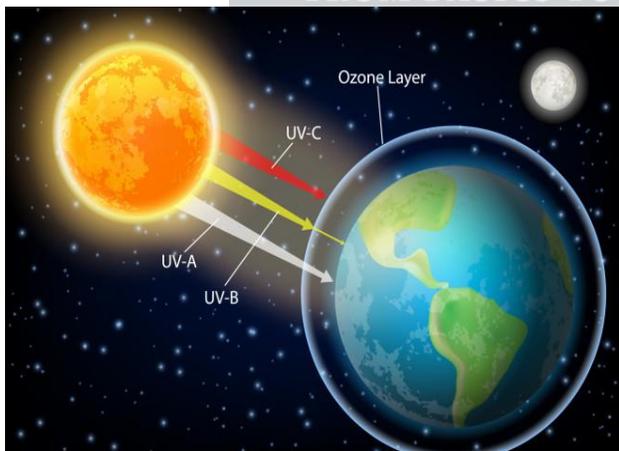
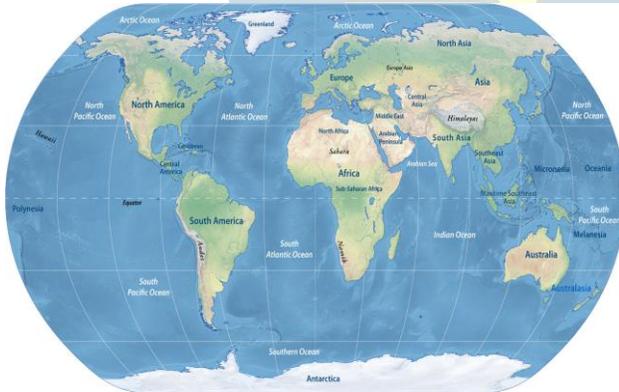
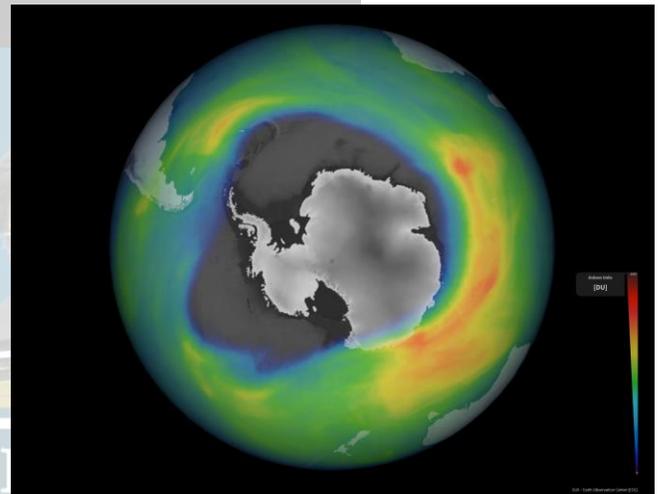
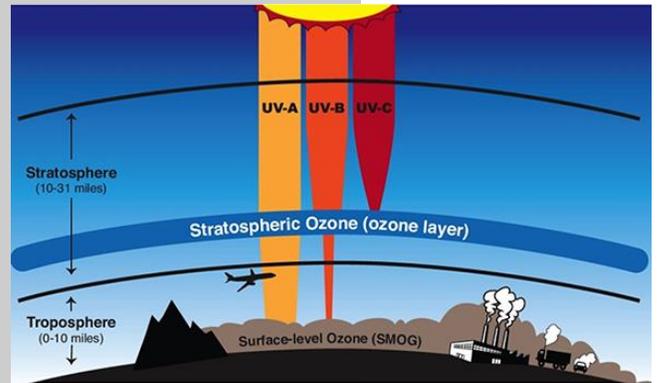


Antarctica ozone hole

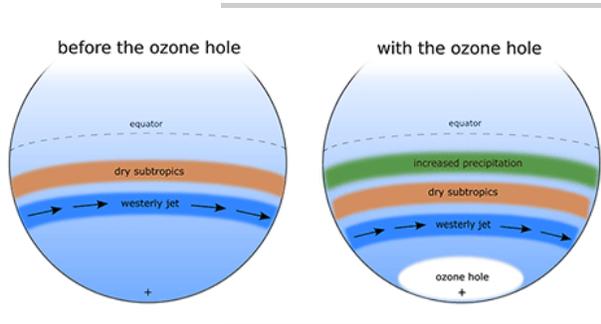
- The core (middle stratospheric layer) of the Antarctic ozone in mid spring (October) has experienced a 26% reduction since 2004, contrary to previously reported recovery trends in total ozone.
- The Montreal Protocol designated a list of controlled ozone depleting substances that were banned from future production in 1987 and is widely considered to have been successful for ozone recovery.



Ozone Hole

Ozone hole leads to melting of ice of Antarctica, increase in sea land other harmful effects on it's environmentelevel.

The diagram compares the atmosphere before and with the ozone hole. On the left, 'before the ozone hole', the atmosphere is shown with a thick layer of ozone. On the right, 'with the ozone hole', the ozone layer is shown as a thin layer with a hole over Antarctica. The text below the diagrams reads 'RABIA AZIZ'.



- However, the past three years (2020-2022) have witnessed the re-emergence of large and long lived ozone holes over Antarctica in mid spring, while early spring.
- The middle stratosphere has been dominated by continued, significant ozone reduction since 2004, amounting to 26% loss in the core of the ozone hole.
- This reduction is potentially driven by dynamical changes in the mesosphere (the atmospheric layer above the stratosphere and the ozone layer).
- The findings suggest that changes in the Southern Hemisphere atmosphere are contributing to a persistent Antarctic ozone hole.

The Hindu

Dolomite problem

- Addressing the longstanding “dolomite problem,” researchers have found that dolomite crystals require cycling of saturation conditions to grow.

- The findings provide new insights into how dolomite is formed and why modern dolomite is primarily found in natural environments with pH or salinity fluctuations.
- As per the simulation’s predictions, frequent cycling of a solution between supersaturation and undersaturation can speed up dolomite growth by up to 10 million times.
- Supersaturation is a state of a solution that contains more of the dissolved material than could be dissolved by the solvent under normal circumstances.

About Dolomite

Dolomite is a type of limestone. It is rich in magnesium carbonate and calcium carbonate.

It also contains several other minerals. Dolomite is made of 60% calcium carbonate and 40% magnesium carbonate.

- However, it might also contain heavy metals, such as lead



Extra galactic particles

- An extremely energetic cosmic ray an extragalactic particle with an energy exceeding about 240 exa-electron volts (EeV) has been detected by the Telescope Array experiment's surface detector.
- According to the findings, its arrival direction shows no obvious source.
- Although low energy cosmic rays emanate from the sun, the origins of rarer ultra-high energy cosmic rays (UHECRs) are thought to be related to the most energetic phenomena in the Universe, such as those involving black holes.

BOLT FROM BEYOND

Astronomers have detected a powerful cosmic ray beamed at Earth from a mysterious part of deep space



- Extragalactic cosmic rays are very-high-energy particles that flow into the Solar System from beyond the Milky Way galaxy.
- While at low energies, the majority of cosmic rays originate within the Galaxy, at high energies the cosmic

ray spectrum is dominated by these extragalactic cosmic rays.

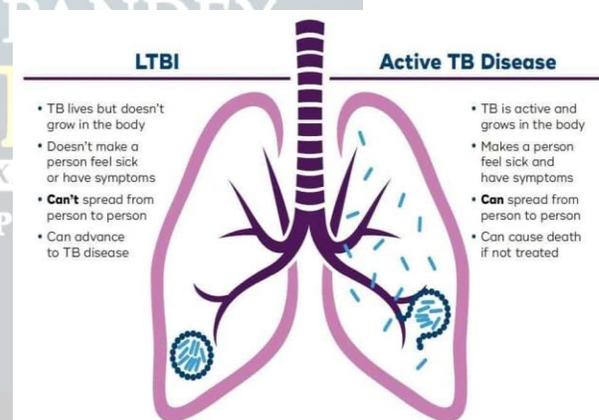
The Hindu

Dyslexia

- Dyslexia is a learning disorder that involves difficulty reading due to problems identifying speech sounds and learning how they relate to letters and words (decoding).
- Also called a reading disability, dyslexia is a result of individual differences in areas of the brain that process language.

The Hindu

3HP



- Eight months after Prime Minister Narendra Modi launched the Pan-India rollout of a shorter TB Preventive Treatment (TPT) in March 2023 called the 3HP once-weekly isoniazid-rifapentine for 12 weeks.

The Hindu

Measles

What is measles?

- Measles is a contagious disease caused by a virus, which spreads through the air when an infected person coughs or sneezes.
- Measles starts with a cough, runny nose, red eyes, and fever.
- Then a rash of tiny, red spots break out. It starts at the head and spreads to the rest of the body.
- According to the WHO, measles vaccination averted 56 million deaths between 2000 and 2021.
- “Even though a safe and cost-effective vaccine is available, in 2021, there were an estimated 1,28,000 measles deaths globally, mostly among unvaccinated or under vaccinated children under the age of five.
- Additionally in 2022, about 83% of the world’s children received one dose of measles vaccine by their first birthday through routine health services the lowest since 2008,” it said. Measles can be prevented with the MMR vaccine.
- The vaccine protects against three diseases measles, mumps and rubella.
- Two doses of MMR vaccine are about 97% effective at preventing

measles; one dose is about 93% effective.

- “This viral disease affecting mainly children causes significant morbidity and mortality. In an unimmunised population, the disease can rapidly break into an epidemic,”

The Hindu