VOL 17

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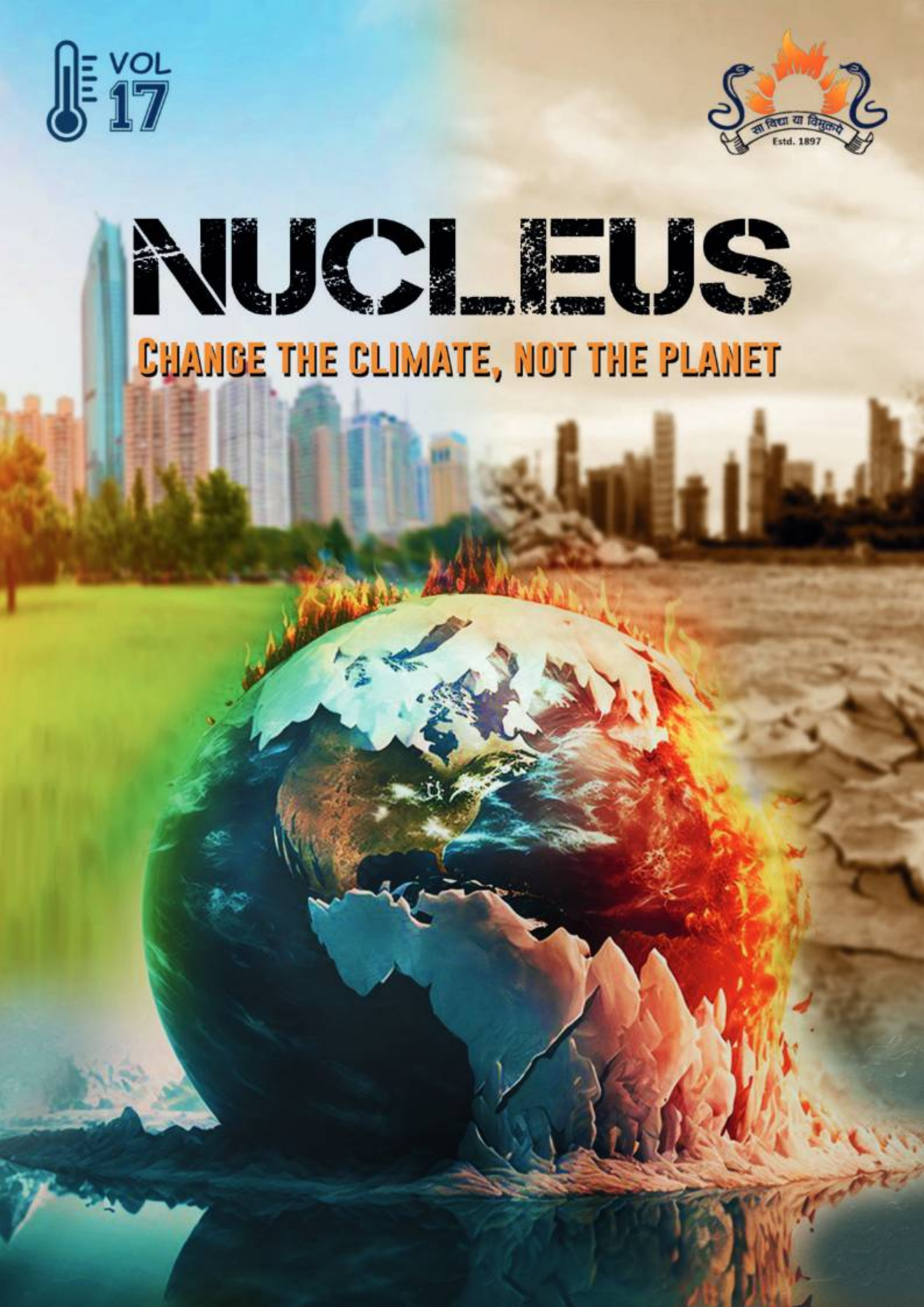
Estd. 1897

NUCLEUS

CHANGE THE CLIMATE, NOT THE PLANET



Left to Right:
Top row: Mr Mukesh Chawla, Mr Aniket Garud, Dr Ishani Roy Chowdhury, Ms Mrinal Bhatt, Mr Pulkit Sharma and Mr Rahul Bharadwaj (Staff Editor)
Bottom row: Ms Sangeeta Jain (HOD: Science), Ms Niharika Kulshreshth, Mr Ajay Singh (Principal), Ms Smita Chaturvedi (Vice Principal) and Mr Akash Sharma

From the Principal's desk

Dear readers,

It gives me immense pleasure to introduce the new edition of Nucleus Magazine, focused on the critical theme of Climate Change and Sustainability. In today's rapidly changing world, the need for understanding and addressing environmental challenges has never been more urgent. Climate change, driven by human activities, has brought our planet to a pivotal juncture. We stand at a crossroads where our choices today will determine the future of generations to come.

At The Scindia School, we believe in fostering a generation of learners who are not only academically inclined but also environmentally conscious and socially responsible. Our school, blessed with a unique natural setting amidst water bodies and rich biodiversity, constantly reminds us of the importance of preserving and nurturing the environment around us. It is not just our duty but our responsibility to equip young minds with the knowledge and passion to champion sustainable practices in their everyday lives.

This edition of Nucleus reflects the dedication and intellectual curiosity of our students and staff as they explore innovative solutions to combat climate change. The articles, projects, and ideas presented here demonstrate the power of youth in driving change. From renewable energy innovations to conservation strategies, this magazine is a testament to our collective commitment to a more sustainable future.

As you turn these pages, I encourage you to not only absorb the knowledge but also reflect on how each of us can contribute to making the world a better place—one thoughtful decision at a time.

Mr Ajay Singh
Principal
The Scindia School

From the Vice Principal's desk

Dear readers,

As we unveil this platform for the exchange of scientific ideas and discoveries, I am filled with immense pride at the accomplishments of our young scholars and the dedicated faculty who have nurtured their talents.

Nucleus magazine is a testament to the unyielding spirit of inquiry and innovation that thrives within the walls of our esteemed institution. Our commitment of fostering a culture of scientific curiosity and exploration is embodied in the pages of this publication. The theme of 'Climate Change' is relevant and paramount.

I am heartened to see the diverse array of articles and reflections that make up this magazine. It reflects the rich tapestry of knowledge that is cultivated here at The Scindia School, where students are not only imparted with scientific facts but are also encouraged to think critically, question assumptions, and seek out answers.

To the readers, I urge you to immerse yourselves in the pages of this magazine. Engage with the ideas presented here, question them, and let them ignite your own curiosity.

In closing, I want to express my firm belief that The Scindia School will continue to be a beacon of excellence in the realm of science education. Our students are the future scientists, innovators, and leaders, and their potential knows no bounds. I am excited to witness the heights they will reach in their scientific pursuits.

Ms Smita Chaturvedi
Vice Principal
The Scindia School

From the Science Department

We are thrilled to present this collection of articles, research papers, and insights that showcase the passion for science that runs deep within our institution. As educators, it fills us with immense pride to witness the inquisitiveness, dedication, and intellectual rigor displayed by our students.

The pursuit of knowledge is at the heart of what we do in the Science Department. We believe that true education goes beyond textbooks, encouraging our students to explore, question, and experiment. Nucleus magazine is a tangible representation of this ethos. In this issue, you will find a diverse range of topics, from eminent dangers of climate change to experiencing a total solar eclipse.

We extend our heartfelt gratitude to the dedicated students who have authored these pieces, the tireless efforts of our faculty advisors, and the committed editorial team who have worked diligently to bring this magazine to life. It is their collective dedication that makes Nucleus magazine a reality.

To our readers, we encourage you to dive into the articles within these pages with an open mind and a thirst for knowledge. Let the stories and discoveries shared here ignite your own passion for science, sparking discussions and inspiring further exploration.

From the Editorial Board

Dear readers,

It is with great excitement that we, the Editorial Board, present to you this edition of Nucleus. Through this edition we explore the space between the traditional lines in our textbooks. Science is stereotypically hard, but it's more fun than hard and we try to show you this version of it through our Nucleus.

We include articles where we understand logic in well written sentences. The relevant pictures besides the articles help enhancing the reading experience for our consumers. Self expression is pivotal and what's even more important is original expression without the influence of Artifitial Intelligence. We at Nucleus flaunt our originality and flair of contemporary themes. The Editorial Board worked throughout the summer break, on several calls, with late coffees, to present to you this amalgamation of genuine effort and facts. We wish to take learning beyond textbooks, and break the strereotypes. We hope once you are at the last page, you realise that you have leart at least five new things, that you were unaware of, before. Traditionally, this is the part where we say "Happy reading" but we would say "Have fun and don't give up" because that is the essence of science.

Please find our 'Atomic Reads' and 'Movie Molecule' sections where you shall find entertaining reccomendations, that shall further help you into learning science at your own comfort, through your own personal screens.

-The Editorial Board

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Climate Change

Climate change, driven by human activities like burning fossil fuels, deforestation, and industrial processes, has raised Earth's average temperature by 1.2°C since the late 19th century. This warming is causing more frequent and severe weather events such as hurricanes, droughts, and wildfires, threatening both ecosystems and human settlements. Melting polar ice caps are raising sea levels, endangering coastal cities and island nations, while increased CO2 levels are acidifying oceans, harming marine life, especially coral reefs.

To combat climate change, a transition to renewable energy sources like wind and solar is crucial in reducing greenhouse gas emissions. Sustainable practices such as reforestation and a circular economy help protect natural resources. Individuals can also contribute by conserving energy, reducing waste, and supporting eco-friendly products. Addressing climate change is essential not just for environmental protection but for the long-term survival and well-being of humanity.

GIANT VIRUSES: OUR SAVIOR

It sounds unbelievable, doesn't it. Most of us have studied about viruses and it might be difficult to comprehend the fact that the microscopic creatures could help save us from one of the biggest setbacks of global warming, but they have a lot going for them.

According to findings published in the journal 'Microbiome', researchers at Denmark's Aarhus University discovered giant viruses in Greenland. The researchers believe that these viruses might slow the growth of black snow algae, which causes this ice to melt. Giant Viruses, which were discovered in the oceans in the 1980s, can grow up to 2.5 micrometers, larger than any other virus or bacteria. Till now, they had been found in oceans, soil and even humans, but not in ice.

The Arctic is brimming with life, including fish, birds, algae, walruses, and polar bears. This algae blooms every spring as the light warms it, discolouring the ice on which it thrives.

As a result, the ice's capacity to reflect sunlight is diminished, and it melts. Arctic ice is melting quickly, and by 2040, the polar region may have no ice at all. This would have a severe impact on global temperatures, increase the likelihood of extreme weather, jeopardize coastal communities, threaten food stability, contribute to the decline of wildlife, and increase the risk of methane leakage from permafrost.

The research team that made this discovery says that "We don't know a lot about the viruses, but I think they could be useful as a way of alleviating ice melting caused by algal blooms. Which hosts the giant viruses infect, we can't link exactly. Some of them may be infecting protists while others attack the snow algae. We simply can't be sure yet."

-Aadi Dev Goyal

ARCTIC COMMUNITIES BRAVELY FACE CLIMATE CHALLENGES

Despite rising temperatures in the Arctic, a recent Penn State University study shows that many residents remain committed to their families, communities, and culture. Environmental changes, such as floods and erosion, have not led to mass out-migration.

However, some populations, like the Chevak Native Village in Alaska, have been forced to move due to worsening conditions, with Newtok village facing high relocation costs for over 30 years. Lead author Guangqing Chi highlights the increasing need for community resettlement among Alaska's indigenous tribes due to environmental risks, but access to federal disaster mitigation programs remains limited. The study emphasizes the lack of attention given to climate-induced displacement in the Arctic. Chi argues for addressing this gap, noting that Indigenous peoples are disproportionately affected by climate change due to historical injustices and systemic marginalization.

The research indicates that migration reasons in the Arctic, such as employment and healthcare needs, are similar to those elsewhere. Shuai Zhou, a researcher, noted that despite increased erosion risks, no major out-migration occurred from Alaska towns and villages between 1990 and 2014.

Part of the Pursuing Opportunities for Long-Term Arctic Resilience for Infrastructure and Society (POLARIS) project, this research supports Arctic Indigenous peoples in adapting to environmental changes. The team conducts surveys and interviews to understand climate change impacts and utilizes traditional knowledge to address climatic extremes. Future studies aim to enhance understanding of Arctic communities' challenges and develop solutions, amplifying the voices of Arctic residents and integrating indigenous knowledge to help them survive through climate change.

-Kumar Abhikshit

DYING OF THE NATURE'S FURY:

THE AMAZON RAINFOREST

"Destroying rainforest for economic gain is like burning a renaissance painting to cook a meal"
The Amazon rainforest is considered the largest forest in the world. It covers a huge area of sq km (about twice the area of India) and it is located in eight countries. A larger part of the forest is in Brazil and the rest of the part is in Bolivia, Columbia, Ecuador, Guyana, Perú, Venezuela, Suriname, and French Guiana. All of these countries are in South America. It also consists of Amazon River which is the second longest river in the world after the Nile and the largest river in the world. The depth can vary from 66 feet to 330 feet. It acts like a lung of the earth as it supplies 20% of the oxygen in the world.

But, the main problem is that the Amazon forest loses an average 1.4 billion trees each year. This natural wonder is also destroyed by the world's most dangerous animals, humans. We do deforestation to make roads, for proper cultivation, to make houses, buildings etc.. Deforestation led to various volcanic eruptions, hurricanes and thunderstorms. The other cause for this outcome are the forest fires in the year 2024 in which more than 10000 animals were ripped across 11000 sq km. In the year 2023, about 5153 sq km of trees were cut down. 7860 forest fires have been registered till now this year. We must stop the destruction at any cost.

– Manvick Kapoor

Critical Evaluation of the Effects of Electric Vehicles on Global Warming

Electric vehicles (EVs) are a viable solution to reduce transportation emissions and help mitigate global warming. Their effectiveness, however, depends on several key factors. First, charging with renewable energy sources is essential to maximize their environmental benefits. EVs can significantly cut their carbon footprint when powered by solar, wind, or hydropower, making them greener than gasoline-powered cars.

Advances in battery technology and sustainable manufacturing are also critical to ensure the production process doesn't offset their emission reductions. Lowering energy consumption and resource extraction during manufacturing will further reduce EVs' environmental impact.

Widespread EV adoption is crucial for significant emission cuts, requiring supportive policies like financial incentives, charging infrastructure investments, and regulations to phase out internal combustion engine vehicles. Governments can accelerate the transition to low-carbon transportation by creating an environment that encourages EV usage.

While EVs are known for being quiet due to the absence of internal combustion engines, they still produce noise from tire friction and wind resistance. Though this reduces road noise pollution, the quiet operation can pose safety risks for pedestrians, who are 19% more likely to be hit by an EV (NHTSA). To address this, the EU mandates that EVs include an Acoustic Vehicle Alert System (AVAS) to ensure road safety, with fines for manufacturers failing to comply.

-Manan Agarwal

Effect of heat waves ON BEES

Extreme heat waves pose a growing threat to vital pollinators like bumble bees, as they impair bees' ability to detect flower scents essential for food. A study in “Proceedings of the Royal Society B” shows that heat waves significantly reduce bumble bees' antennal responses to floral scents by up to 80%. Researchers exposed two European bee species, Bombus pascuorum and Bombus terrestris, to temperatures of 40°C, simulating heat wave conditions. The results revealed that most bees failed to recover their scent-detection abilities, even after 24 hours of cooler conditions, raising concerns about long-term effects on pollination.

Bumble bees play a critical role in pollinating crops that make up one-third of the global food supply, but rising temperatures, linked to climate change, further threaten their populations already declining due to habitat loss. Female worker bees, essential for gathering food, appear particularly vulnerable to heat. Researchers warn that solitary pollinators like carpenter bees, which lack stored food resources, may be at even greater risk. This study underscores the potential consequences of heat waves on pollinator health, which could severely impact food supply chains reliant on bee-pollinated crops.

Hidden structures on MOON

Researchers using China's Chang'e-4 rover have uncovered hidden structures on the far side of the Moon with advanced Ground Penetrating Radar (GPR), detecting layers up to 300 meters below the surface. The findings reveal basaltic lava layers, suggesting large-scale volcanic eruptions billions of years ago that gradually diminished in intensity over time.

Published in the "Journal of Geophysical Research: Planets", the study offers new insights into the Moon's volcanic history and geological evolution. It also supports the Giant Impact Hypothesis, which posits that the Moon formed from the debris of a collision between early Earth and a Mars-sized planet. These discoveries enhance our understanding of the Moon's structure and its development after formation, offering a deeper look at Earth's closest celestial neighbor.

The Total Solar Eclipse of April 8, 2024

Total Solar Eclipse April 8, 2024. In a total solar eclipse, the Sun is fully obscured by the Moon. In partial and annular eclipses, only a part of the Sun is obscured. A total solar eclipse is revered as it is the only chance for a change for a civilian to be able to see the Sun's Atmosphere, which is known as the Corona. It is the layer from which solar flares are ejected and is a very important part of the Sun. Unlike a lunar eclipse which we can view from anywhere on the night side of Earth, a solar eclipse can only be viewed from a relatively small area of the world. As such, although total solar eclipses occur somewhere on Earth every one and a half months on average, they recur at any given place only once every 360 to 410 years. This is one of the reasons that this event was significant the other being that it was the second total solar eclipse to be seen in America since independence. The path of the eclipse continued from Mexico, entering the United States in Texas and leaving it through Maine. The eclipse entered Canada in Southern Ontario, and the eclipse exited continental North America on the Atlantic coast of Newfoundland, Canada, at 5:16 p.m. NDT. People across the country got ready with solar viewers and even attractions like the world's largest solar viewer were made available for this event.

Chirag Raj Goel

Artificial Glaciers

In the northern Indian Himalayas, farmers in Ladakh are grappling with severe water shortages due to receding glaciers and declining snowfall. Dolkar, a potato farmer from Thiksey village, recalls how her family's income has dwindled over the years as the ice caps on the surrounding mountains have shrunk. With 80% of the region's farmers relying on glacier meltwater, the shortened snow seasons have delayed the flow of water, severely affecting crop yields. Chewang Norphel, known as the "Ice Man of Ladakh," tackled this issue by constructing artificial glaciers to store and release water during critical farming periods.

Norphel's artificial glaciers have significantly boosted the water supply for many villages, including Nang. His innovative technique involves strategically placing rock walls to slow down water, enabling it to freeze and form ice sheets that melt gradually in the spring. This method has increased water availability by up to 20%, providing a lifeline to farmers who once struggled with delayed irrigation. Norphel's approach offers hope for communities dependent on meltwater amid the broader impacts of climate change.

FORT BIOSPHERE

The mission of the Fort Biosphere Project is to educate and sensitize the Scindia School community towards sustainable development and ecological practices. Focusing on four key verticals—rewilding and natural farming, waste management, energy conservation, and water management—we strive to create a sustainable and balanced environment, establish a self-sustaining ecosystem, and set a standard for ecological initiatives.

In 2020, The Scindia School launched the Fort Biosphere project, a testament to its commitment to environmental education and sustainability. Under the guidance of renowned environmentalist Mr. Pradip Krishen, students engage in hands-on ecological activities like soil studies, stem cutting, and seed sowing, gaining practical knowledge.

The project is overseen by a core committee comprising Ms. Sangeeta Jain, Mr. Jitendra Jawale, and led by Mr. Gopal Chaturvedi. They ensure the smooth integration of the initiative into the school's curriculum.

A key element of the project is the development of farmland, where students measure the carbon sink using organic waste from the school mess. This initiative not only aids in waste management but it also teaches recycling and composting. Students also work to identify invasive and indigenous plants, removing harmful species and planting water-efficient, native varieties.

Additionally, a leaf manure initiative turns collected leaves into nutrient-rich compost, distributed to parents during the school's Founder's Day celebrations, encouraging sustainable gardening.

The success of Fort Biosphere stems from its community involvement. The student core committee motivates their peers to participate in waste collection and ecological activities, fostering teamwork and responsibility.

Looking ahead, The Scindia School plans to expand the project with advanced ecological studies, nurturing students as active contributors to environmental sustainability. The Fort Biosphere project at The Scindia School is a shining example of how educational institutions can take the lead in promoting environmental awareness and sustainability.

Gopal Chaturvedi
I/C Fort Biosphere

Dr. Nandita Srivastava is a CME (Coronal Mass Ejection) researcher at the Udaipur Solar Observatory of the Physical Research Laboratory. She has more than 20 years of experience in the field and has worked with many researchers and scientists of different countries. Here, Aadi Dev Goel has asked a few questions.

INTERVIEW *of* Ms Nandita Srivastava

Ma'am, how did you find out that you wanted to become a research scientist?

I always had an interest in the sun and it always motivated me, I also felt that it was important to have awareness about space. Fast-forward to 12th class, and I had taken this as my career opportunity.

Ma'am, please tell me something about your field of research?

As you know, I am a Coronal Mass Ejection researcher and in this field, I research about the solar flares and what they do, well, the field is always interesting as it also involves auroras, and recently, they have been a pretty interesting subject as most of us know how they were recently visible in lower latitudes like Ladakh.

How do you keep yourself motivated?

Actually, the sun is a very motivating subject for me and for its unpredictability, so I do not need to keep myself motivated.

What are your goals?

My dream goal is to predict when CMEs occur, but as that is almost impossible, I think that a more possible goal will be to calculate when they occur and study them

What do you like to do in your free time?

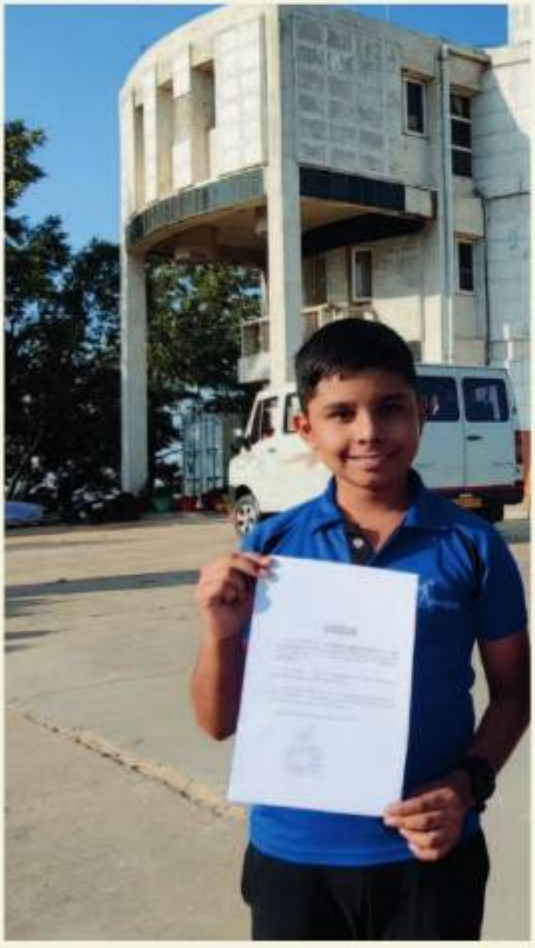
In my free time, I like to listen to music. As I have travelled to many countries for my profession, I have also studied their music.

-Aadi Dev Goyal
IX

SCINDIAN AT THE UDAIPUR AND MOUNT ABU OBSERVATORY TRIP

Aadi Dev Goyal, a student in grade IX got an opportunity to visit the Udaipur and Mount Abu Observatory! Here is how he penned his experience:

After qualifying in the top 50 students for the final round in Madhya Pradesh, In a competition in which 8,323 students had participated, I bagged the 9th position in The Aryabhat Astronomy Quiz 2024. This victory allowed me to visit The Udaipur Solar Observatory and the Gurushikhar Observatory in Mount Abu.



I embarked on this Journey on the 18th of May, and after a tiresome yet fun train journey, I reached Udaipur on the morning of the 19th. In Udaipur, I visited the City Palace, the 'Under the Sun' Aquarium, and the Maharana Pratap Park, but most important of all, I visited The Udaipur Solar Observatory where we gave a presentation on the Evolution of Astronomy. There, I met many researchers and saw many telescopes including the SPAR Solar Full Disk Telescope, the GONG (Global Oscillations Network Group) Telescope, which is a set of solar telescopes used to measure the sun at any time, and, most importantly, the MAST (Multi Application Solar Telescope), which is largest Solar Telescope in India with an aperture of 50 centimeters. Here, I also got the chance to interview Dr. Nandita Srivastava, a CME researcher there.

The following morning, we left for Mount Abu, The Beautiful Hill station of Rajasthan. There, I got to visit GOALS (Gurushikhar Observatory for Astrophysical Sciences), Where I got a rare chance to see the TACTIC Gamma Ray Telescope which had a huge 4-meter aperture. Next, I visited the Gurushikhar Observatory, where, I was entitled to see India's 3rd largest telescope, The Gurushikhar 2.5m Optical Telescope, and also gave a presentation to the researchers there.

In the end, this was a very fruitful trip, and I enjoyed it very much.

-Aadi Dev Goyal

EcoAdventures

“A small step with a big impact”

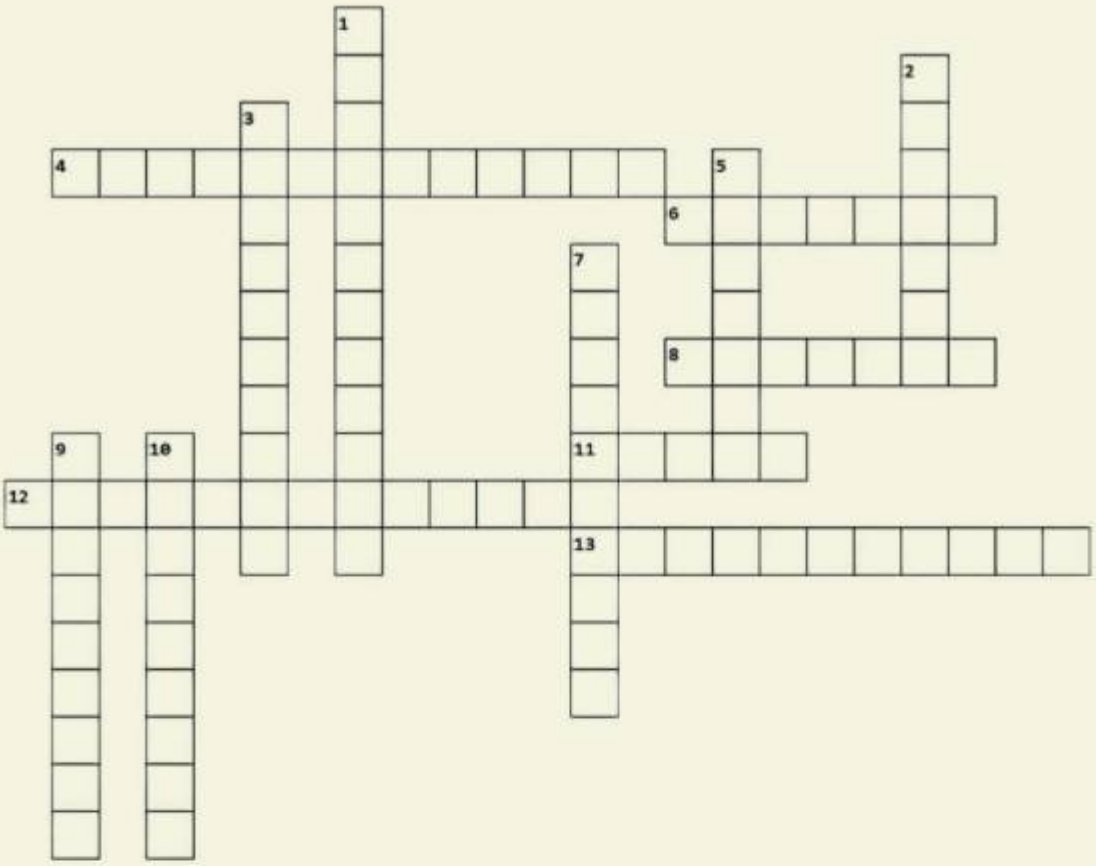
On a recent trek to Rishikesh, Mr. Rahul Bhardwaj wasn't just enjoying the stunning scenery, he was also making a positive impact with a simple yet effective tool: an eco-bag. This wasn't your average shopping tote; it was a dedicated companion for collecting dry waste during the trek.

These eco-bags boast several advantages. Firstly, they're reusable, eliminating the need for disposable plastic bags that often end up littering the very environment we're trying to preserve. Secondly, they're lightweight and compact, fitting easily into a backpack without adding unnecessary weight. Finally, they promote a culture of responsibility, reminding trekkers to leave no trace behind.

This initiative serves as an inspiration for all outdoor enthusiasts. By using eco-bags for dry waste, we can ensure pristine landscapes remain that way for generations to come. It's a small step with a big impact, turning every trek into an eco-adventure.

- Mr. Rahul Bhardwaj

Crossword

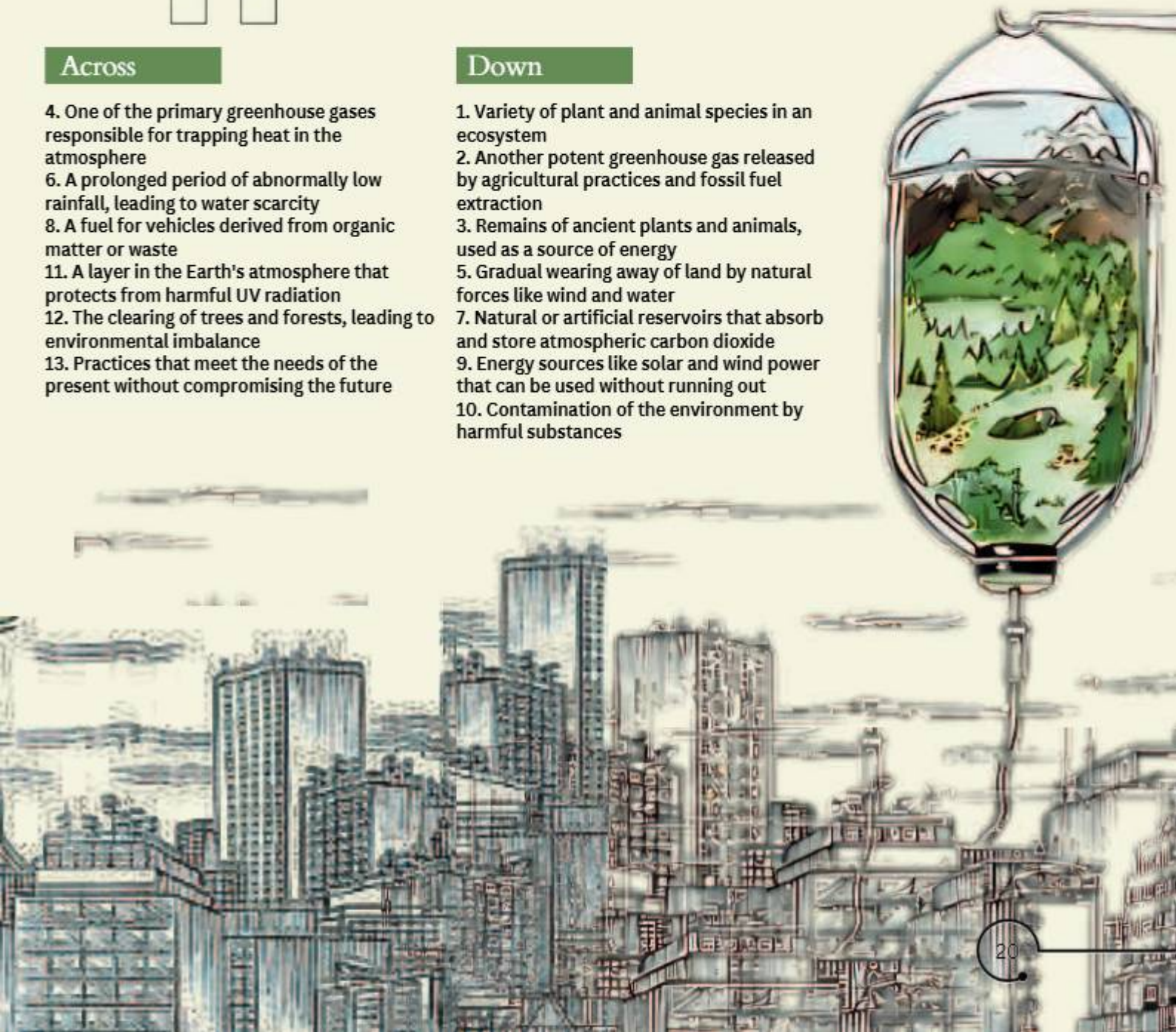


Across

4. One of the primary greenhouse gases responsible for trapping heat in the atmosphere
6. A prolonged period of abnormally low rainfall, leading to water scarcity
8. A fuel for vehicles derived from organic matter or waste
11. A layer in the Earth's atmosphere that protects from harmful UV radiation
12. The clearing of trees and forests, leading to environmental imbalance
13. Practices that meet the needs of the present without compromising the future

Down

1. Variety of plant and animal species in an ecosystem
2. Another potent greenhouse gas released by agricultural practices and fossil fuel extraction
3. Remains of ancient plants and animals, used as a source of energy
5. Gradual wearing away of land by natural forces like wind and water
7. Natural or artificial reservoirs that absorb and store atmospheric carbon dioxide
9. Energy sources like solar and wind power that can be used without running out
10. Contamination of the environment by harmful substances



ACHIEVEMENTS

SCIENCE DEPARTMENT IN 2023-24

11 students reached final level of Innoventure Plus where Scindia School was awarded the 'Best enterprising school in India'

5 students went to final level of Aryabhatta Astronomy Quiz where Aadi dev Goyal secured 9th position in the State and was sponsored the Udaipur observatory visit

Lakshaya Tulsiyan secured 55th rank in the world along with a bronze medal in the Climate Change Olympiad

Tanish Agarwal's managing vehicle on the fort uphill project in Sam Pitroda

Keshav Jhunjhunwala secured silver honor in International Astronomy and Astrophysics Competition

P M Khar Award for Best Science Student in class 12 was awarded to Dev Pratap Bansal

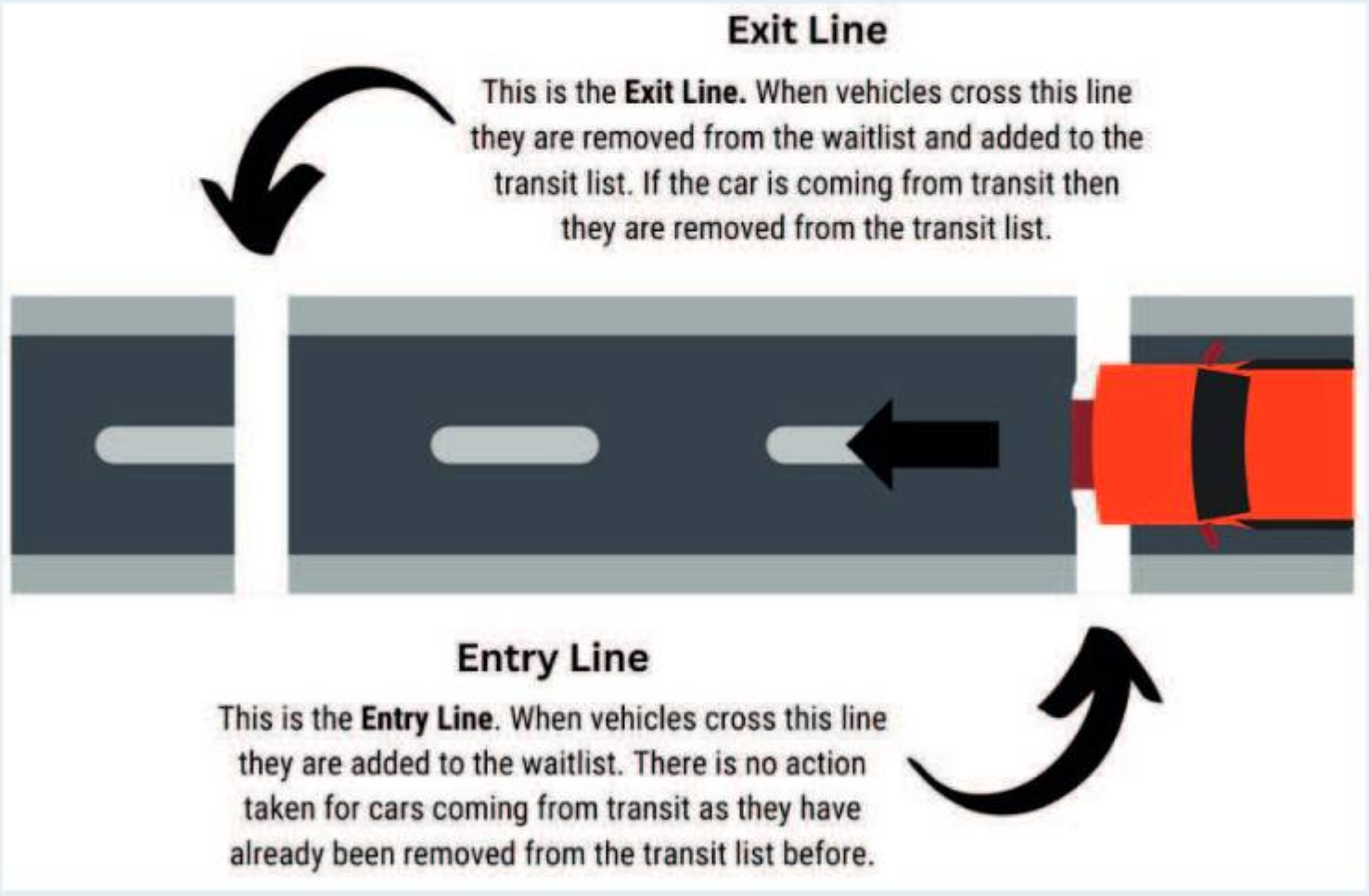
Senior School Science Quiz was won by Madhav House

Junior School Science Quiz was won by Nimaji House

SAM PITRODA AWARDEE

The "Traffic Management System" project addresses traffic issues on a steep, single-lane road at Urvai Gate, currently managed manually. After 9 pm, no regulation leads to accidents and jams, especially with reckless or drunk drivers.

The proposed solution involves cameras and electronic barriers to automate traffic flow. Cameras detect approaching vehicles, assign them unique IDs, and monitor their movement. Once the road is clear, barriers open for vehicles to pass efficiently. Automated Number Plate Recognition (ANPR) cameras ensure accurate vehicle identification, and real-time tracking notifies authorities if delays occur.



This system reduces the need for manual control, enhances safety, and minimizes fuel wastage. It is a step toward intelligent transport systems, using data science to improve traffic flow and safety. The project has potential for wider implementation on similar roads, offering a long-term, efficient solution to traffic management issues.

-Tanish Agrawal

Atomic Reads

- The Hitchhiker's Guide to the Galaxy by Douglas Adams – A humorous and imaginative adventure through space, featuring the hapless Arthur Dent and his alien friend Ford Prefect.
- Ender's Game by Orson Scott Card – A gripping tale of a young boy trained to become a military commander in a war against an alien race.
- Ready Player One by Ernest Cline– Set in a dystopian future, this novel follows a young gamer on a quest to find an Easter egg in a virtual reality world that will lead to a massive fortune.
- The Martian by Andy Weir – A thrilling and often funny story of an astronaut stranded on Mars, using his ingenuity to survive.
- Station Eleven by Emily St. John Mandel –A beautifully written story about life before and after a flu pandemic, focusing on a traveling Shakespearean theater troupe.
- The Theory of Everything by Stephen Hawking talks about his incredible life, his pioneering science, enduring love, and incredible strength in adversity.


A NETFLIX SERIES
3 BODY PROBLEM
CAN WE SURVIVE THE 5TH WAVE?
THE 5TH WAVE
JANUARY 22
DUNE
PART TWO
MARCH 1
NO ESCAPE.
NO MEMORY.
90 MIN TO LIVE.
A NETFLIX FILM
OXYGEN
A FILM BY ALEXANDRE AJA
WRITTEN BY CHRISTIE LEBLANC
A NETFLIX FILM
EXTINCTION
WE WERE NOT HERE FIRST
HILARY SWANK
I AM MOTHER
MOVIE MOLECULES

FUN *Facts*

MOSQUITOES CAN NOT ONLY SMELL WHAT BLOOD TYPE YOU ARE, THEY PREFER TYPE O. IN FACT, PEOPLE WHO ARE TYPE O ARE TWICE AS LIKELY TO BE BITTEN THAN SOMEONE WHO IS TYPE A.

IF A PREGNANT WOMAN HAS ORGAN DAMAGE, THE BABY IN HER WOMB SENDS STEM CELLS TO HELP REPAIR THE ORGAN. THE BOND BETWEEN MOTHER AND HER CHILD IS TRULY AMAZING!

IF THE EARTH SUDDENLY STOPPED SPINNING, THEN ROCKS, TOPSOIL, TREES, BUILDINGS, ANIMALS, AND SO ON, WOULD BE SWEPT AWAY INTO THE ATMOSPHERE.

BECAUSE OF THE PROTEIN REQUIRED TO MAKE AN EGG SHELL, SCIENTISTS HAVE CONCLUDED THAT THE CHICKEN, NOT THE EGG, CAME FIRST.

ANTS NEVER SLEEP.
ALSO THEY DON'T HAVE LUNGS.

THE SUN IS ACTUALLY WHITE, IT JUST APPEARS YELLOW TO US THROUGH THE EARTH'S ATMOSPHERE.

IF YOU STOPPED TIME YOU WON'T BE ABLE TO SEE ANYTHING BECAUSE LIGHT PHOTONS WILL FREEZE TOO AND THEY WON'T HIT YOUR RETINA.

AN ATOM IS ABOUT 99.999999999% EMPTY SPACE. IF YOU REMOVED THE EMPTY SPACE FROM THE ATOMS OF ALL PEOPLE, THE ENTIRE HUMAN RACE COULD FIT IN THE VOLUME OF A SUGAR CUBE.

A NEUTRON STAR CAN SPIN 600 TIMES IN ONE SECOND.

DID YOU KNOW KETCHUP WAS ONCE SOLD AS A MEDICINE? IT WAS CLAIMED TO CURE AILMENTS LIKE DIARRHOEA, INDIGESTION, AND JAUNDICE AND WERE EVEN SOLD AS 'TOMATO PILLS'.

FOOT-PRINTS ON THE MOON CAN LAST FOR A 100 MILLION YEARS!

THE TALLEST MOUNTAIN IN THE SOLAR SYSTEM IS 2.5 TIMES TALLER THAN MT. EVEREST AND IT IS NOT EVEN ON EARTH BUT ON THE RED PLANET MARS - OLYMPUS MONS.

THERE ARE A BILLION BACTERIA IN YOUR MOUTH AT ANYTIME!

HUMAN EYES ARE MADE OF NEARLY 2 MILLION WORKING PARTS.

IT TAKES A PHOTON UP TO 40,000 YEARS TO TRAVEL FROM THE CORE OF THE SUN TO ITS SURFACE, BUT ONLY 8 MINUTES TO TRAVEL THE REST OF THE WAY TO EARTH.

"Impossible only means that you haven't found the solution yet."
-HENRY FORD

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