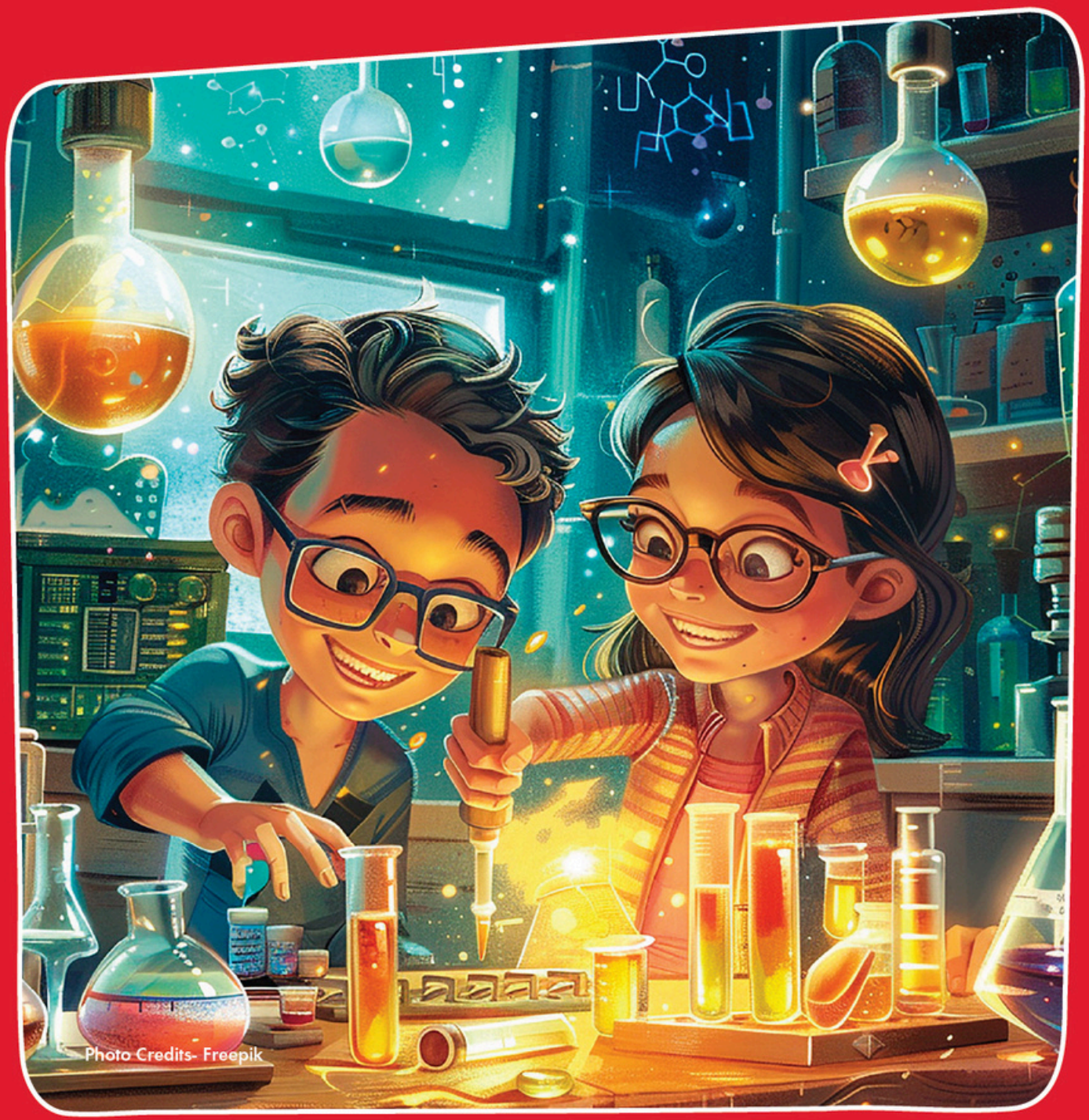
Macmillan Budding Scientist

Mini Science Newsletter

nature india



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Hello young scientists!

Welcome to the 5th MINI (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

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Science is happening 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.

The newsletter also brings to you the latest news concerning India's science and scientists. In this issue, we feature the tiger detectives, a 20-million-year-old whale tale, how snake venoms can change with climate and much more.

1 Tiger detectives

As forests shrink and prey becomes scarce, tigers are increasingly wandering into villages in search of food. Often, they attack livestock, which is costly for farmers. That's when the forest department steps in - to trace the predator and prevent future losses. To make sure they identify the suspect correctly, scientists are using DNA from hair and saliva–that the tiger leaves behind at the kill site – to figure out which tiger was at the scene.

Photo Credits- Lonely Planet

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Genetic sleuthing links tigers to livestock losses

2 A 20-million-year old whale tale

Scientists found ancient whale bone on the banks of a dried river in Kutch, Gujarat. These fossils are about 20 to 23 million years old and were buried alongside shells of sea creatures like snails and clams. Long ago, this land was a warm, shallow sea full of whales, sharks, and dugongs. This is India's first "whale fall" fossil—when a dead whale sinks to the ocean floor and becomes food for deep-sea creatures.

Photo Credits- DNA India

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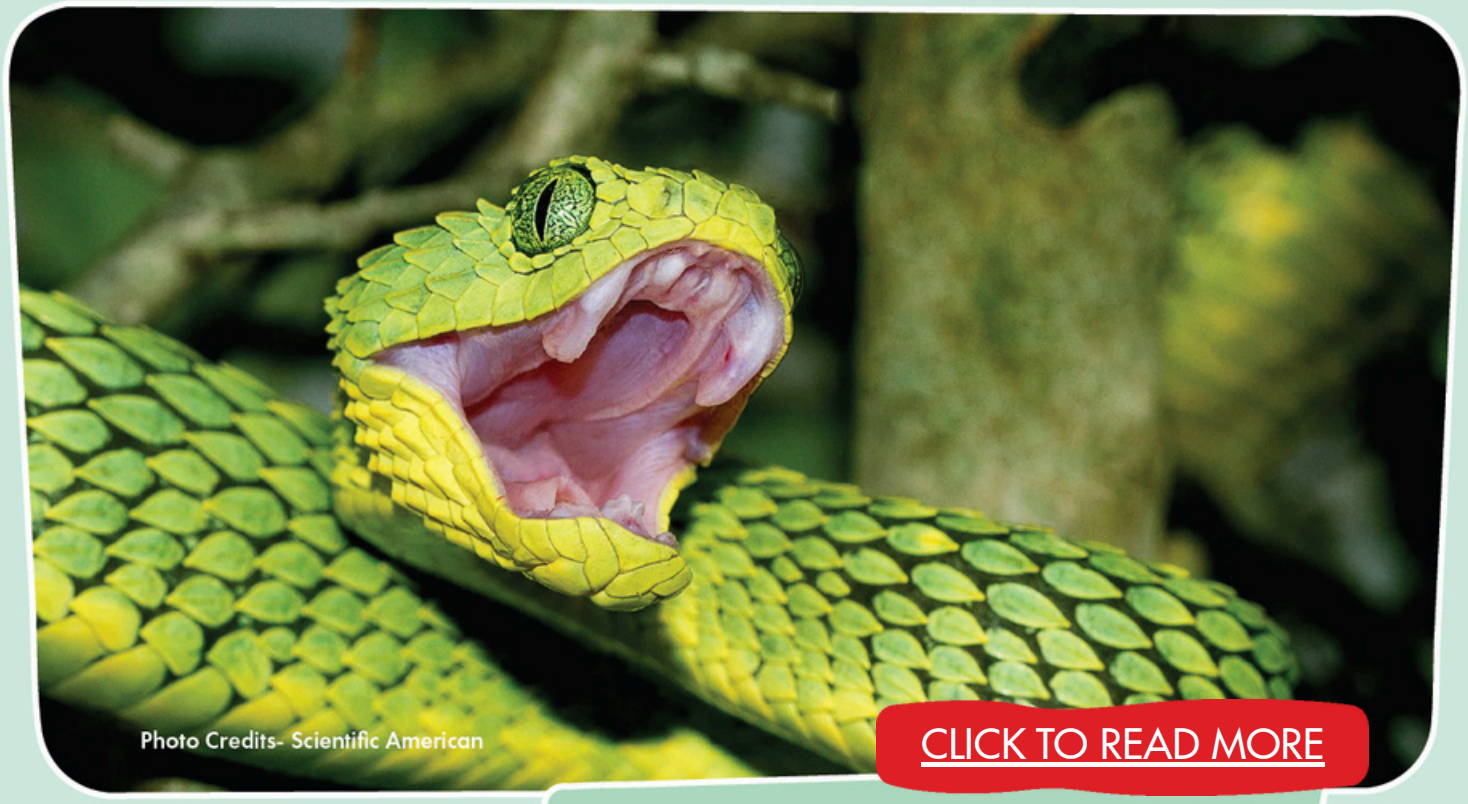
Fossils reveal the fate of an ancient whale

3 Climate can affect how deadly a snake's bite is going to be!

Snakes are important to ecosystems. But sometimes, coming across a snake can be scary, especially if it's one of the "big four" venomous snakes in India. One of them, the Russell's viper, is responsible for more than 40% of snakebite-related deaths in the country. But how dangerous its bite is can change depending on the local climate. Scientists found that in dry areas of north-western India, the venom of Russell's viper is stronger. In the wetter, rainier parts of southern and northeastern India, the venom is less toxic.

Since it's monsoon time, snakes might be out and about too. So if you are heading outside at night to splash in puddles, don't forget to wear your shoes.



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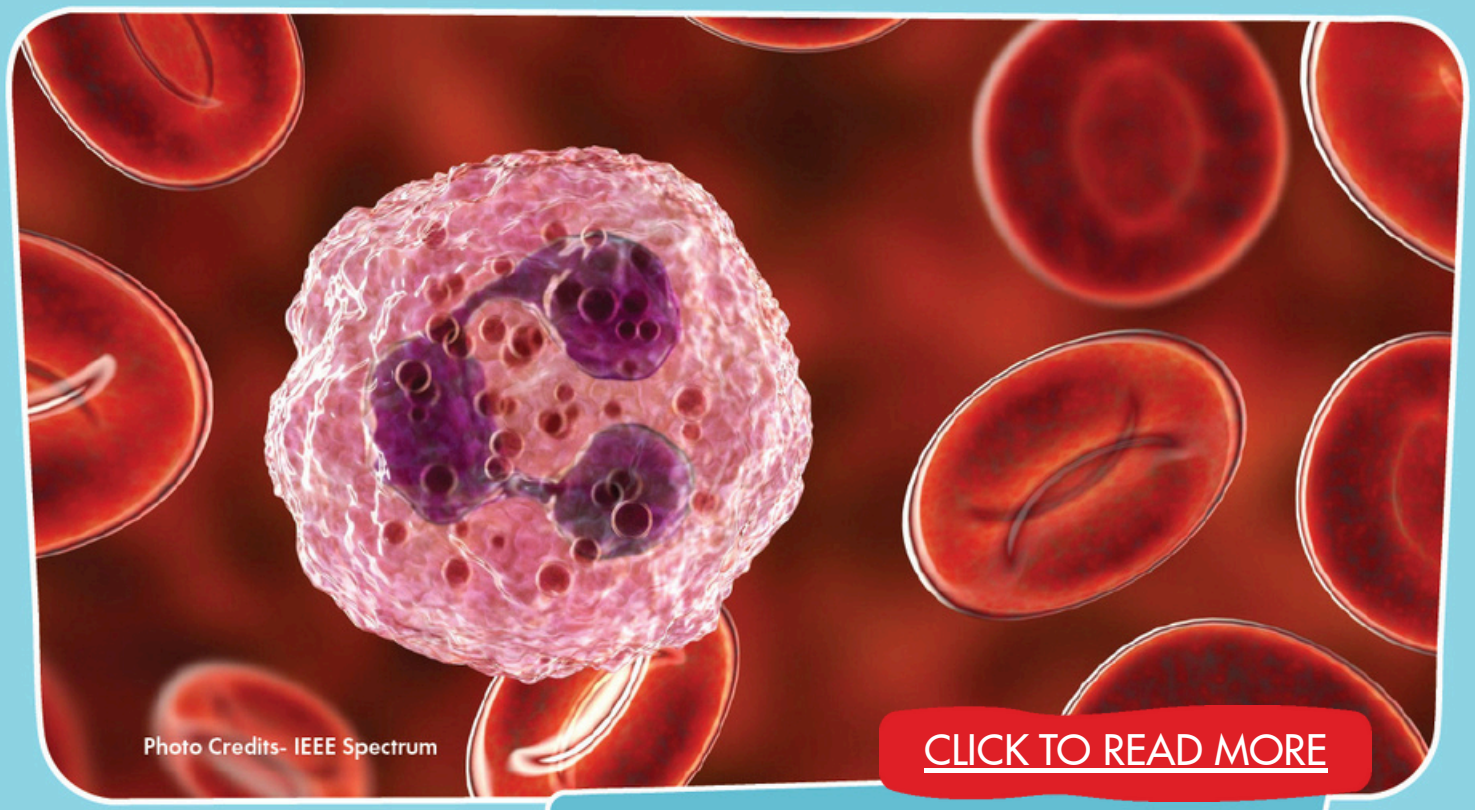
Climate affects venom toxicity of deadly snakes

4 Nanoparticles that can help stop blood clotting

Scientists have made nanoparticles that can help stop blood from clotting too soon. These special particles - thousands of times thinner than a human hair - worked in both mouse and human blood. This can help keep blood liquid for up to two days, which means doctors might be able to store it longer and use it more safely for tests or even help patients who suffer from blood clotting disorders.



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Nanoparticles stop blood clotting

5 Clever math trick to peek inside ancient volcanoes

Geologists have come up with a clever math trick to peek inside ancient volcanoes. They studied special rock formations called dykes, which are like frozen magma highways that once carried hot lava to the surface. These dykes now stick out of hills like rocky stripes. Scientists found a way to determine the pressure of magma underground by measuring only the size of the visible part.

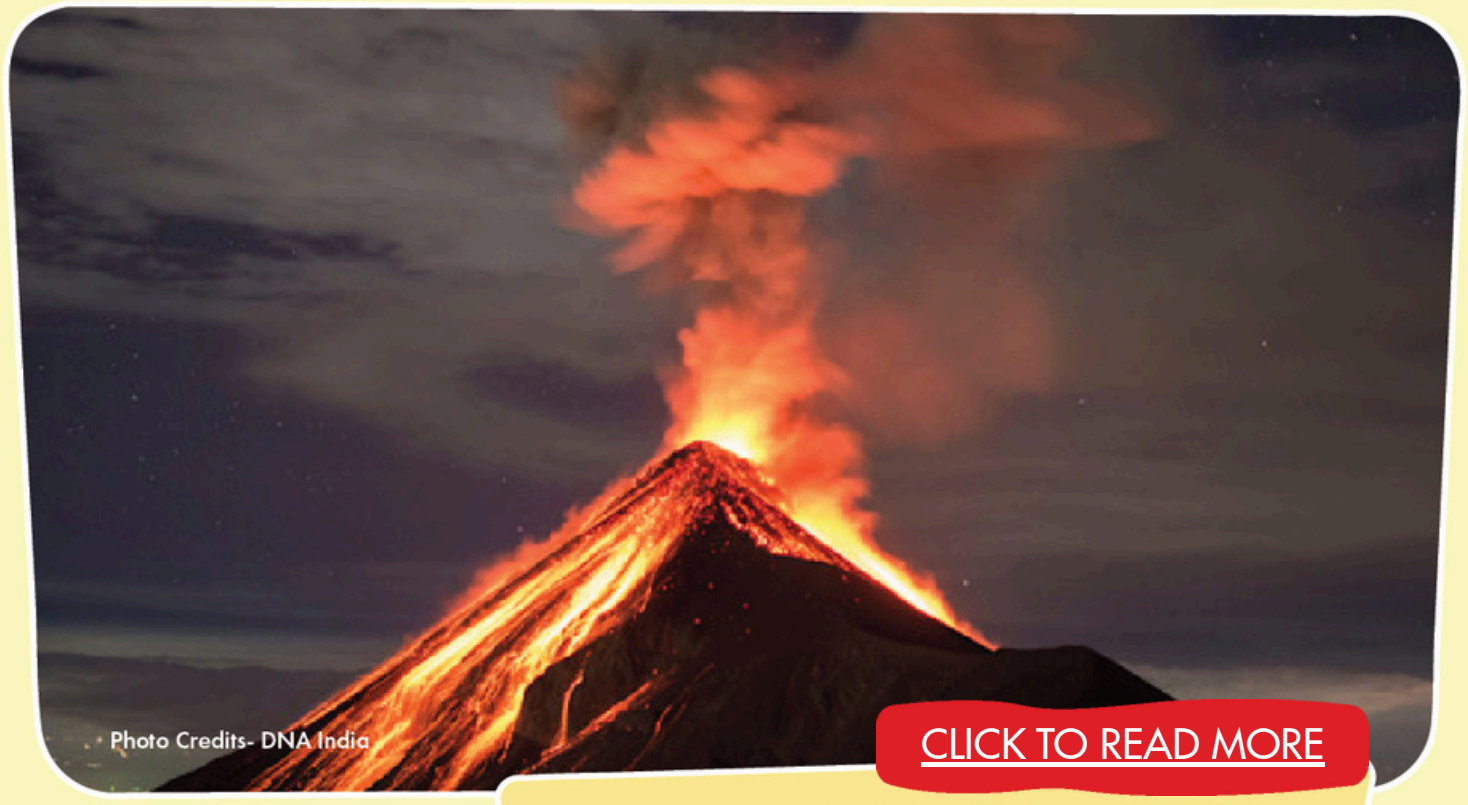

Photo Credits- DNA India

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Model reveals hidden magma pressures beneath Earth's surface

6 DNA tells the history of pig domestication

Geneticists show that people living near the Ganga river may have been some of the first in India to raise pigs, about 5,000 years ago. Scientists at Banaras Hindu University looked at pig DNA from all over the world and found that Indian pigs didn't come from outside, like many thought. Instead, people in the Ganga plains likely domesticated them, meaning they raised wild pigs to live and work with humans. They also found two other pig families: one from the Andaman and Nicobar Islands, likely brought by travellers from Southeast Asia, and another from Northeast India, with pig ancestors related to wild boars in China.

Photo Credits- Thought Co.

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Ancient DNA, rock art point to pig domestication in India

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Fun Fact

Some whales make sounds so loud, they can be heard hundreds of kilometres away in the ocean. The blue whale, for instance, is not just the largest animal on Earth. It is also one of the loudest. Its low rumbling calls can reach up to 188 decibels, which is louder than a jet engine!

Yet, there is one more marine animal much louder but much smaller than the blue whale! Do you know who that is? Write to us if you know the answer.

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

Write to us at

macmillanmarketing@macmillaneducation.com

We want to hear from you!

What are you curious about?

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

https://macmillaneducation.in/

We will try to include it in the next issue!

For more science news, views, opinions, research highlights and podcasts, head to Nature India www.nature.com/natindia

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