

+ GREEN SCHOOLS | COVER STORY | READERS-WRITERS

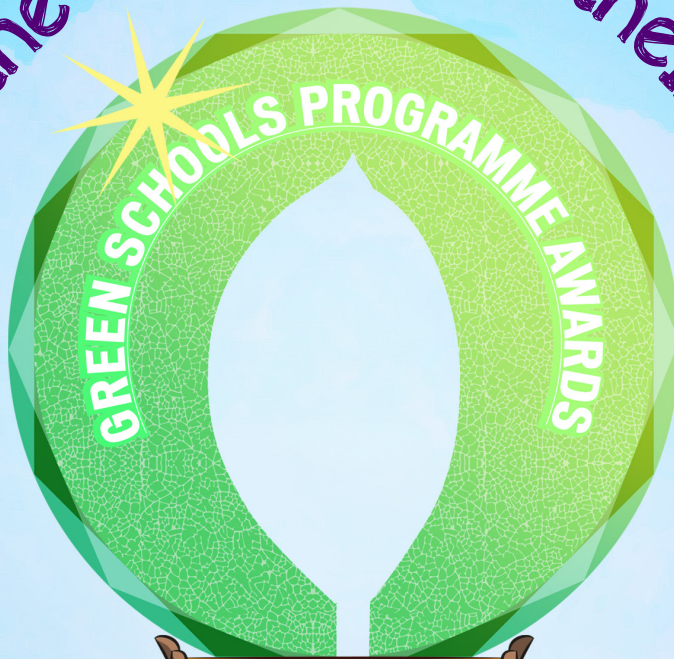
# gobar times

Special Edition

ISSUE NO: 251, March-April, 2023

A DOWN TO EARTH SUPPLEMENT FOR THE YOUNG AND CURIOUS

The Greens, the Schools, and their Programme



A special edition on The Green Schools Carnival 2023 hosted by the Green Schools Programme




**CARNIVAL 2023**

# A REUNION AND A REMINDER

Recapitulating the prestigious Green Schools Awards and felicitating the commendable and inspiring work of all the awardees in different categories.

*The GSP Team*



“We are re-engaging onsite after a gap of three years, but it seems like we never went away. The vibrancy and enthusiasm with which schools, their children and teachers have joined the 2022-23 audit, the efforts they have put in, is a tribute to the promise they hold, and foretells a future that is full of hope. I congratulate all the winners and green schools, as well as the larger GSP family”

— Sunita Narain

After a three-year hiatus, the Green Schools Programme (GSP) of the Centre for Science and Environment (CSE) was back with a bang in February this year – as its annual audit drew to a close, a one-and-a-half day national Green Schools Carnival was announced. The cornerstone of the event was – of course – the GSP Green Schools Awards, but there were a host of other interesting events and activities as well (*see the following pages*) for the children and teachers from the GSP fraternity. A climate change quiz, a renewable energy fair, a Gobar Times design contest, a workshop for kids on making solar lights, and a workshop for teachers from Himachal Pradesh kept the 300+ invitees to the Carnival on their toes.

One hundred and six schools from across India were certified 'green' by the GSP this year. Of these, 19 schools received the topmost Annual Green Schools Award for their exemplary initiatives in making their campuses environment-friendly and their students, environment-conscious. Apart from the schools, the awards were also conferred on the most proactive teachers, the 'best state,' 'best district,' etc. CSE's Director-General Sunita Narain and Executive Director Jagdeep Gupta handed out the awards to the winners.

Over 700 schools from 29 states and Union Territories vied for the honours – 436 government schools, 55 government-aided schools and 216 private schools participated in the audit. Each school which undertook the audit was assessed by GSP on its resource consumption practices in six areas – water management, solid waste management, energy efficiency, air pollution control, land and biodiversity management, and food systems.

The gala event served as a splendid physical reunion for the GSP fraternity, which had been forced to largely interact online over the last three years. More importantly, it was also a reminder to us all about the threats – of climate change and environmental devastation – the Earth is being subjected to, and how important it was for children and their educators to step up and take the cudgels to save the world.

*The GSP Team includes Souparno Banerjee, the Supplement Editor of Gobar Times and Senior Director for Outreach, Publications, and Environment Education Unit (EEU) of CSE. Tushita Rawat and Neeraj Kumar are members of the EEU.*



## THE 2022-23 AWARDS



### BEST STATE

**Himachal Pradesh**  
for highest audit registrations  
and report submissions.  
114 schools from the state  
submitted their audit reports –  
9 were rated 'green'.



### CHANGEMAKER AWARDS

Schools that have monitored  
their resource consumption  
and improved them.

- **Global Public School,** Ernakulam, Kerala
- **Noyes Mat. Hr. Sec. School,** Madurai, Tamil Nadu



### N

Schools recently  
registered in  
GSP that have  
demonstrated  
considerable  
potential in  
managing their  
natural resources.

**Cambridge School,**  
Indirapuram, Ghaziabad,  
Uttar Pradesh

### BEST NEWCOMER AWARD

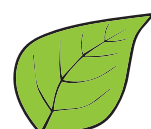
### GOLD PARTNER AWARDS

- Himachal Pradesh Council for Science, Technology and Environment
- Bharti Foundation
- Andhra Pradesh National Green Corps
- Montfortian Education Foundation

### G

### GSP AMBASSADORS

- **Ashu Ratna,** Shiv Nadar School, Noida, Uttar Pradesh
- **Bharat Laxman Godambe,** Sacred Heart School, Mumbai, Maharashtra
- **Gnanasekar Y,** Lake Montfort School, Bengaluru, Karnataka
- **Mamta Sharma,** Prudence School, South West Delhi, New Delhi
- **Namrta Jit Kaur,** Modern Public School, North West Delhi
- **Neerja Bhatnagar,** Bal Bharati Public School, Noida
- **Neeti Bhatia,** St. Edmund's School, Jaipur, Rajasthan
- **Poornima Kumari,** Government High School, Gulela, Hamirpur, Himachal Pradesh
- **Priyanka Grover,** Queen's Valley School, New Delhi
- **Shweta Verma,** Bal Bharati Public School, IMT Manesar, Haryana
- **Manisha Shrivastava,** Delhi Public School, Gautam Buddh Nagar, Uttar Pradesh
- **Ranjan Lata,** Government Model Boys Senior Secondary School, Nalagarh, Himachal Pradesh
- **Pooja Goel,** MRG School, North West Delhi, New Delhi



**BEST DISTRICT**  
**Solan,**  
Himachal Pradesh  
– 61 audit  
submissions  
and 6 schools  
rated 'green'.



### BEST IN SECTION

Schools that have performed  
exceptionally in specific sections.



### GSP WASTE WARRIOR AWARD

**Christ Academy CBSE School,**  
Bengaluru, Karnataka



### GSP LAND MANAGER AWARD

**Government Senior Secondary School**  
Himgiri, Chamba, Himachal Pradesh



### GSP GOOD FOOD AWARD

**Shiv Nadar School,** Noida,  
Uttar Pradesh



### GSP AIR ACTION AWARD

**Subodh Public School,** Airport,  
Jaipur, Rajasthan



### GSP ENERGY MANAGER AWARD

**Dr Rajendra Prasad Kendriya Vidyalaya,** Central Delhi, New Delhi





Tushita Rawat

GSP CARNIVAL 2023

## The Bout

A ground-level report from the GSP Annual Climate Quiz for Schools—The Bout hosted on 21 February 2023 at the India Habitat Centre, New Delhi.

Young people are vulnerable to the impacts of climate change but they are also playing a significant role in climate action. The youth is increasingly aware of the dangers that climate change poses in today's time and are actively fighting it with their resilience and stewardship.

A brilliant snapshot of the youth's awareness of climate change was witnessed at the pan-India GSP Annual Climate Quiz for Schools—The Bout. The quiz was organised as part of the Centre for Science and Environment's (CSE) Green Schools Carnival and Awards Ceremony at India Habitat Centre, New Delhi on February 21, 2023.

Around 20 school teams with students from Grades 6 to 10 competed against each other for the top three positions and ultimate bragging rights as the next climate champions. The quiz questions traversed a wide range of topics around climate change, with some pretty tough ones sprinkled in between to make the participants' brains work overtime. Climate change experts

from CSE provided explanations to questions, where required and helped the participants resolve their doubts. However, what took the national quiz to the next level was the wit of the participants! From facts to deductions to reasoning—the young minds did it all for the coveted climate champion title. The quiz also had some surprises in store for the audience. The teachers and students got an opportunity to showcase their knowledge of climate as well through audience questions and win some exclusive CSE goodies.

Sunita Narain, Director General of CSE, awarded the top three winning teams and the rest of the school teams received participation certificates.

A participant from the winning team shared how the other teams gave them some 'tough competition' while his teammate spoke about how even though they won, there were still a lot of new things that they learnt in the quiz.

*The author is Programme Manager in the Environment Education Unit of CSE.*

1<sup>st</sup>

Birla Vidya  
Niketan,  
New Delhi

2<sup>nd</sup>

Montfort  
School,  
New Delhi

3<sup>rd</sup>

Indirapuram  
Public School,  
Pratap Vihar,  
Uttar Pradesh





Neeraj Kumar

## GSP CARNIVAL 2023

# The Big Idea

An update from the GSP Renewable Energy Fair for Schools—The Big Idea, hosted on 21 February 2023 at the India Habitat Centre, New Delhi.

The Centre for Science and Environment (CSE), New Delhi conducted an enthusiastic renewable energy fair for schools, as part of its Green School's Carnival 2023. It was held on February 21, 2023 at the India Habitat Centre, New Delhi. The exhibits showcased some brilliant ideas and innovative projects made by the students of schools, belonging to CSE's Green Schools Programme. 'The Big Idea,' as the event was titled, was a massive success and attracted participation from a total of 16 schools of which seven were based in Delhi–NCR and nine in Himachal Pradesh. Each school displayed its model, working or static, through a team of two students, belonging to grade 6–12, and were led by a teacher.

Their projects ranged from simple experiments, exploring basic concepts of solar energy, to complex research projects, investigating some serious issues. Some popular demos were of an electric bike, a solar-based smart dustbin, and a urine-to-energy generating model. These demonstrations left our audience spellbound and highly impressed our

judges. Their judgement criteria included various parameters, like the scientific accuracy of the project, the creativity and innovation of the idea, the quality of the presentation, and the clarity and conciseness of the students' explanation.

The students explained their projects in detail, answering the visitor's queries and spreading awareness about the role of renewable energy in mitigating climate change. The fair was a great opportunity for them to explore their interests in science, and develop their research and presentation skills. A lot of children, teachers, GSP members, and CSE partners who attended the fair left with a nuanced understanding of alternative energy. The fair inspired a lot of youngsters to create, innovate, and implement scientific solutions to make our future brighter, cleaner, and sustainable.

*The author is Deputy Programme Manager in the Environment Education Unit of CSE.*



**Solar grass-cutter**  
**M. M. Public School,**  
*New Delhi*



**Biodiesel extracted  
from keekar seeds**  
**Little Flowers Public  
Senior Secondary School,**  
*New Delhi*



**Geothermal heating  
and cooling system  
based on rainwater**  
**Doon Valley  
Public School,**  
*Solan, Himachal Pradesh*



GSP CARNIVAL 2023

*gobar times*

Design Studio

A glimpse from the Gobar Times Design Studio, a designing contest organized as part of the Green Schools Carnival 2023, to allow our talented readers to express their vision and version of the Gobar Times by curating two-pages of the magazine—showing what they would like to read and how.

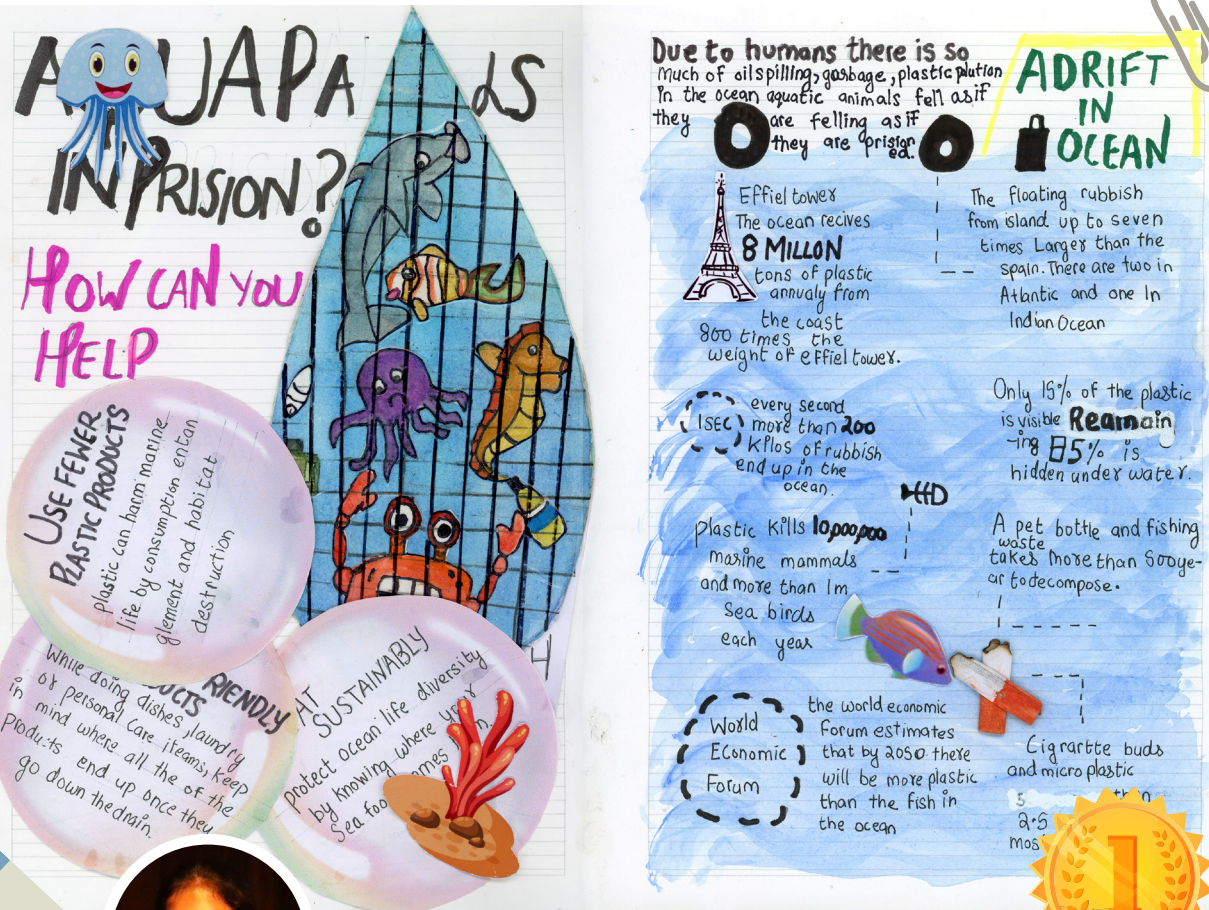
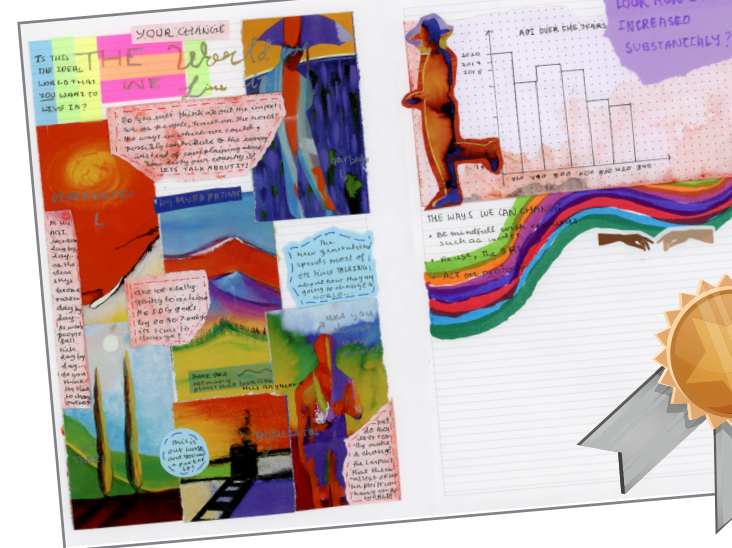


This entry is by **Michelle Garcia Mathew**, a student of class 9, Montfort School, Ashok Vihar, New Delhi. She won the **second prize** in the Gobar Times Design Studio.

This entry is by **Nishad Pawar**, a student of class 7, Delhi Public School, Lava, Nagpur, Maharashtra. He won the **third prize** in the Gobar Times Design Studio.



This entry by **Myra Pathak**, a student of class 8, Shiv Nadar School, Noida, Uttar Pradesh. She deserves a **special mention** for her creativity.



This entry is by **Adya Aggarwal**, a student of class 7, MRG School, New Delhi. She won the **first prize** in the Gobar Times Design Studio held on 21 February 2023 at the India Habitat Centre, New Delhi.



# GSP CARNIVAL 2023

## Leave Your Comments Here

Comments and responses from our students and teachers who attended The Green Schools Carnival 2023.



To be able to attend this event was definitely an incredible opportunity! I am truly grateful to be a part of such an amazing event. It was very fulfilling to see so many schools from all around India, taking part in and adding to the *Young Environmentalist* movement. The time I spent there was full of learning, and understanding the views and efforts of the people who were around us. The event was very well organized and the overall experience was wonderful.

**Myra Pathak**, Class 8, Shiv Nadar School, Noida



Our time at the Green Schools Programme's (GSP) award ceremony was not only fun but also educative. We were a part of the quiz and even though we did not win, we returned home knowing a lot more about climate change and its impacts than before the program. Later, on hearing the words of the Director-General of CSE, Sunita Narain, and witnessing the different ideas of schools and their awards, I got inspired to work and strive even harder for sustainability. Seeing different schools from all across India striving together towards this cause was very encouraging.

**S.R. Nidharsana**, Class 9, Dr Rajendra Prasad Kendriya Vidyalaya, New Delhi



It's been a beautiful experience to be on the GSP platform. Our state, Himachal Pradesh, won the Best State Award and we are proud that our Government High School (GHS), Gulela is one of the six green schools of Himachal Pradesh. The GSP award ceremony featured a variety of activities including a renewable energy fair, a *Gobar Times* design activity, a quiz, and a solar workshop for thirty schools of Himachal. This was an energy-boosting workshop for all the participating students and teachers.

Thank you also for recognising my efforts and giving me the GSP Ambassador Award. Special thanks to the GSP team for their excellent cooperation, management, and completion of the awards.

**Poornima Kumari**, TGT Medical, GHS Gulela, Hamirpur, Himachal Pradesh



It was a unique experience to attend the GSP award ceremony. The GSP is a platform where we can showcase all our efforts done to conserve the Mother Nature by adopting sustainable, green practices. Winning the top notch award of the 'Energy Manager' is like a dream come true for us. The entire team of Dr Rajendra Prasad Kendriya Vidyalaya expresses its heartfelt gratitude to the GSP.

**Dr Swati Kamlesh Bisht**, PGT Biology, Dr Rajendra Prasad Kendriya Vidyalaya, New Delhi



The GSP annual ceremony was truly an enthralling experience for us. It was a testimony of all the meaningful work that schools across the nation have done. It gives the schools a platform to continuously reflect upon their green practices and make progress in pursuing them so that they can achieve a sustainable and mindful learning environment.

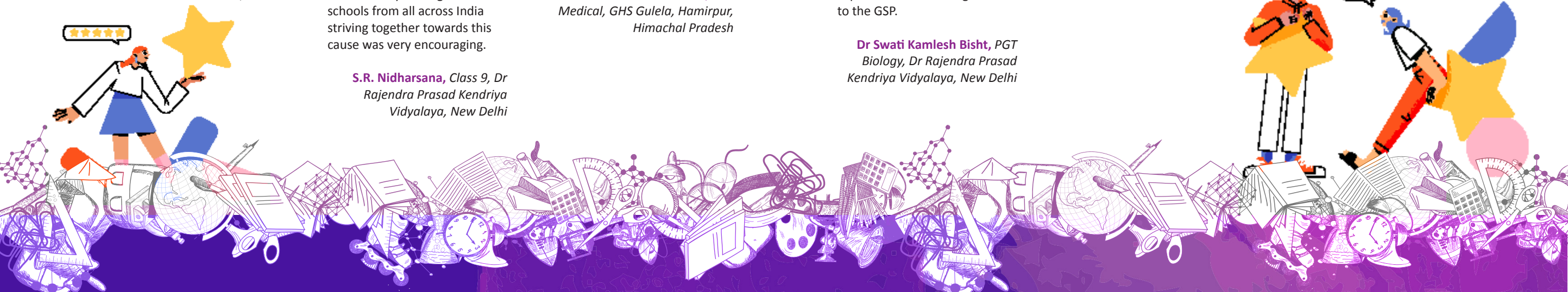
Receiving an award in the 'Food' section was truly a humbling experience for us and dedicated to the entire team of the Shiv Nadar School. Meeting educators and eminent personalities from diverse backgrounds was an enriching experience for me and so was the aspect of sharing ideas and learning from each other. Thank you, CSE, for supporting us and for making our five years of journey with you so wonderful!

**Ashu Ratra**, Green Schools Programme Coordinator, Shiv Nadar School, Noida



I am very grateful for being a part of The GSP Green Schools Carnival. All the activities of the event and their management was incredible and delightful. The GSP award ceremony was the most amazing part. The excitement and enthusiasm of the teachers and students amazed me and also encouraged me to protect our Mother Earth. At last, thank you all once again for hosting such an exciting event!

**Deepak**, Class 11, Government Model Boys Senior Secondary School, Nalagarh, Solan, Himachal Pradesh






**GSP CARNIVAL** 2023

## Solar 30

**A coverage of the GSP Teacher's Workshop: Solar 30 on using renewable energy in schools and solar lamp-making, organized on 22 February 2023 at the India Habitat Centre, New Delhi.**

**H**arnessing the power of the sun can not only help us curb global warming, triggered by the burning of fossil fuels, but it can also teach us valuable lessons on sustainability. No wonder, solar energy has become a popular choice among schools, aiming to save their energy costs and reducing carbon footprint. Thus, in 2022–23, the Centre for Science and Environment (CSE), New Delhi worked in association with the Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE). Their alliance was aimed at promoting the use of renewable energy in the schools, exclusively, of Himachal Pradesh. Under this project, solar panels were installed in 18 government schools during the year, and their staff and students were trained for using and maintaining the equipment.

A commemoration event for the project's first phase was organized during CSE's Green School's Carnival 2023 on 22 February 2023 at the India Habitat Centre, New Delhi. This phase-completion event, addressed as the 'Teacher's Workshop: Solar 30—Using Renewable Energy in Schools,' summarized all the project's outcomes. Its highlights are best quoted by the various teachers and students who were its participants.

Rakhi Bali, a teacher from the Government Senior Secondary School (GSSS), Chamba, reported, "The solar panels have helped us reduce

our carbon footprint and made our school more environment-friendly. We reduced our energy costs and contributed to a more sustainable future." The solar energy generated in these schools powered all their lighting and electrical appliances, and the significant cost savings were utilised to fund other initiatives. With low greenhouse gas emissions, their environmental stewardship increased their resilience to the global climate crisis.

Sapna Kamboj from GSSS Dharampur, Solan, confirmed, "The solar panels are a great teaching tool for our students. They are able to learn about renewable energy and sustainability in a practical and hands-on way." No wonder, the student attendees were particularly interested in the DIY activity included in the workshop. They were given an opportunity to assemble a small, solar study lamp, under the guidance and direction of some experts.



**Neeraj Kumar**

The students were encouraged to ask questions and engage in discussions, and the supervisors were meant to provide their knowledge and practical experience of working on solar technology. The instructors spread awareness about the benefits of home-based solar energy systems, including the tools and expenses involved, and their best practices. Thus, the workshop helped boost CSE's goals of promoting solar energy.

*The author is Deputy Programme Manager in the Environment Education Unit of CSE.*





Tejas Kannan

# Only Eco-friendly Cleaners

Performing tangible actions to achieve credible solutions—making eco-friendly cleaning agents and raising awareness on chemically-intense products to control pollution.

The unsettling sight of the Bellandur Lake—a foamy, cloudy demon gargling bubbles—and plastic litter—baffling mounds disposed irresponsibly—motivated me act and revive our wonderful world. We all know that the climate crisis is going off the charts and the practise of ‘Reduce, Reuse, and Recycle’ is gaining alarming urgency. Thus, it’s high time that we all think about saving our nature and so I started with focusing on the rampant use of chemicals in our everyday products.

There are many oils, emulsifiers, surfactants, colouring pigments, and preservatives present in our daycare items. When drained out, they produce chemically toxic wastewater. When this untreated wastewater from various households, enters our sewage drains, it reacts negatively with other elements present in the drain water and releases harmful gases. Later, when these drains join our water bodies, chemical reactions get triggered which can produce bubbles, foams, fires, etc. This is what I witnessed, unfortunately, at the Bellandur Lake in my city.

From 2020, I’ve been studying the chemical composition of our daily-use products and spreading awareness about them through my website, [Product Insight](#), and Instagram handle: [@creatingyouthawareness](#). Further, I have tried switching from the chemical-based floor cleaners, detergents, soaps, and cleaning bars to eco-friendly cleaners based on bio-enzymes. They use natural microorganisms to breakdown stains and dirt, and can be easily made at home using ingredients, which are not only cheap but are also discarded otherwise as food-wastes. My activity booklet, *Bio Enzyme - A Magical Solution: Product Insight*, can help you make bio-enzymes in the manner shown alongside.

Your bio-cleaner, once ready, will have multiple uses. It can serve as a dishwashing agent, cloth-washing detergent, floor cleaning solution, diluted liquid soap for pets, or a fertilizer for plants. Importantly, it is a non-polluting product; in fact, it can even nourish your soil and water. Thus, I urge you all to campaign against chemically-intense products and prefer bio-cleaners to protect the ecological balance in our environment.

*The author is a student of Class 11,  
Lawrence Elkins High School, Texas, USA.*



## INGREDIENTS:

- Peels of lemon, pineapple, and orange: 10 tbsps
- Jaggery: 1 tbsps
- Water: 10 cups
- Dry yeast : 1 tsp

## METHOD:

1. Put all the peels, grated jaggery, dry yeast, and water in a plastic, or non-metallic, container.

2. Stir the mixture and close the container with a lid, which should not be air-tight.

3. Leave the mixture as-is for about 60 days (that’s right!) to be ready.







**Bhuvaneshwari R.**

# Healthy Learning Environments

**Classroom experiments for fostering a healthy learning environment—based on ‘community comments,’ cooperative lesson plans, and a ‘mystery person.’**

I believe that the most important aspect in a positive learning environment is the rapport between a teacher and her students. When the students are convinced that their teacher cares for them and wants them to do well, they feel relaxed to open up and ask questions. They no longer hesitate in

making mistakes and taking risks. In order to build such healthy relationships, the teacher should take interest in each of her student's strengths and passions, as well as their struggles and frustrations. When the teacher is humble enough to learn from her own mistakes and can laugh even when she is annoyed,

the students feel much more comfortable and emulate the same good behaviour. The teacher should also celebrate their achievements and act as an inspiring role model for them.

Fostering a safe learning environment is important for a classroom. It is the teacher's job to create such a community where all the students get along well. To develop a thriving social culture, the students need to be aware of what they have in common with their fellow classmates and value each other's differences. Strong classroom communities can be formed in various ways.

For example, a teacher can begin with allocating several responsibilities to the class. Team-based responsibilities can give the students some necessary window to show their merits and overcome each other's weaknesses. These activities require them to count upon each other, and thereby become more interdependent. When the students start enjoying each other's company, they become more accepting of each other and gel well in during their classes. Cracking funny jokes, talking about their families and households, and having interesting conversations around pets can give children exciting opportunities to socialise. Eventually, it all becomes a part of a collaborative learning effort, which we are aiming for.





Apart from developing strong classroom communities, a teacher must also nurture a motivational learning environment. By framing the relevant rules, a teacher can encourage her students to do the right thing and develop good behavioural traits. It is important that she emphasises upon 'intrinsic' motivational factors apart from the 'extrinsic,' to keep the students interested and invested in their goals. These factors—praise, positive reinforcement, and rewards for exceptional behaviour, etc.—help the students understand the boundaries and expectations of their classroom.

Having said that, a teacher's management plan also plays a very large role in shaping the classroom community. Students cannot learn effectively when their instructor has lost control. Therefore, the teacher should make her targets very clear. When she is fair, consistent and organized, the students take responsibility for their limitations and make wise choices thereafter. Each aspect of a classroom management plays a pivotal role in evolving a healthy learning space.

For my classroom management and community-building, I formulated a chart of activities. When I facilitated a discussion on these activities among my students, they came up with a lot of ideas showing what awesome student groups can look like. So, I used this chart to enable them to work well together, to motivate them internally, and to make them take responsibility for their actions.

#### Community Comments

Firstly, I decided to conduct a very interesting community-building activity. I asked my students to undertake some projects individually. Then I

instructed them to walk around and appreciate each other's work, and creatively report about them in their notebooks. But before we could begin, I briefed them on what a kind or a critical feedback would sound like. Then, I offered every student some yellow pieces of paper, to maintain uniformity and confidentiality, on which they had to scribble a specific feedback on their classmate's project.

I was surprised to learn that my students did an excellent job in this activity! They generously complimented each other on what they found well in a project and most students felt great after reading the kind words they received from their classmates.

#### Cooperative Lesson Plans

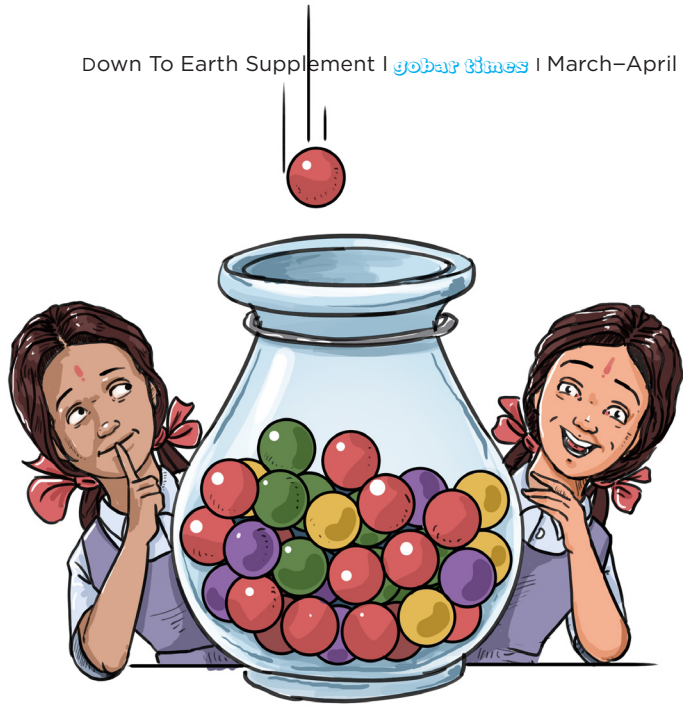
Next, I used some interesting lesson plans to encourage cooperative learning in my classes. Following a lesson plan, I asked my children to make a model farm, as a group activity, and divided its different sub-tasks among them. This inculcated teamwork and partnership skills among them. I always incorporate such group activities to promote social learning in my classes.

#### A Mystery Person

Finally, in order to motivate my students from within and otherwise, I pursued a 'mystery person' activity. Every morning, I picked a student to be our 'mystery person' and didn't disclose the name to anyone.

At the end of the day, if that person behaved well and stayed focused throughout, I announced her name as the 'mystery person' and gave the whole class an incentive of five marbles in an 'incentive jar'. However, if the mystery person did not do well, then he or she remained a mystery, i.e. I would not reveal the student's name. This activity was a great incentive for my students to behave well throughout the day. Within a few days, I noticed a lot of change in their individual and community behaviour. In fact towards the end of this activity, which was during the closing of our semester, a student even wrote to me a note saying how much she enjoyed the idea of the mystery person.

*The author teaches Tamil, English, Maths, Science, and Social Science to classes 3–5 in PSGR Krishnammal Nursery and Primary School, Coimbatore.*





# delay trip

 **TRAFFIC  
FAIL**  
**IS NOW LIVE**



The worsening traffic situation in our cities threatens their already strained infrastructure. Our metropolises show street signs of unplanned growth, corruption, and an urbanization in collapse fuelled by the misplaced aspiration and urgency to buy more and more cars. India is now paralysed by traffic, and is choked with some of the most congested and polluted cities in the world.