all about pumpkins!

1. What is the scientific name for a common field pumpkin?
2. True or false: A pumpkin is a fruit.
3. What color is a pumpkin when it's first growing?
4. True or False: Roughly more than 90% of a pumpkin is water.
5. Are pumpkin flowers edible?



PHOTO: AP

In how many minutes did you complete today's activities?



Answers: 1. Cucurbita pepo, 2. True, 3. Green, 4. True, 5. Yes



PIGS MIGHT FLY

Pigs do not fly in reality. If someone says this phrase to you, it means that they do not believe what you said. It's like something has no chance of happening and yet you say it will happen. This phrase in response is thus full of scepticism and sarcasm. *When pigs fly, there will be good food in the canteen.*



TELL ME SOMETHING I DON'T KNOW

A challenging sarcasm, this idiom means that whatever was said before it was obvious information and is already known to the speaker saying the idiom. It's like someone telling you the weather is cold in winter. Then you reply, "Hah, tell me something I don't know."



THE WHEEL IS TURNING BUT THE HAMSTER IS DEAD

This takes a similar spirit of 'the lights are on but no one's home'. It means that while visible activity is there, there's a lack of cognitive attention. *I don't know how he does it in the middle of the investigation. Look at him, the wheel is literally turning but the hamster is dead.*

A FEW SANDWICHES SHORT OF A PICNIC

If you think someone is acting off, strange, or bizarre, then you can use this idiom. It means that someone lacks a bit (sandwiches) of mental clarity which prevents them from having full of it (picnic). *When I saw Barry run around the garage like a possessed person during the game, I really thought he was a few sandwiches short of a picnic.*



THE LIGHTS ARE ON BUT NO ONE'S HOME

A house with lights on usually gives the feeling that someone's in. This idiom means someone is looking attentive but not paying attention, as if the lights in a house are on but no one's inside. It is also used to refer to people who aren't thinking clearly or are unintelligent. *When I was explaining the science experiment to Iris, she was looking at me lights on but no one was home.* PHOTOS: UNSPLASH IMAGES



FACTS AND FRAMES

Know your idioms

It's time to spruce up your language! Let's read some sarcastic idioms and phrases!

COLOUR ME SHOCKED

This is a sarcastic phrase meaning that the shock, surprise, or amazement is pretty high. This phrase can also ironically be used to mean that you are not surprised or shocked at all. *She is the CEO of that company? Colour me shocked!*



REARRANGING DECK CHAIRS ON THE TITANIC

We know the Titanic has sunk. This idiom means to be misguided, do useless actions, waste time on unimportant things, or do something at a completely wrong time. *Are you all seriously working out the coordinates right now? It doesn't matter anymore. Stop rearranging deck chairs on the Titanic! We need to move.*



CBSE Class 10 second board exams to be held from May 15-21



REPRESENTATIVE PHOTO: SIVA SARAVANAN S/THE HINDU.

NEW DELHI: The CBSE has recently announced the schedule for the second board examinations for Class-10, to be held from May 15 to May 21.

According to the datesheet issued by the Central Board of Secondary Education (CBSE), the examination cycle will begin with the mathematics (standard and basic) paper on May 15, followed by English (communicative) and English (language and literature) on May 16. The science examination will be conducted on May 18.

A cluster of language and elective subjects, including Hindi, Urdu, Punjabi, Bangla, Tamil, Telugu, Marathi, Gujarati and several foreign languages, has been scheduled for May 19. The other subjects lined up on the same day include home science and select vocational courses.

On May 20, students will appear for Sanskrit, painting, information technology and artificial intelligence papers, followed by social science, the last exam, on May 21.

The datesheet was issued by the

controller of examinations, Sanyam Bhardwaj, a week after the CBSE declared the results of the first edition of the Class-10 board exams.

Starting 2026, the CBSE is holding Class-10 board exams twice a year. The first one in February was mandatory, while the second, which is optional, will be held in May for improvement or clearing failed subjects.

Students can take up to three subjects in the second exam and retain their best score, according to the CBSE. PTI

TODAY'S QUIZ: ANSWERS

1. E.J. Swift
2. Ukraine
3. Hello Kitty
4. True
5. California

THE HINDU

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**0% ASSUMPTIONS
100% CLARITY**

A dedicated publication for our young readers, that beats the trap of doom scrolling with curiosity driven learning.

A new edition for teens
COMING SOON



How Wallace and Bates revolutionised natural history

On April 26, 1848, English naturalists Alfred Wallace and Henry Bates set sail for the Amazon from England. The expeditions that followed varied in duration for both men, but yielded profound insights for both. Hear about Wallace, Bates, and how they contributed to natural history..

A.S.Ganesh
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What is natural history?

A domain of inquiry, natural history is the interdisciplinary research and study of organisms. When we say organisms, it includes the entire **gamut** (the complete range or scope of something) of living beings, be it plants, animals, fungi, and even microorganisms. Natural history focuses on the life cycles, behaviours and relationships of these organisms in their natural environment.

Serving as a bridge between the scientific study of organisms and the appreciation of nature, natural history leans more towards observational studies, than over experimental methods or manipulation. This means that natural history emphasises more on direct observation and classification of beings.

English naturalists Alfred Russel Wallace and Henry Walter Bates revolutionised natural history in the 19th Century by switching the domain's focus. What was until then merely about specimen collection, turned into a field that also explored understanding species origins, biogeography, and ecological adaptation. At the heart of their contribution is their voyage to the Amazon, to which the pair headed out together on April 26, 1848 on a ship that sailed out of Liverpool.

DO

Have you ever been about in the outdoors, practising natural history? Try to see if you can arrange a trip like this for your batch through your school. If that isn't an option, gather like-minded friends who are also interested, and head out for a day trip to a nearby region where you can observe flora and fauna. Make sure that you are accompanied by some adults, and it is even better if they are capable of helping you out with what you are observing.

ON PAR WITH DARWIN

Even though Wallace arrived at the theory of evolution by natural selection independently and is considered a co-discoverer of this fundamental process, he is largely overshadowed by fellow English naturalist Charles Darwin, who is identified more readily with this idea. Wallace, in fact, is well remembered for the letter he sent to Darwin following his discovery, prompting the latter to finally come out with his findings.

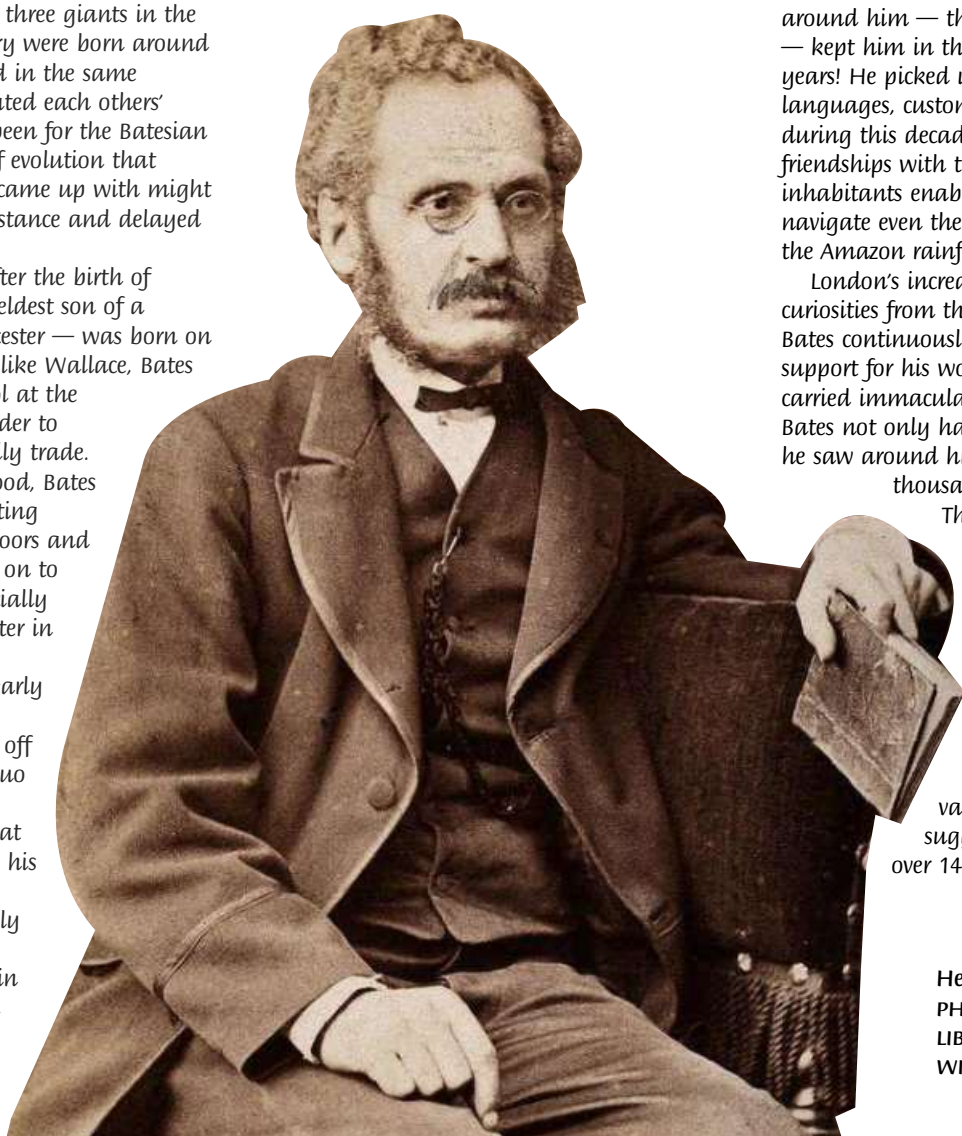
Born on January 8, 1823, Wallace came from a lower middle-class family. This meant that his formal schooling ended at the age of 14 and he never went to any university, having had to make his own living as a young man. He worked as a surveyor with his older brother, developing an interest in the outdoors. Hired as a teacher in Leicester in the 1840s, Wallace

THE MAN BEHIND THE MIMICRY

When you think about it, it is wonderful when you realise that three giants in the fields of natural history were born around the same time, worked in the same decades and corroborated each others' ideas. For had it not been for the Batesian mimicry, the theory of evolution that Wallace and Darwin came up with might have faced further resistance and delayed acceptance.

Twenty five months after the birth of Wallace, Bates — the eldest son of a stocking maker in Leicester — was born on February 8, 1825. Just like Wallace, Bates too had to leave school at the young age of 13 in order to apprentice in the family trade. Right from his childhood, Bates had a hobby of collecting insects, a love for outdoors and adventure. These went on to define his career, especially after a chance encounter in a local library with Wallace when in his early twenties.

Bates' interests rubbed off on Wallace and the duo soon became good friends. So much so that when Wallace pitched his idea for an Amazon adventure, Bates readily accepted and the 23-year-old left home in 1848 for an expedition that would go on to define him.



Henry Walter Bates.
PHOTO: WELLCOME LIBRARY, LONDON / WIKIMEDIA COMMONS



Alfred Russel Wallace. PHOTO: SPECIAL ARRANGEMENT

bumped into Bates by chance at the local library. What followed was a life-changing friendship as Bates introduced Wallace to the pleasures and methods of collecting specimens, especially beetles.

Proposes an expedition

As Wallace wished to investigate the evolution of species, he proposed an expedition to Bates in the autumn of 1847. Setting off to explore the wildlife of the Amazon Basin in Brazil, the duo arrived at the mouth of the river in 1848. They funded their trip by collecting specimens and selling some of them, especially to a broker named Samuel Stevens.

Drawn to insects

After reaching their destination together in 1848 and travelling parts of the Para and Tocantins rivers together, the duo went

their separate ways. While Wallace ascended the Rio Negro, Bates continued to travel deeper into the Amazon.

Even though Wallace headed back in 1852, Bates' wonderment at the fauna around him — the insect life in particular — kept him in the region for over 11 years! He picked up many local languages, customs and hunting methods during this decade, and his close friendships with the local guides and inhabitants enabled him to better navigate even the uninhabited regions of the Amazon rainforest.

London's increasing appetite for curiosities from this region meant that Bates continuously received financial support for his work. His pocket books carried immaculate detail in tiny script, as Bates not only had descriptions of what he saw around him, but also added thousands of pencil sketches.

These helped him write an account of his explorations in the three years following his return to Britain, and the result was an excellent book titled *The Naturalist on the River Amazons*.

His collections were vast, with estimates suggesting that he collected over 14,000 different insect

Statue in bronze of naturalist Alfred Russel Wallace (1823-1913) by Anthony Smith. PHOTO: GEORGE BECCALONI / WIKIMEDIA COMMONS



While they explored together initially, they went their own ways to cover different grounds. Wallace went north towards Colombia, collecting thousands of specimens, mainly birds, beetles, and butterflies.

Loses everything but his life

Wallace decided to turn back in 1852, but disaster struck. On his journey back to England, his ship caught fire, drowning in the Atlantic. Wallace was saved, but precious little remained of his specimens and field notes. As his collections were insured by Stevens, the loss was more scientific than financial.

Undeterred, Wallace set out on another expedition, this time to the Malay Archipelago — now Malaysia and Indonesia — in 1854. In the next eight years, Wallace amassed over 1,25,000 specimens, including nearly 5,000 species unknown to western science.

Wallace's Line

As he accumulated countless specimens, he noticed a distinct pattern of distribution of animals around the archipelago. Wallace proposed a line dividing the two regions in two parts, adding that two faunal populations existed on either side of this line, even though nothing separates them apart from a few miles of ocean. Now known as Wallace's Line, it marks the boundary between the animals of the Asian region and those of Australia.

It was during this expedition that the idea on evolution suddenly struck Wallace. Confined to a hut on the island of Ternate (now in Indonesia) owing to a fever in 1858, Wallace realised how species evolved. He knew then that they changed because only the fittest survived and reproduced, passing on these characteristics to the next generations.

Knowing of Darwin's interest in this subject, Wallace wrote to him immediately. Darwin himself had been sitting on this idea for a couple of decades, but hadn't published or voiced it out yet. Seeking the advice of friends, Darwin was finally pushed to action and presented his own ideas with those of Wallace at a meeting of the Linnean Society.

On his return from the expedition in 1862, Wallace wrote a book titled *The Malay Archipelago*, which was published in 1869 in two volumes. In addition to vivid descriptions and breathtaking illustrations courtesy some of the best illustrators of the time, Wallace also wrote in detail about his local guide in the region, a Malay teenager named Ali, and how he helped both in the collection and in their survival.

Even though Wallace was largely overshadowed by Darwin when it came to theory of evolution, Wallace expressed no **resentment** (shock and anger at having been treated unfairly) at this as he saw himself as Darwin's fan.

Wallace's contribution to the theory of evolution and Darwin's support meant that Wallace had access to the best scientific establishments of the time.



^ A small display of Henry Walter Bates' beetles. PHOTO: NATURAL HISTORY MUSEUM: COLEOPTERA SECTION / WIKIMEDIA COMMONS

species, including 8,000 of them either labelled as new species or unknown to science before. Bates was actually annoyed when curators of the British Museum did not believe it was possible for him to collect so many new species!

Batesian mimicry

Years in the outdoors observing butterflies in the rainforest enabled Bates to come up with his famous idea of mimicry as an explanation. He suggested that poorly protected butterflies that were otherwise vulnerable to predators were protected by copying the appearance of the protected species.

Predators avoided the protected species either as they were unpalatable for them, or because they were toxic. By mimicking the appearance of these species, the other species that were actually palatable and non-toxic also enjoyed the same protection. These species passed on these patterns and colouration then to the generations that followed.

Bates outlined his theory of mimicry in an 1862 scientific paper. Batesian mimicry turned out to be a shot in the arm for the theory of evolution that had been recently proposed by Darwin and Wallace as it was a strong demonstration of evolution by natural selection.



QWIKIPEDIA: A DAILY SEARCH-AND-LEARN ACTIVITY

THE MONDAY'S MARAUDER: FRENCH PRESS → SPADE

Ever been on Wikipedia to search for something? More often than not we start with one topic, click a few links and within no time, are eagerly reading something else. Qwikipedia is a game that tries to quench our curiosity to learn something new. Start with one search from a specific article in this newspaper, and get started on a journey of learning with multiple clicks. Surprise yourself by finding new routes each time!



FRENCH PRESS

A French press, also called a coffee press or a press pot, is a manual coffee brewing device. Coffee is made with the French press by steeping and immersing **coarse grounds** (coffee particles that resemble sea salt) in hot water. Following this, a small plunger is used to separate and hold down the grounds from the liquid. Unlike many other coffee makers, French presses are highly portable. For this reason, the devices are carried by those who take up the activity of **backpacking**.



SPADE

A spade is a sturdy tool that is mainly used for the purpose of digging and lifting soil. It has a straight-edged, flat blade and a long handle. However, this tool can come in many different sizes and shapes, depending on its function. For example, a garden spade is used for reshaping soil beds and mild cultivation and the length of its handle is specially made to be used by a person while they comfortably kneel on the ground. Border spades are much smaller and lighter, and are used for adjusting and maintaining the edges of the beds. In ancient China, the blade of a spade was used as a currency before it was replaced by coins in the Qin dynasty.

BACKPACKING

Backpacking is an activity where a person carries all of their gear and belongings in a backpack while travelling. It is an outdoor recreational activity, where the main concern for the traveller is the weight of their backpack and the contents within it. Hiking is a popular sub-activity that comes with backpacking. This form of travel involves a low budget, with public transport, and staying at inexpensive hotels, shelters, or rented rooms. In Scotland, backpackers are provided with free resting spaces in **bothies**.



BOTHY

A bothy is a type of stone-built shelter that is kept open for any traveller to enter and rest in, free of charge. They can be found around remote regions, mainly in mountainous areas of places like Scotland and Wales. However, one cannot find blankets or comforters within, as these are items the traveller must already possess. But most bothies are situated near natural sources of water, and come with spades that can be used to bury and get rid of waste and trash. Read on to learn more about **spades**.



So, the path we have travelled today is French press → Backpacking → Bothy → Spade
Three clicks! Hop over! It's time for the next question.
Send in your paths for the above to school@thehindu.co.in with the subject: Qwikipedia

PHOTOS: THE HINDU, GETTY IMAGES, WIKIMEDIA COMMONS

IN SCHOOL INBOX

Showcase your creativity

A couple of activity entries sent in by students.

ARTIVITY

Read the newspaper and create an original artwork based on a news item that interests you and send your entry in JPEG format (not as PDF) to school@thehindu.co.in with the subject - Artivity. ONLY artworks based on current news or issues relating to Science, Space, Environment, Wildlife and Sports will be considered for publication. Please AVOID mailing other works. Mention your name, class, school and city in the same mail (not in separate mails).



Name: U Mathi Varthana
Class: X
School: Aravinda High School CBSE, Mangalagiri Mandal, Guntur District, Andhra Pradesh



Name: B Yaswanth Reddy
Class: VIII
School: Ridge CBSE School, Lakshminipuram, Kurnool, Andhra Pradesh

EXTREME SPORTS



This photograph taken on March 28, 2026 shows a mountaineering instructor preparing ropes for climbers during a rock climbing festival at Badami, Karnataka, India, a country obsessed with cricket, has seen a surge in popularity in climbing, but those who want to compete internationally have had to crowd-fund with little government recognition or help. The Indian Mountaineering Foundation (IMF) estimates there are tens of thousands of people who sport-climb regularly. But the rise in those picking it up as a professional career is slow. FILE PHOTO: AFP

GUESS WHO?



He was a Florentine diplomat, author, philosopher, and historian of the Italian Renaissance. He advocated for political realism — stating that rulers must prioritise the state by hook or by crook. He is best remembered for his political treatise *The Prince*, an instruction guide for new princes which was published around 1532. He is often called the father of political philosophy and political science.

Answer: Niccolò Machiavelli

SUDOKU

5			2	6	8		7
4							3
	6		5				
				2		4	
2	3		6	1		9	8
	4		9				
				9		8	
	7						6
9		8	3	6			1

DIFFICULTY RATING: ★★☆☆☆

A mind game and a puzzle that you solve with reasoning and logic. Fill in the grid with digits in such a manner that every row, every column and every 3x3 box accommodates the digits 1 to 9, without repeating any. The solution to today's puzzle is at right.

1	7	2	4	6	3	8	5	9
6	9	8	1	5	2	4	7	3
4	3	8	9	7	6	5	1	2
8	5	3	6	2	4	1	9	7
2	3	5	6	4	1	7	9	8
3	5	6	2	5	4	3	8	1
6	1	9	8	7	2	5	4	3
7	6	1	5	8	3	4	2	9
4	8	2	1	9	7	6	3	5
5	9	3	4	2	6	8	1	7

BAI launches nationwide mascot contest



This is Blaze, one of the two mascots at the ICC T20 World Cup this year. Do you think you can design a mascot for the World Championships in badminton? FILE PHOTO: THE HINDU

PARTICIPATE!

Here's your chance to design and submit a mascot for the upcoming BWF World Championships 2026.

What should the mascot represent? A visual identity that brings together India's sporting ascent, cultural richness, and deep connection with badminton.

Who can participate? Open to all ages.

Deadline: May 10

Prize: ₹25,000, along with VIP tickets to the semi-finals or finals of the event.

NEW DELHI: The Badminton Association of India (BAI) has announced a nationwide mascot design contest for the upcoming BWF World Championships 2026, inviting fans, artists, and creators to play a role in shaping the identity of one of badminton's most prestigious global events.

Conceived to deepen fan engagement and celebrate India's rich cultural diversity alongside its growing badminton legacy, the initiative marks a first-of-its-kind effort by BAI to bring the community closer to the sport.

With the BWF World Championships returning to India after 17 years, the initiative underscores both the scale of the event and the country's rise as a badminton powerhouse, highlighted by 15 world championships medals in the past decade, including PV Sindhu's historic gold in 2019 and Satwik-Chirag's bronze last year.

Unique opportunity

As New Delhi prepares to host the global show-piece, the mascot search offers a unique opportunity to craft a visual identity that reflects India's sporting ascent, cultural richness, and deep-rooted connect with badminton. Open to participants of all ages, the contest runs from April 18 to May 10, with the winner set to receive ₹25,000 along with VIP tickets to the semi-finals or finals.

"Badminton today is played and loved across every corner of India, cutting across regions, cultures, and backgrounds, and that diversity is what truly defines the spirit of the sport in our country," said BAI general secretary Sanjay Mishra.

"With an event of the stature of the BWF World Championships coming to India, we wanted to celebrate this India rising story through a fan-first approach. This competition is an effort to bring fans closer to the tournament, giving everyone an equal opportunity to contribute to its identity." PTI

“This competition is an effort to bring fans closer to the tournament, giving everyone an equal opportunity to contribute to its identity.”

F1 makes rule changes after drivers' criticism

Changes to promote flat out qualifying and safer overtaking

PARIS, FRANCE: Formula One chiefs unanimously agreed last Monday to make rule changes following severe criticism of new regulations introduced this season which led to doubts over Max Verstappen continuing in the sport.

The new rules made cars a combination of combustion and electrical power, meaning drivers had to carefully manage their battery, effectively slowing down on a qualifying lap, while the cars had boost buttons to allow them to overtake.

Four-time world champion Verstappen called the new style of racing "a joke" after the Chinese Grand Prix and hinted he would take a break from F1 in 2027 unless changes were made.

Other drivers had criticised the new rules and fans said the changes had detracted (diminish the worth or value of a quality or achievement) from the experience of spectators.

New rules from Miami GP

Following an online meeting between F1, its governing body FIA, and the sport's team principals, tweaks to the rules have been finalised and are set to come in for the Miami Grand Prix on May 3. That race will end the season's enforced five-week break following the



Formula One driver Max Verstappen (centre), seen here answering questions during a show at Theater Amsterdam in Amsterdam on April 16, 2026, has been verbal about his intense dislike of the regulations that came into effect this season and the car performance, and has also openly stated that he is even considering leaving the sport. PHOTO: AFP

cancellation of the Bahrain and Saudi Arabia races due to the conflict in West Asia.

Among the changes, energy harvesting — which helps the driver charge the battery — will be reduced from eight megajoules to seven and the hybrid power unit will be increased

from 250kw to 350kw.

The changes are designed to allow the drivers to go at full speed for longer in qualifying.

Another change has been made to the boost button, after British driver Ollie Bearman's high-speed crash at the last round in Japan, which was

attributed partly to the difference in closing speeds.

The boost button will now be capped at 150kw, "limiting sudden performance differentials", the FIA said in a statement.

More talks after May 3

Further talks are set to take place after the Miami Grand Prix.

Mercedes team principal Toto Wolff cautioned against sweeping changes to the rulebook, after his drivers Kimi Antonelli and George Russell made a fast start to the season. Antonelli leads Russell by nine points in the standings after the first three races.

Speaking before the meeting, Wolff said: "The discussions that have been taking place between the drivers, the FIA, Formula One, and the teams have been constructive. And we all share the same objectives."

"It's how can we improve the product, make it out-and-out racing, and look at what can improve in terms of safety, but act with a scalpel and not with a baseball bat."

"We are going to ratify, in order to evolve, because there has only been three races. We need to learn from the past, where decisions were sometimes made in an erratic way, and then we overshot and realised it wasn't good."

"We are custodians of the sport and we have many hundreds of thousands of fans that love F1. In order to protect this huge opportunity that the sport gives us, we shouldn't badmouth in public our own sport." AFP

“It's how can we improve the product, make it out-and-out racing, and look at what can improve in terms of safety, but act with a scalpel and not with a baseball bat.”

A decade on, Leicester fairytale turns sour

Ten years after being crowned Premier League champions, Leicester relegated to third tier

LONDON, ENGLAND: Ten years after authoring the ultimate sporting fairytale, former Premier League champions Leicester were relegated to the third tier for only the second time in their history after a 2-2 draw against Hull on Tuesday.

Rapid decline

It would be a third relegation in four seasons for Leicester, who dropped out of the Premier League in 2023 and 2025. Leicester will play in the third tier for the first time since 2008-09 following an astonishing decline over the last five years.

After Jamie Vardy, Riyad Mahrez, N'Golo Kante and company defied 5,000-1 odds by winning the Premier League in 2016, Leicester reached the Champions League



INCREDIBLE HIGHS, INCREDIBLE LOWS! The likes of Jamie Vardy (right in right) and Riyad Mahrez (left in right) defied 5,000-1 odds to win the Premier League in 2016. In 2026-27, that same club will be playing in the third tier in English football. FILE PHOTOS: AFP

quarter-finals the next season and won the FA Cup in 2021.

But Leicester's golden era is a distant memory as they now face the unpalatable prospect of playing the likes of Bromley, Mansfield and Wycombe next season.

Crashing out of the Premier League in limp fashion three years ago should have been a wake-up call for Leicester's Thai owner Aiyawatt Srivaddhanaprabha and much-maligned sporting

director Jon Rudkin.

But Leicester's hierarchy were painfully slow to address numerous flaws on the pitch, while the club's ruinous finances have cost them with a six-point deduction this season for breaching spending rules.

Vardy's departure at the end of last season severed the last tie with the title-winning squad.

Marti Cifuentes, hired to lead a promotion push, struggled to rebuild before his sacking in January. Interim

boss Andy King was unable to turn the tide and relegation fears began to mount.

By the time Gary Rowett was hired in February, the Foxes were two points from safety and the former Leicester defender has mustered only one win from his 11 matches since.

"Horrible part"

"We have to learn. I think the club have to accept this is the horrible part of the journey of a football club," Rowett said.

"This club won the Premier League not too many moons ago. That was an incredible high at the time for the fans, for everyone associated with the club."

"I think everyone saw that as an amazing achievement. I think we can be equally as disappointed with how poor this moment is."

Boardroom blunders have been the defining influence on Leicester's plummet to League One. AFP

TRUMP THEM Have you read today's The Hindu In School?

Using the newspaper as a tool, enhance your learning process. Pick images of two individual sports stars in our sports page today and create your own trump cards!

Fill up the player's name and the parameters on the left side column (height, weight, date of birth and matches played) for both cards as these are common parameters regardless of the sport they play.

For the column on the right, pick and choose the parameters that you want to fill in. For instance, it could be four of runs, batting average, strike rate, wickets, bowling average, economy rate, and catches for cricketers. In tennis, it could be four of highest ranking achieved, current ranking, titles won, grand slam titles won, aces served, etc. In football, you could be picking from goals, assists, clean sheets, red cards, yellow cards, and more. And in basketball, choose four from points, assists, rebounds, steals, and blocks.

Feel free to choose any four parameters in each sport. But once you've selected them, stick to the same every time you fill in player details for players in the same sport. This is important if you want to use them as trump cards.

Once you have filled in all the details, cut out both completed cards from the newspaper and stick it on to chart paper of the same size. This way, they will retain shape and not be too flimsy. When you have created enough cards for any single sport, you will be able to use them all as trump cards and play with your friends or family members.



Name

Height (cm)

Weight (kg)

Date of birth

Matches played



Name

Height (cm)

Weight (kg)

Date of birth

Matches played