



RECLAIMING
OUR
PLANET

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SCIENCE MUSINGS

AN INITIATIVE BY THE
INDIANITES

WHAT ARE WE DOING
TO SAVE OUR
PLANET?

Editor's Letter

Welcome to the 10th issue of Science Musings. This magazine has been made to collectively represent the creativity and mindset of all the students in our school.

This year's magazine was based on the theme "Reclaiming our Planet". A topic of utmost importance in today's time. As the editor, reading through the many articles and poems contributed by my fellow schoolmates was an incredible journey. It provided me with insight into their thoughts and feelings about the earth and our environment and the passion they all share towards saving it. It instills a sense of confidence in me for the world's future leaders and our current generation. I hope that everyone who flips through the pages of this wonderful magazine shares a similar experience of mental stimulation and the joy you get when learn something new. Most of all I hope that everyone who reads this magazine walks away with a renewed sense of responsibility towards our environment and our planet.

Manan Kakkar
Editor In-Chief

This Day Last Year

The Indian School held the second edition of its virtual Annual Exhibition on 14 August 2021 to mark Indian Independence Day. This exhibition encourages a scientific temper among students and showcases their skills through multifarious displays of projects.

Students and their teachers spared no effort to make a mission of it. They intensely explore to discover the myriad facets of the selected topics and share what they assimilate. It is their humble offering to the cause of our freedom.

Last year, the exhibition focussed on reinventing and harmonising with Nature: Discover, aspire, and evolve. The displays included the models handcrafted by students, demonstrating how important it is to stop exploiting nature and, instead, live in harmony with it.



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Preserve Biodiversity Preserve your life

Isn't it interesting to know that we share this world with millions of other species that we did not even know of !!? All these species are unique and different from each other. Over years, many of these species have become extinct, which is an ominous development for life on earth. It is a big blow to the biological diversity and lives that our earth sustains. If this trend continues One-fourth of the world's species are expected to become extinct or endangered in the coming years. Therefore, scalable and sustainable policies are needed for the very existence of biodiversity.

Biodiversity is the term generally used for the natural environment and its conservation. According to the United Nations Conference on Environment and Development (UNCED), Biodiversity means the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Simply speaking, biodiversity is the richness of the varieties in the species of plants, animals and microorganisms occurring in a given region, country, or continent of the entire globe.

We as the future responsible generation should take a pledge to reduce the impact of climate change on biodiversity through:

Stopping the loss and degradation of carbon- and species-rich ecosystems on land and in the ocean; Restoring carbon and species-rich ecosystems;

Increasing sustainable agricultural and forestry practices to improve the capacity to adapt to climate change and enhance biodiversity; and

Eliminating subsidies that support local and national activities harmful to biodiversity – such as deforestation, over-fertilization and over-fishing.

We should create awareness of the above matters amongst the stakeholders and society by engaging with relevant policymakers and citizen participation.

It may be noted that while it may be impossible to achieve win-win synergies or even manage the trade-offs between climate and biodiversity actions in every single patch of a landscape or seascape, achieving sustainable outcomes becomes easier through a mix of actions at larger scales and collaboration at local levels.

Ruchir Saxena

Ball pen Vs Gel Pen A Battle for the Planet

The pens which we use for writing every day are made up of low-quality single-use plastic.

It is impossible to recycle this low-level quality of plastic, so if we can't recycle pens, how about we reduce the number of pens we use.

This can be done very easily by switching from gel pens (which the majority of students use) to ballpoint pens.

The gel pen industry is worth about 20 billion as of 2021, while the ballpoint pen industry is just at 8 billion. This data suggests that there are 3 gel pens for every 1 ballpoint pen.

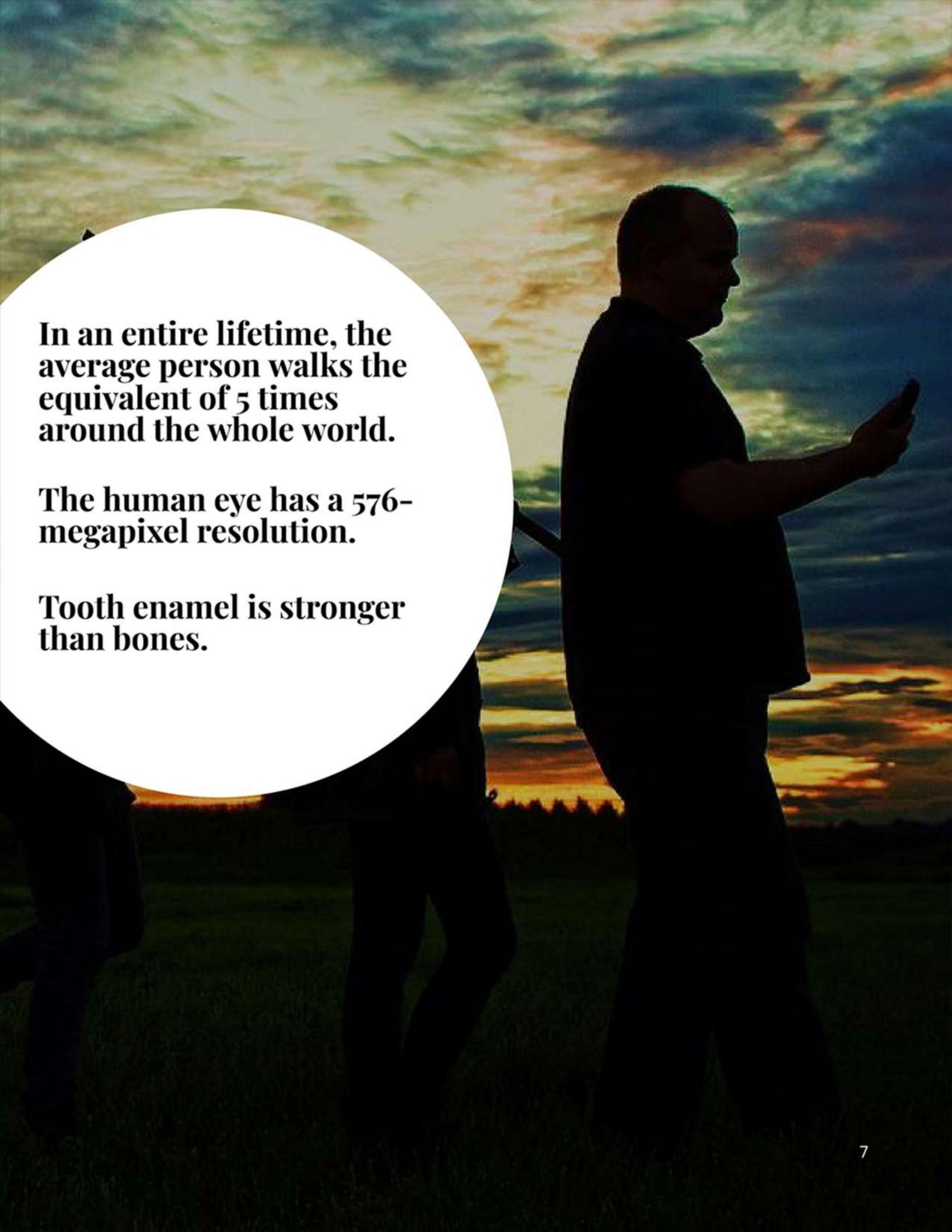
Ballpoint pens cost the same as gel pens, but they last longer. A low-end gel pen which costs 10 rupees writes about 10000 – 12500 words depending upon the handwriting, while a low-end ballpoint pen costing 10 rupees writes about 15000-17500 words. To top it off, ballpoint pens don't smudge easily when coming in contact with water.

In fact, what led me to look into the pens so closely was an incident when one of my classmate's notebooks got destroyed because of the water that had seeped into her bag during the rain and ruined all her notes. This would have been avoided, if only she had used a ballpoint pen, since water doesn't affect ballpoint ink as compared to gel.

An average pen weighs about 2 grams, so that amounts to 8 million kilograms of plastic reduced from this earth which could have found its way into our oceans and landfills, causing severe damage to our environment.

All this just goes to show that something as ordinary and seemingly insignificant as a pen can also have such a substantial impact on our environment, so we should be aware about everything we use and its consequences on our surroundings.

Shashwant Krishna

A large, circular white graphic is positioned in the upper left foreground. Inside this circle, the text is presented in a bold, black, sans-serif font.

In an entire lifetime, the average person walks the equivalent of 5 times around the whole world.

The human eye has a 576-megapixel resolution.

Tooth enamel is stronger than bones.

Gas Leaks: The Horrifying Disasters



Gas Leaks are a type of chemical accident wherein harmful gaseous substances are released into the environment unintentionally, usually because of corporate negligence.

Gas leaks are so deadly because even a minor leak in a structure or other enclosed area may eventually build up to a fatal or explosive concentration of gas. Natural gas and refrigerant gas leaks into the atmosphere are particularly dangerous because of their potential to cause ozone depletion and global warming, respectively. They also pose a high risk to wildlife and human health.

- > You blink more than 9000 times a day.
- > At rest, a child's heart beats about 85 times a minute.

Natural gas leaks from fossil fuel extraction and uses associated with industrial operations and equipment are known as fugitive gas emissions.

The background of the slide features a dark, abstract design composed of swirling, translucent white and light blue lines that resemble smoke or gas molecules. These wisps of light are more concentrated on the right side of the frame, creating a sense of motion and depth.

Natural gas leaks from fossil fuel extraction and uses associated with industrial operations and equipment are known as fugitive gas emissions.

The most prominent and tragic example of an industrial gas leak was the Bhopal disaster, also known as the Bhopal Gas Tragedy, which is now considered the worst industrial disaster in world history. Methyl isocyanate (MIC) gas was inhaled by more than 500,000 people. According to a government affidavit from 2006, the leak resulted in 558,125 injuries, 38,478 of which were temporary partial injuries and roughly 3,900 were serious and permanently disabled people. Others claim that 8,000 people passed away within two weeks, and another 8,000 or more have since passed away from illnesses linked to the gas.

Studies have also shown polluted soil and groundwater are persistent in the area. This was a disaster that rivals the Seveso and Chernobyl disasters in terms of how dire the strain was to human, plant, and animal life. The disaster is believed to have been a result of corporate negligence, that a potent combination of poorly maintained and deteriorating facilities, a lax attitude toward safety, and a poorly trained workforce contributed to the disaster, culminating in worker actions that unintentionally allowed water to enter the MIC tanks in the absence of properly functioning safeguards.

There were unheeded warnings that predicted the disaster. Journalist Rajkumar Keswani had investigated minor leaks prior to the incident and had reported in the local newspapers that "Jwalamukhi ke muhane baitha Bhopal" ("Bhopal sitting on the brink of a volcano"), yet no one listened to him. Thus, the horrifying question is: could we be on the verge of another such disaster? And if so, what would we do to contain it?



The Alcon blue butterfly can trick ants into taking care of their larvae.

The largest Butterfly in the world is Queen Alexandra's Birdwing, with a wingspan of 30cm- Nearly 10 times bigger than a typical butterfly's wings!

Tianna Basumatary



On average, a human body contains enough iron to make a 2.5 cm long iron nail.

The human trachea is 11cm in length

Green Business

Whenever we look back at the anthropogenic causes of environmental distortions, businesses are a category that comes on the top three list of "most fatal yet greedy ways to destroy our surroundings." To justify this statement, we can take the examples of industries like textile, paints, chemical and even paper manufacturing which produce tons of chemical waste which is extremely harmful to our environment and humans yet they continue in their ways because these industries are crucial for our daily lives. They might hold up economically but never live up to moral and social responsibilities. This is the time when green businesses are required the most. Companies that practice green business don't negatively impact the environment.





These companies are forward-thinking when it comes to human rights, ecology and other such related issues. They uphold social responsibilities and use environmentally sustainable resources. To achieve this kind of business, one needs to purchase environment-friendly equipment and products, limit waste, adhere to the laws regarding environmental laws and practices and lower energy consumption. Another topic that is important to consider is the carbon footprint of the company.

A company's environmental impact is determined, based on how much carbon dioxide it produces. In a few years, green enterprises and corporations are expected to decrease pollution by a considerable amount as well as improve climatic conditions. The increase in green jobs is also providing new job opportunities for the unemployed and creating more job prospects for people. Every step we take towards green businesses is a step towards saving our planet and redeeming ourselves for our actions.

Rewa Upadhyay

Hydrogen Economy

What is hydrogen economy? It is a type of economy that depends on hydrogen as a fuel for a part of its energy needs. This is an outstanding vision by many environmentalists to safeguard the planet from further harm. This can become a reality if hydrogen can be utilised in a safe and eco-friendly manner. Why hydrogen? This is because hydrogen is an excellent source of energy having the potential to be used as a fuel.

Here, the energy efficiency is much higher than usual and also, unlike other fuels, it doesn't pollute the environment by emitting smoke, instead, it just produces water vapour. The main question is, is it possible? According to studies, it is already being implemented in some places as an environmentally friendly fuel source. Hydrogen, unlike coal and petroleum, is present in abundance on the earth and can therefore be used in place of non-renewable resources.

Aryan Das



Rising Sea Levels

Sea levels have been rising exponentially in the past 4-5 years. If we consider the example of the UK, this rise has exposed large stretches of the coastline to massive storms and waves. It was found that the increase was mainly due to ice loss from Greenland and Antarctica.

The heatwaves spreading across Europe and North America also have a direct role in the rising sea levels. Mike Kendon of the Met office said that "Heat waves are becoming more routine than the exception". This is a serious cause of worry for all of us. This also goes on to show that the upward trend in average temperature is directly linked to this phenomenon.

Ashwin Awasthi

Organic Burial Pods

It is a capsule made up of biodegradable plastic that is shaped like an egg. The body or ashes of a dead person is buried inside a capsule. The shell of the capsule breaks down when it is buried. The remains inside provide nutrients to the soil and a sapling planted above starts to take root.

Laundry Strips

They are pre-measured, ultra-concentrated laundry detergent sheets that dissolve quickly in both hot or cold water. They work in all machines. It's safe for both humans and the environment, thanks to its smart formulation. It's paraben-free, phosphate-free, and chlorine bleach-free. There are also no added dyes. The True Earth packaging is non-plastic.

Ashwini Prakash



Why should Earth Day come only
once a year?
What we should do for our Earth
should be very clear
Every day should be a celebration of
this Earth
So that we realise it's worth
This earth is not only for you and me
Every living thing needs it whether
plants, animals or bees
Let's keep our rivers clean
Let's keep our forests green
Let's keep the air fresh now and ever
For us and our future near
Let's save water
Let's plant a tree
Let's make it a responsibility for each
one to share,
So that we can show our Earth that
we really do care.

Mrigakshi Dhar

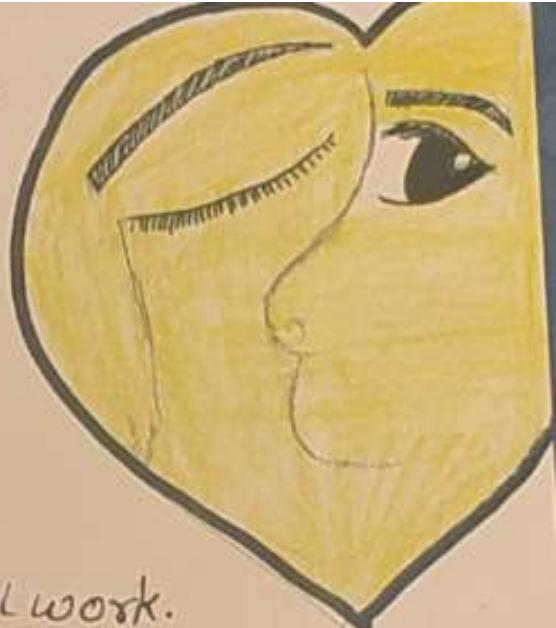
My Mother



My mother is loving and caring.
She share everything with
me.

She makes me laugh.

She help me in my school work.



My mother is like a mobile.
When i ring her she immediately
answers me whether she is
busy or not well.
She always with me.



My mother give me good
values and she always teach
me to help other people.

I LOVE MY MOTHER

Jasdeep Singh
III-E
English

DISEASES and DISORDERS

A	S	T	H	M	A	I	N	F	L	O	E	N	Z	A
M	I	E	S	S	I	T	I	H	C	N	O	R	B	R
A	P	G	D	D	L	B	F	A	T	W	M	H	O	T
I	K	H	F	F	L	E	N	L	D	S	V	E	P	H
M	L	E	L	G	P	C	P	I	U	C	B	P	Q	R
E	C	H	O	L	E	R	A	R	M	F	G	A	J	I
K	S	T	C	R	Y	B	A	A	O	F	L	T	A	T
U	J	E	X	R	E	D	R	N	B	S	U	I	M	I
E	M	U	I	T	I	G	D	A	H	Q	Y	T	O	S
L	U	D	E	B	F	C	F	E	B	A	O	I	C	N
S	I	S	S	D	A	V	C	M	N	Z	N	S	U	M
S	P	G	S	D	K	R	V	I	T	W	M	R	A	Q
D	K	A	F	F	L	E	G	A	G	S	V	T	L	W
I	D	D	L	O	C	N	O	M	M	O	C	S	G	E
A	S	R	K	X	A	V	I	R	E	B	I	R	E	B

- * AIDS
- * CANCER
- * INFLUENZA
- * ANAEMIA
- * CHOLERA
- * LEPROSY
- * ANGINA
- * COMMON COLD
- * LEUKEMIA
- * ARTHRITIS
- * DIABETES
- * RABIES
- * ASTHMA
- * FLU
- * BERIBERI
- * GLAUCOMA
- * BRONCHITIS
- * HEPATITIS

ENVIRONMENT

R	V	Y	T	G	N	O	I	T	A	U	T	I	S	H
T	E	M	P	E	R	A	T	U	R	E	D	U	E	I
Q	N	G	D	S	K	L	V	C	T	W	R	R	T	G
W	V	I	B	F	N	E	O	R	G	R	V	T	T	H
T	I	W	A	A	P	O	N	W	O	C	B	Y	I	L
E	R	R	E	M	C	V	I	U	L	E	G	H	N	A
R	O	T	C	A	O	K	N	T	R	A	L	C	G	N
R	N	Y	X	R	T	D	G	E	I	Y	N	G	G	D
I	M	U	Z	E	I	H	H	R	H	D	I	D	J	B
T	E	D	A	N	H	P	E	A	O	A	N	J	R	N
O	N	F	G	S	S	V	C	R	B	U	N	O	L	M
R	T	S	D	O	K	B	V	C	T	I	N	R	C	Q
Y	K	H	M	C	L	I	M	A	T	E	T	D	P	W
A	L	T	I	T	U	D	E	F	B	C	B	A	Q	E
C	A	R	L	O	C	A	T	I	O	N	G	H	T	R

- * ALTITUDE
- * ATMOSPHERE
- * BACKGROUND
- * CLIMATE
- * CONDITIONS
- * DOMAIN
- * ENVIRONMENT
- * HABITAT

- * HIGHLAND
- * LOCATION
- * LOWLAND
- * SETTING
- * SITUATION
- * SURROUNDINGS

- * TEMPERATURE
- * TERRITORY
- * WEATHER

SAVE THE EARTH,
SAVE A LIFE.



NO EARTH,
NO LIFE!

NO EARTH,
NO BIRTH!

POLLINATORS: WINGS OF LIFE



15

YUVRAJ SINGH

IX-A Roll No. 35



WE
WILL!

COME TO MY LAND

WE WILL STAND

TOGETHER

HIGH



By- Abhar Bhandari
Class - 7D



Save *
-OUR-
OCEANS

SHIKSHA DWivedi
VIII E



Sanchay Kumar
IIIrd E

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