Macmillan Budding Scientist

Mini Science Newsletter

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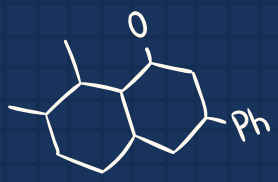
Hello young scientists!

Welcome to the fourth MINI (that's a clever acronym for Macmillan Education India and Nature India) **Science Newsletter!**



Here, you'll find exciting discoveries happening right now in India's science. Think of this as a fun way to go beyond your school science books, which do a great job of teaching you the fundamentals.

But science is all around you, every day!

This newsletter will help you discover how Indian scientists are making new inventions, solving big problems, and exploring the world in ways that can change our future.

In this issue, we feature a fossilised leaf that tells the history of India's forests, how your great-grandparents can affect your immunity and a new weapon against blood cancer.

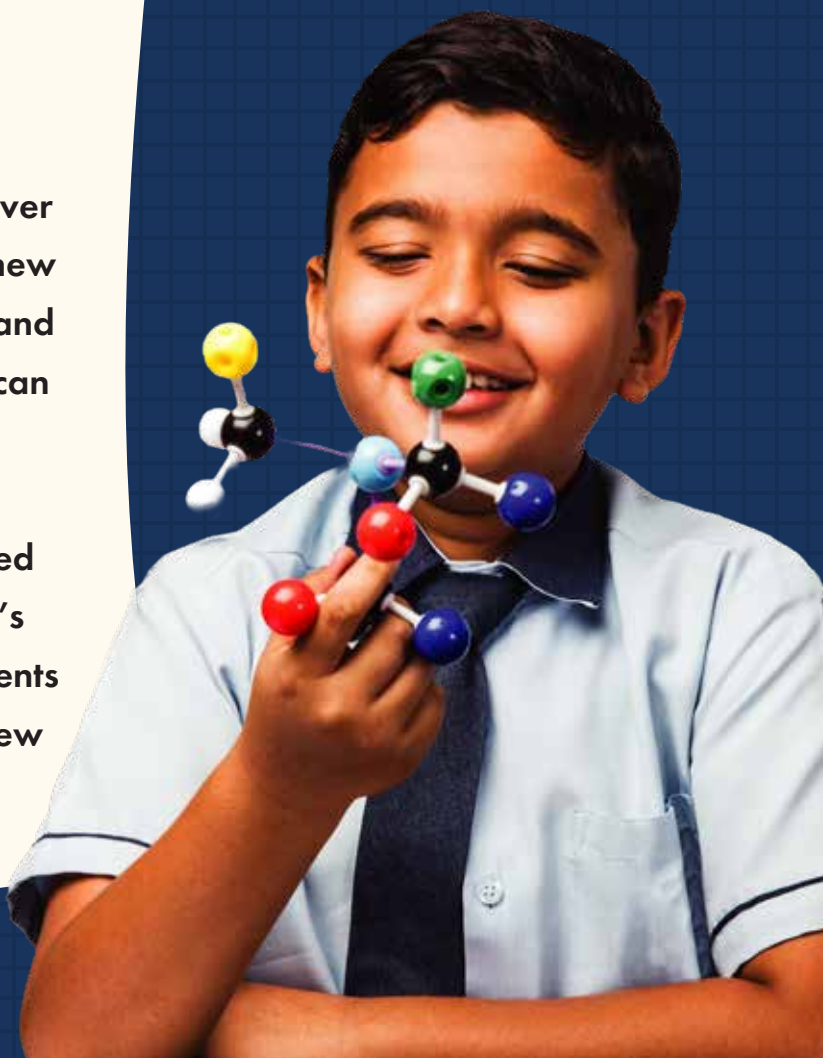


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Photo Credits: Nature India

Leafy fossil tells a history of Indian forests

Photo Credits: Nature India

A 23-million-year-old leaf fossil found in Assam is helping scientists piece together India's natural history. The leaf belongs to an ancient relative of Nothopegia, a tree now found only in the Western Ghats. This old forest remnant reveals that long ago, a lush forest strip stretched across India, connecting the two biodiversity hotspots– Western Ghats and northeastern Himalaya.

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Leaf fossil reveals an ancient green highway across India

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What your grandparents ate back then could affect your immunity now!

Photo Credits: Rupsy Khurana

What if your great-grandparents' diet could affect how you fight germs today? Scientists studied fruit flies raised on a poor diet for over 270 generations and found something surprising: young flies fought infections better than well-fed ones. But as these flies aged, that power faded. It turns out that being strong early in life can come with hidden costs later on. Scientists are still figuring out how ageing and disease affect our immunity, but one thing's for sure, you still need to eat your veggies (no sneaking out of it!)

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What fruit flies raised on a poor diet tell us about ageing and disease

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Can your immune system work against you? Well, sometimes!

Why do some people get severely sick from dengue while others don't?

Scientists have discovered a special type of immune cell that tells other cells to make tons of antibodies to fight the disease-causing virus. But instead of helping, this flood of antibodies can push the immune system into overdrive, accidentally causing trouble.

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Why some dengue cases turn severe

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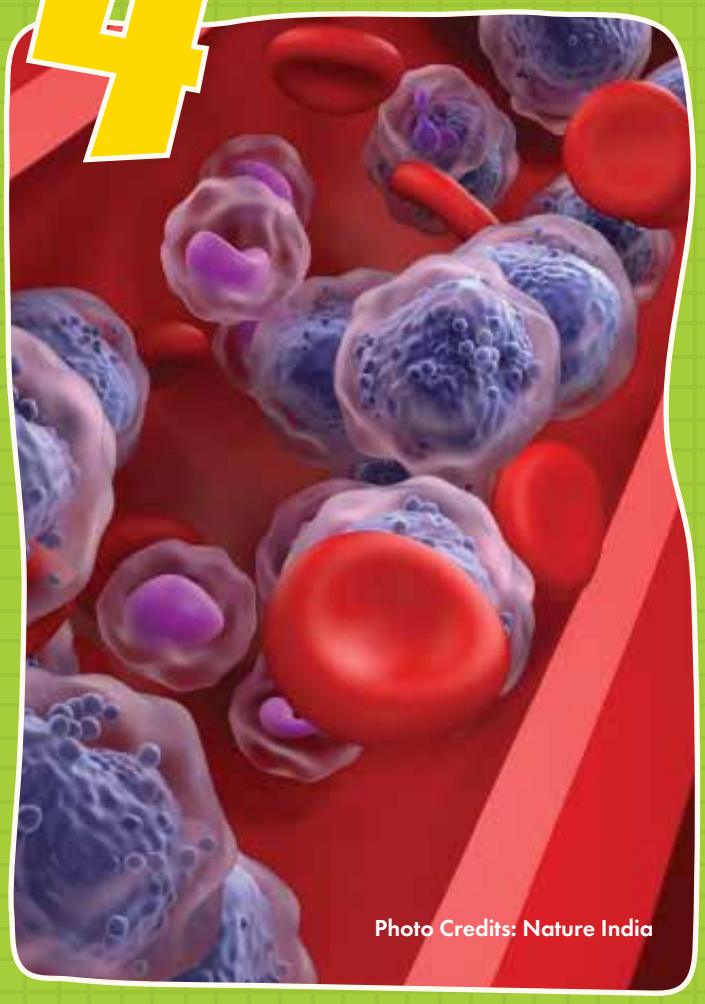

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A new weapon against blood cancer

Scientists have discovered a new organic compound that can stop acute myeloid leukemia (AML), a type of blood cancer. This compound targets only the cancer cells and spares healthy ones.

The researchers found that it tricks cancer cells into stopping their growth and dying—like a "stop" button for the bad cells. This could mean safer treatments without nasty side effects.

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A metal-free hybrid compound to fight AML

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Mini vesicles could help deliver medicines inside the body

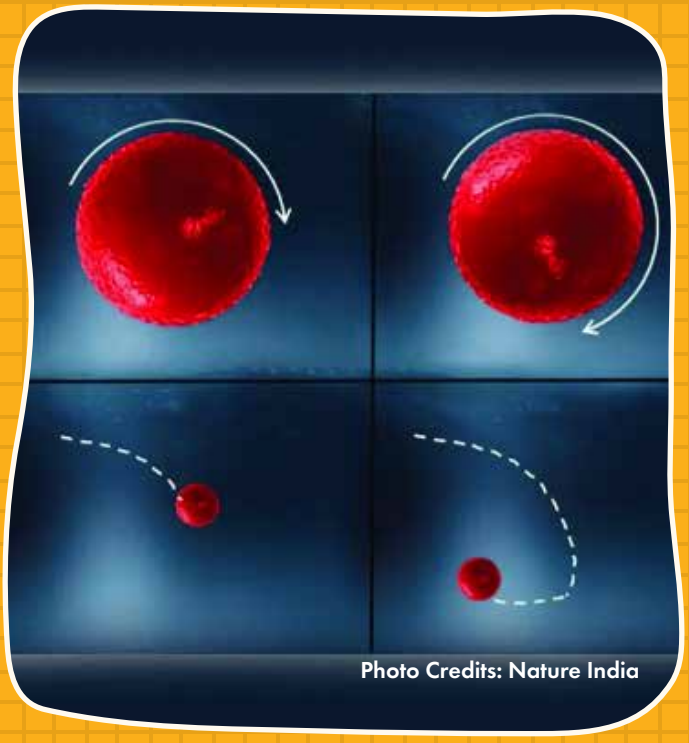

Photo Credits: Nature India

Scientists have created super-tiny bubbles made from molecules that form cell membranes. These bubbles can swim on their own, without magnetic fields, motors, batteries, or even remote controls.

Think of an oil droplet moving around in water on its own. Inspired by how microbes wiggle and spin, these vesicles could one day carry medicines inside the body or help detect diseases.

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Tiny artificial vesicles that can swim on their own

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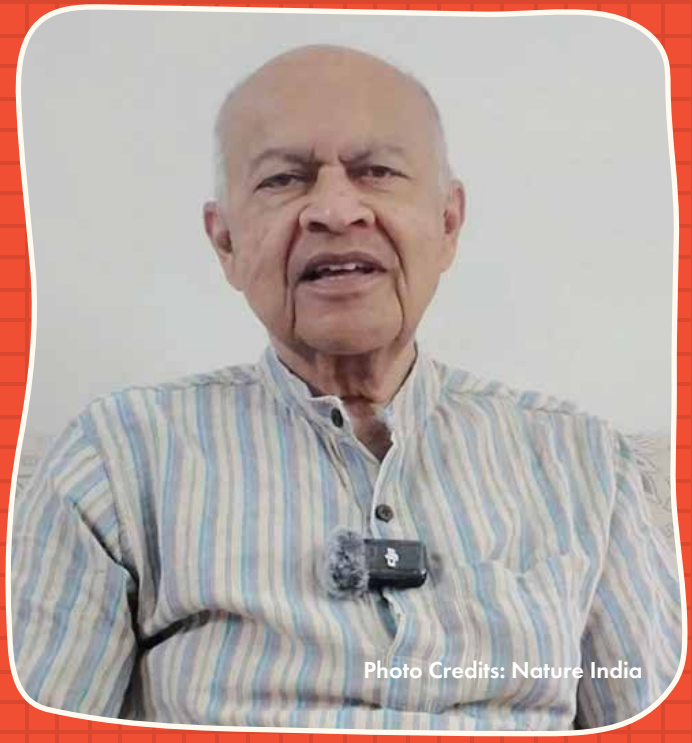
Photo Credits: Freepik

Jayant Narlikar: India's star scientist who helped us understand the universe better



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Jayant Vishnu Narlikar was an Indian astrophysicist who studied stars and galaxies and challenged the famous Big Bang theory, which says that the universe was created in a single moment from a single point almost 14 billion years ago. He helped build some of India's top research institutions. Narlikar loved popularising science and wrote several books in English, Hindi, and Marathi aimed at young readers like you to spark interest in science and the universe. You may have come across some of them, like The Comet.
He passed away in May 2025, at the age of 86.

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Jayant Narlikar, visionary astrophysicist and science populariser, dies at 86

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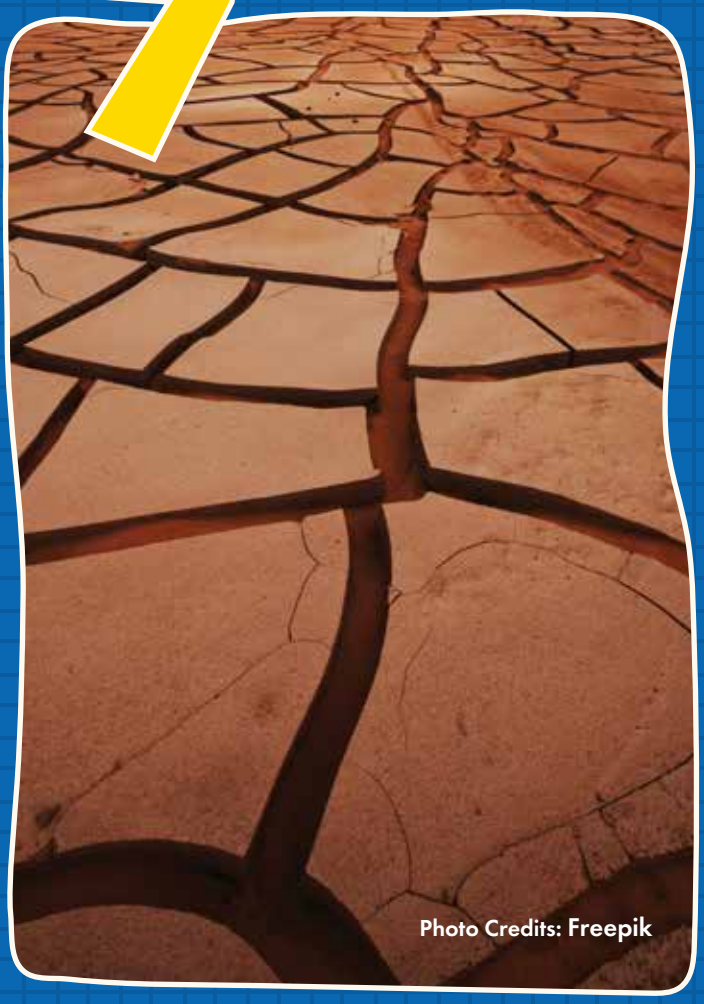

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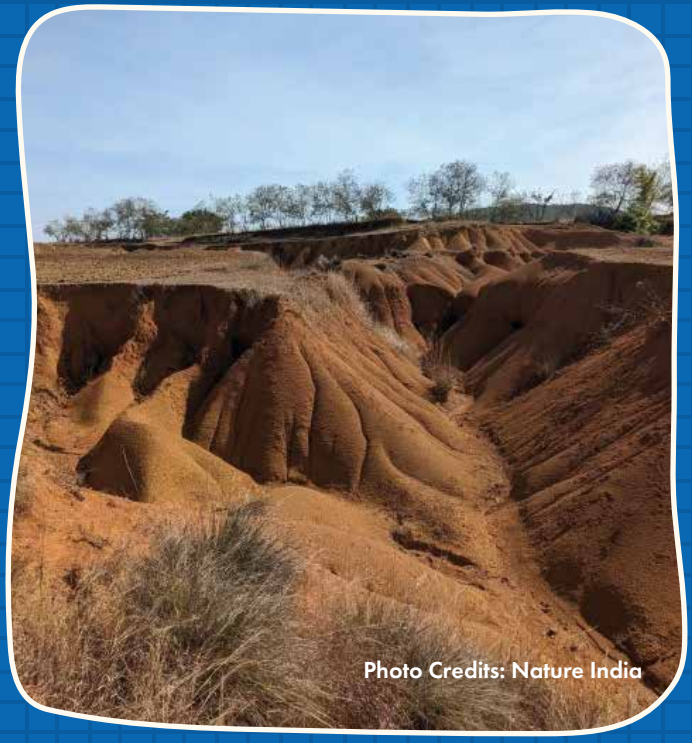
Losing the land beneath our feet

India's land is quietly crumbling in some places. Scientists have found that gully erosion, where rainwater carves deep ditches into the ground, is worsening in eastern states like West Bengal, Odisha, and Jharkhand.

This erosion damages our agricultural fields, forests, and villages. As deforestation, poor land use practices, and climate change take a toll on our landscapes, it is more important than ever to protect fertile soil and stop erosion. Do you have ideas to help save our land for the future?



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India's erosion crisis puts eastern states at greater risk

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Fun Fact

Elephants rarely get cancer. That's because they have extra copies of a special gene called TP53 that helps their cells spot and fix damage before it turns into cancer.

Do you know there are animals in the ocean that can heal their wounds super fast thanks to their extraordinary immune system? Want to find out who? Check out the next issue or write to us if you know the answer!

Text and immunity illustration: Rupsy Khurana | Picture credits: iStock Images, Freepik.com

Know a fun fact or working on a cool science project?

Write to us at

macmillanmarketing@macmillaneducation.com

We want to hear from you!

Want to learn more?

If there is something you are curious about, ping us at

https://macmillaneducation.in/

We will try to include it in the next issue!

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