Week 1: Real-Life Waste Audit Project Report

1. Introduction

Waste generation has become a serious environmental challenge due to increasing population, urbanisation and changing lifestyles. Improper disposal and lack of segregation of waste lead to pollution, health hazards and depletion of natural resources. A real-life waste audit helps in understanding the type, quantity and source of waste generated and highlights the importance of waste segregation and sustainable resource use.

Our first week's activity was a Real-Life Waste Audit conducted by students as part of Week 1 activity guidlines.

2. Details of the Activity

Number of students involved: 7

Duration: 1 week (5th January to 11th January)

Type of activity: Field-based observation (Mainly at home and surroundings) and data analysis on the basis of the records made.

Steps Followed:

1. Students collected waste from nearby surroundings such as homes, kitchens, gardens and a small commercial area in the neighbourhood

2. The collected waste was carefully segregated into the following categories:

a) Biodegradable waste

b) Recyclable waste

c) Non-recyclable (non-biodegradable) waste

d) E-waste

3. Waste was analysed based on **weight, type and source.**

4. Data charts were prepared to understand waste composition.

5. A simple report was compiled and one improvement idea was suggested by the group.

3. Objective of the Project

a) To understand the seriousness of waste generation in daily life.

b) To study the importance of waste segregation at the source.

c) To analyse different types of waste and their environmental impact.

d) To encourage responsible waste management practices among students.

4. Waste Segregation Categories

a) Biodegradable Waste includes food waste, vegetable peels, fruit waste, dry leaves and garden waste. These materials decompose naturally and can be converted into compost.

b) Recyclable Waste includes paper, cardboard, glass, metals and certain plastics that can be reused or recycled.

c) Non-Recyclable Waste includes plastic wrappers, masks, synthetic materials and items that cannot be recycled easily.

d) E-Waste includes discarded electronic items such as old earphones, broken chargers, keyboards and wires. These are hazardous and require special disposal methods.

5. Data Analysis and Observations

A. Waste Composition by Weight:

Biodegradable waste: 63.8% (3.07 kg)

Recyclable waste: 18.1% (0.87 kg)

Non-biodegradable waste: 14.1% (0.68 kg)

E-waste: 4.1% (0.20 kg)

Observation: Biodegradable waste forms the largest portion, **indicating high potential for composting and waste reduction.**

B. Source of Waste

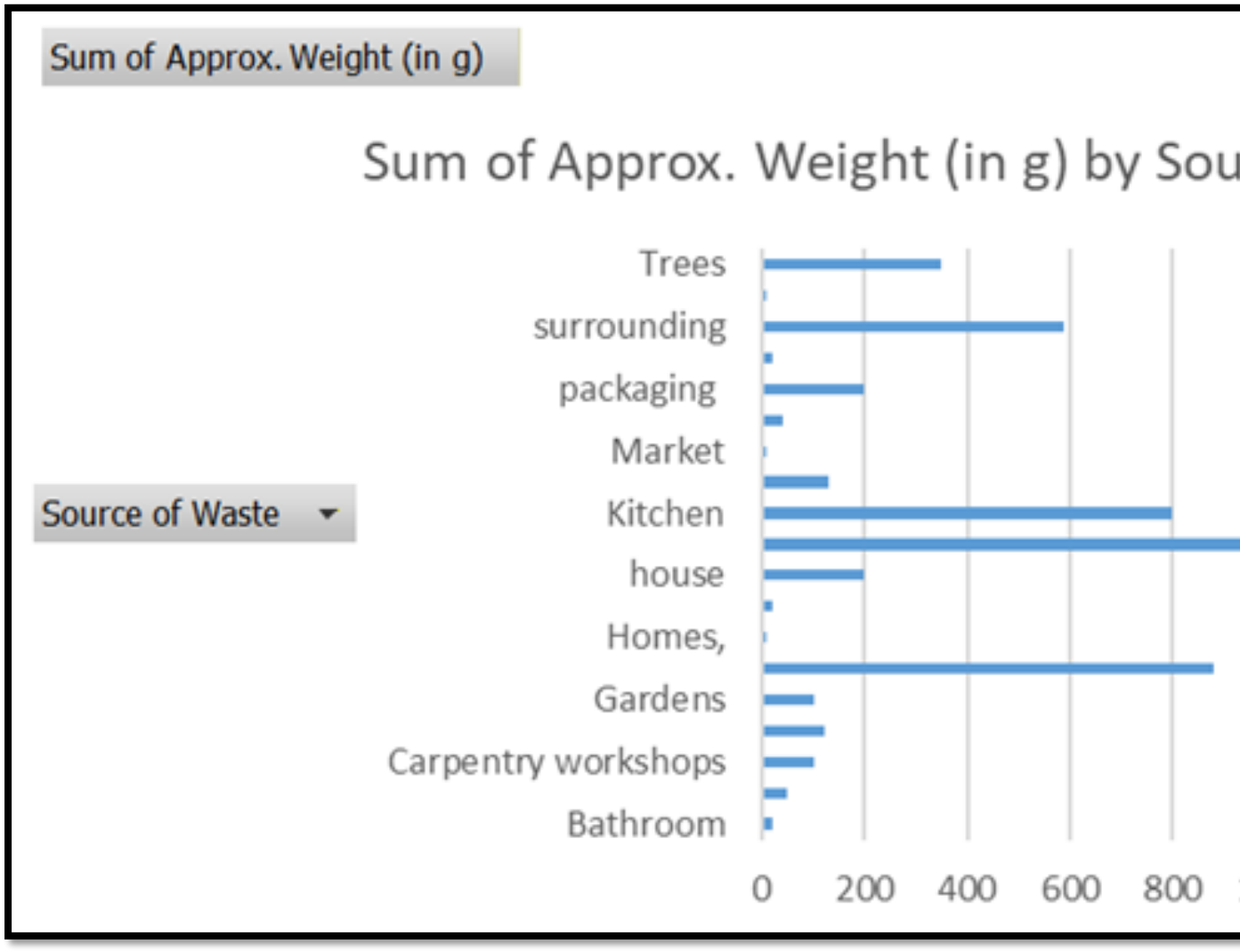
Households: ~2.3 kg (largest contributor; mixed waste)

Gardens/Surroundings: ~1.2 kg (mostly biodegradable waste)

Kitchens: ~0.9 kg (wet food waste)

Markets/Commercial areas: ~0.3 kg (packaging and paper waste)

Observation: Household waste is the major source, showing poor segregation practices at the source.



C. Decomposition Time Analysis (Decomposition Gap)

Food waste and paper: 3 days - 4 months

Plastic wrappers and bottles: 100–1000 years

E-waste: More than 1 million years

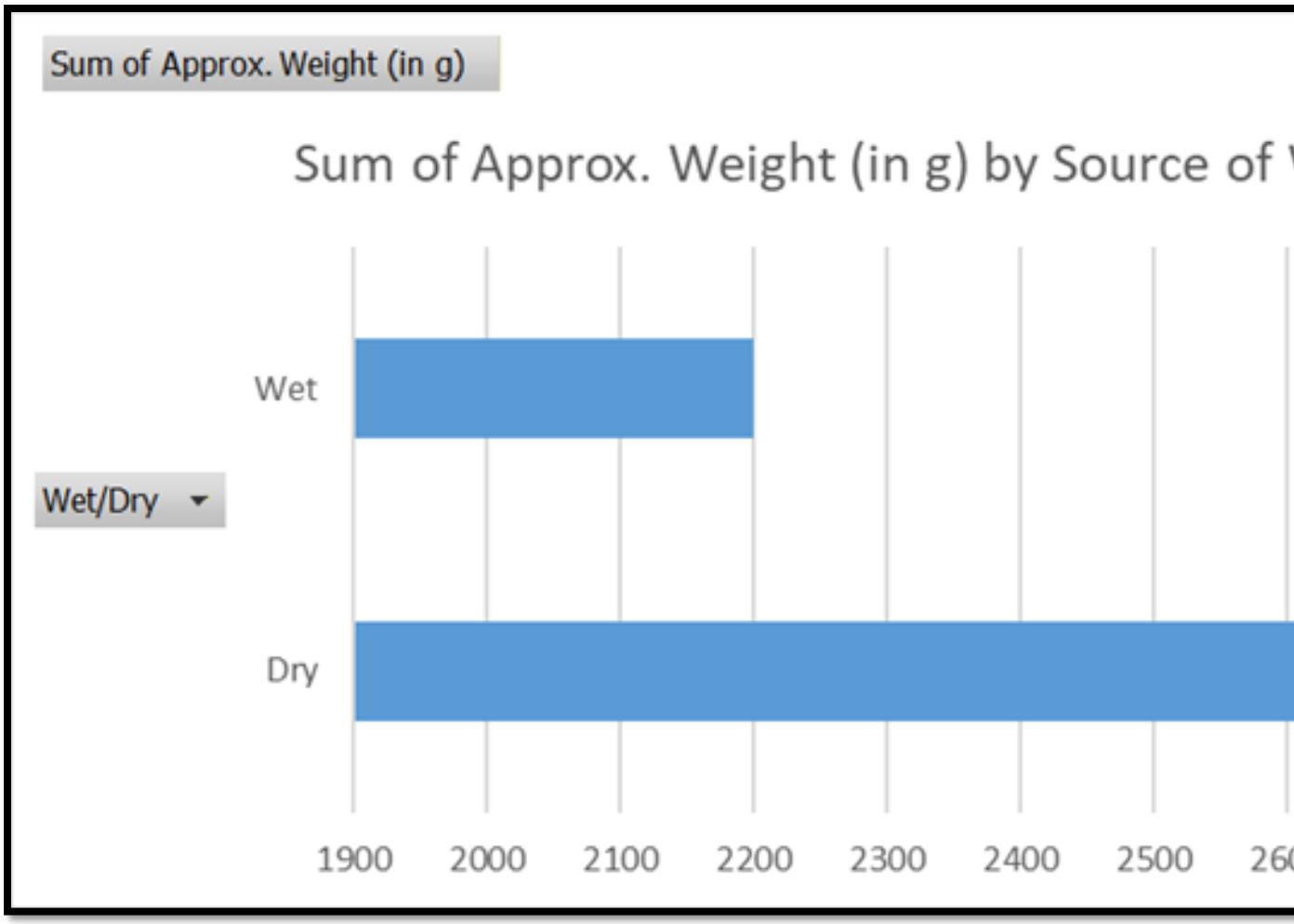
Observation: E-waste and plastics pose long-term environmental threats despite their smaller quantity.

D. Wet and Dry Waste Balance

Dry waste: 64%

Wet waste: 36%

Observation: Proper segregation of wet and dry waste is essential for efficient recycling and composting.

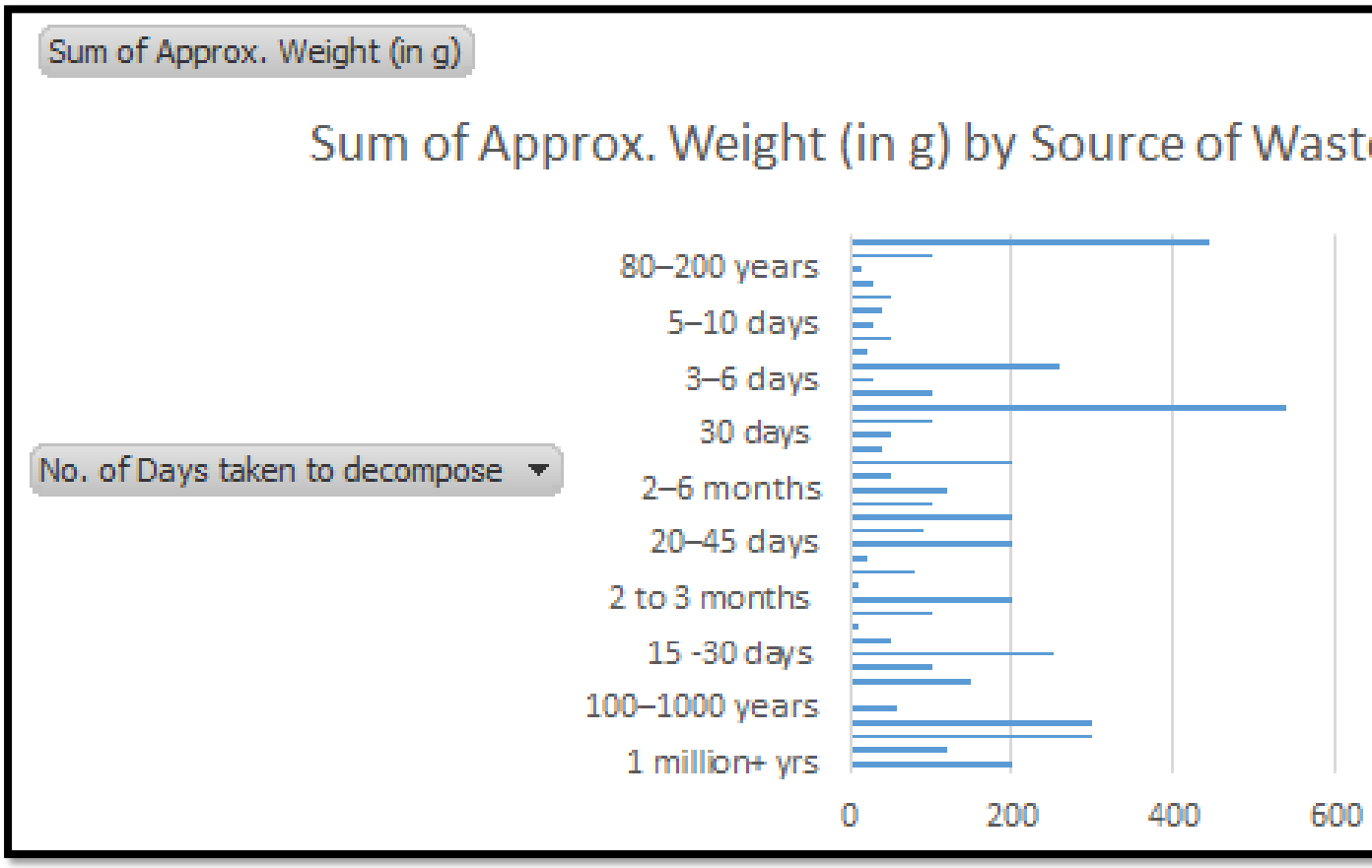


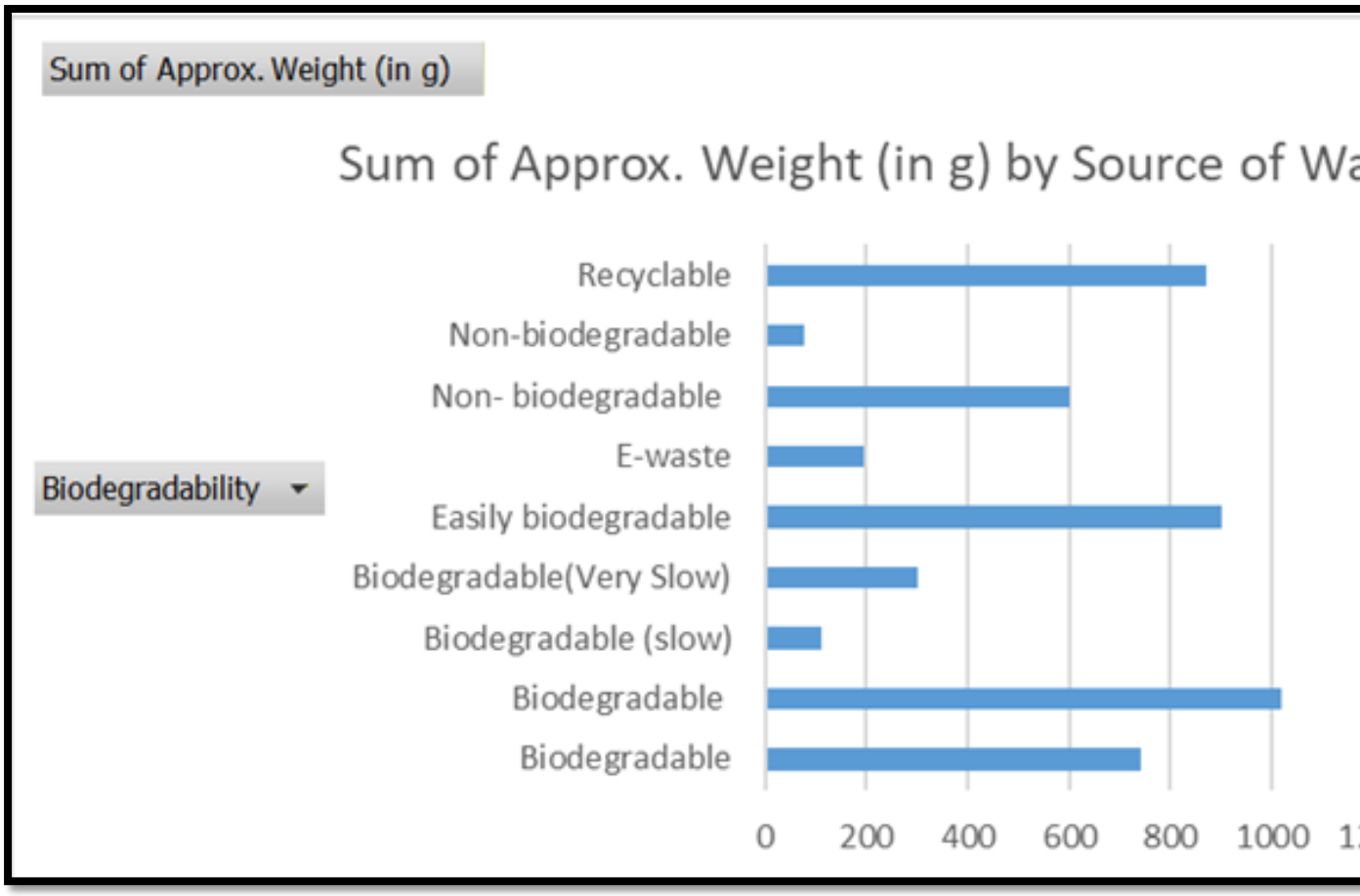
6. Charts and Visual Representation

Data charts such as pie charts and bar graphs were prepared to visually represent:

a) Percentage of different waste categories
b) Sources of waste generation
c) Wet and dry waste comparison

d) These charts helped in better understanding and interpretation of the collected data.





7. Group Improvement Suggestion

Installation of Composting Units: Since biodegradable waste forms the largest portion, composting units should be set up at household or community level. This will reduce landfill waste, produce organic manure and promote sustainable waste management.

8. SDGs Addressed

SDG 12.5 – Reduce Waste Generation: By encouraging waste segregation, recycling and composting.

SDG 12.2 – Sustainable Resource Use: By promoting reuse, recycling and responsible consumption.

9. Conclusion

The Real-Life Waste Audit helped students gain practical knowledge about waste generation and management. The activity highlighted that most waste can be reduced, reused or recycled if proper segregation is followed. It also emphasised the serious environmental threat posed by plastics and e-waste. Overall, the project created awareness

and encouraged students to adopt eco-friendly habits in daily life.

WEEK 2 ACTIVITY REPORT

Expression through Writing

Activity Overview

Students of class 8 participated in creative writing exercises, crafting letters from the perspective of waste, Earth, or future generations, focusing on responsible consumption. In addition, they drafted notices about conducting an "Eco-Waste Management Drive" and an "Eco-friendly Product Exhibition". They also wrote e-mails to principals of neighbouring schools, inviting them to join the activities. The activity aimed to raise awareness about sustainable lifestyles (SDG 12.8) and education for sustainability (SDG 4.7).

Student Work & Learning Outcomes

Notice

Eco-friendly Product Exhibition

- Students drafted a notice informing classes VIII-XII about the exhibition and encouraging participation.

- Learning Outcome: Students understand event organization and promotion for environmental causes.

Eco-Waste Management Drive

- Students helped draft a notice for classes VIII-XII about the drive.

- Learning Outcome: Involvement in environmental initiatives.

Notice:

1i) Write a notice to conduct an "Eco-Waste Management Drive" for the students of classes VIII to XII with all the necessary information.

Towards a Waste-free Future

Annual Inter-school Eco-Waste Management Drive

Date: 29th January, 2026

Time: 10:00 a.m. to 11:00 a.m.

Venue: The Premises, Vivekananda Mission School

Students from classes VIII to XII, wishing to participate in the drive must confirm their attendance at the school ground with their respective class teachers on the day of the event.

Notice:

Write a notice for your school notice board for classes VIII to XII informing them about An Eco-friendly Product exhibition and encouraging their participation.

WASTE TO WORTH

Annual Inter-school Eco-friendly Product Exhibition

Date: 30th January, 2026

Time: 11:30 a.m. to 1:30 p.m.

Venue: Hall 3, Vivekananda Mission School.

Interested participants from classes VIII to XII must submit their names to their respective class teachers by 20th January, 2026.

E-mail to Principal of neighbouring school

Eco-friendly Product Exhibition

- Students wrote an e-mail inviting the principal and students to participate in the Eco-friendly Product Exhibition.

- Learning Outcome: Students practice professional communication and collaboration skills are developed.

Eco-Waste Management Drive

- Students drafted an e-mail inviting students to participate in the Eco-Waste Management Drive.

- Learning Outcome: Collaboration and communication skills.

E-mail:

ii) Write an e-mail to the principal of a neighbouring school, requesting him or her to send a team of students to participate in the "Eco-Waste Management Drive" to be conducted by your school.

To: principal.dps@gmail.com

Subject: Invitation to participate in Eco-Waste Management Drive.

Dear Sir,

Vivekananda Mission School is organising its Annual Inter-school Eco-Waste Management Drive on 29th January, 2026 in the School Premises from 10:00a.m. to 11:00a.m. We will be delighted if you kindly send a team of students from your school to participate in this drive.

Besides collecting Eco-Waste, the program will include creative competitions and collaborative problem solving. Participating students will be required to bring their own gloves and caps as part of the dress code. All participants will be provided with refreshments at the end of the drive.

A line of confirmation about your participation by 19th January, 2026 will be highly appreciated. All participants will be provided with participation certificates.

We will look forward to a positive response.

Thanking you,

Yours faithfully,

Aniruddha Das

E-mail:

Write an email to the principal of a neighbouring school, inviting them to participate in your school's Eco-friendly Product Exhibition and collaborate, making it a success.

To: principal.dps@gmail.com

Subject: Invitation to participate in and collaborate on Eco-friendly Product Exhibition.

Dear Sir,

I, Reechik Guin, the School Captain of Vivekananda Mission School, am writing to you on behalf of all students and staff of our school, requesting you to send a group of students from your school to participate in and collaborate on "WASTE TO WORTH", our Annual Inter-School Eco-friendly Product Exhibition.

The programme will be held on Friday, 30th January, 2026 from 11:30 a.m. to 1:30 p.m. at Hall 3, of our school. Our goal is to move beyond mere awareness and encourage students to develop sustainable, real-world and eco-friendly solutions for everyday life. In order to accommodate the works of all participants, we request that participants bring only two works per individual.

All participants will be awarded a participation certificate. We look forward to a positive response.

Thanking you,

Yours faithfully,

Reechik Guin

Letter

From a plastic bottle to consumer

- Students wrote a letter pleading to be reused or recycled, highlighting environmental impact.

- Learning Outcome: Students empathize with objects affected by human actions and promote sustainability.

From present life to future generations

- Students wrote about waste creation, harm to Earth, and need for responsible consumption.

- Learning Outcome: Awareness about waste management and sustainability.

The link where you can see the letters:

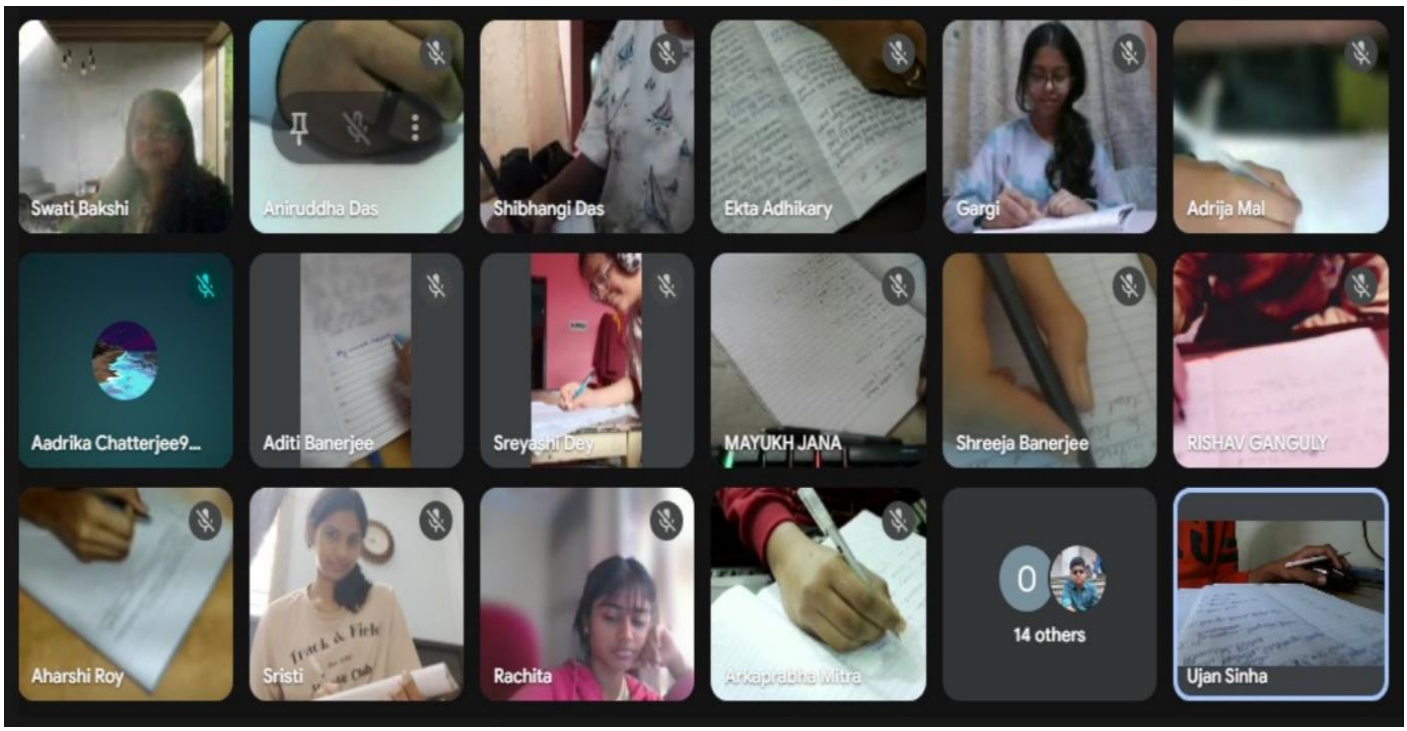
https://www.pdffiller.com/s/-CcaxBOhPE

Conclusion

Through these creative writing activities, students of class 8 not only honed their language skills but also cultivated a deeper understanding of environmental issues and the importance of sustainability. By expressing thoughts and emotions through diverse perspectives, they embraced empathy and responsibility towards the planet.

We now look forward to continue exploring themes of sustainability and environmental responsibility. We also wish to plan more activities to reduce waste and promote eco-friendly habits in daily life and actively participate in them.

We are planning to integrate such activities with the prescribed lessons in our syllabus in the upcoming session.



Our class working together

WEEK 3 ACTIVITY REPORT

20th January 2026 – 27th January 2026

Dramatic Representation of the Importance of the 3Rs

Activity Overview

- **Script Development**: A team of students browsed and found a script focusing on waste management issues and awareness entitled **"Waste to Wealth"**.
- **Student Outreach**: The activity co-ordinator reached out to Class 7 students, inviting them to participate.
- **Volunteer Selection**: Interested students volunteered, and we finalized the participants.
- **Character Selection**: Students chose their own characters and contributed to the script.
- **Recording**: Students recorded their parts for our online platform.
- **Editing**: The activity co-ordinator compiled the video after necessary editing.

Learning Outcomes

1. **Environmental Awareness**: Students understood the impact of improper waste management on animals and the environment.

2. **Problem-Solving Skills**: Through animal characters, students explored ways to reduce, reuse, and recycle waste.

3. **Collaboration and Teamwork**: Students worked together, researching, choosing characters and recording parts.

4. **Communication Skills**: Students effectively conveyed messages about waste management through their roles.

5. **Empathy and Responsibility**: By representing animals, students developed empathy for wildlife affected by waste and a sense of responsibility towards the environment.

Link to Our Drama

https://youtu.be/ybWpjp2VU8o?feature=shared

WEEK 4 ACTIVITY REPORT

28th January 2026 – 2nd February 2026

Research and Comparative Analysis on Waste Management Systems

Activity Overview

- **Research & Analysis**: The team of students researched and analysed the waste management systems and issues in the countries India and Nigeria.
- **Comparative Analysis**: Students compared the reports made by research and contributed to the project.
- **Student Outreach**: Full team

Learning Outcomes

1. **Environmental Awareness**: Students understood the impact of improper waste management on the environment and the dangers that will arise in future due to it.

2. **Researching and Data Analysis Skills**: The students learnt how to research and analyse data together.

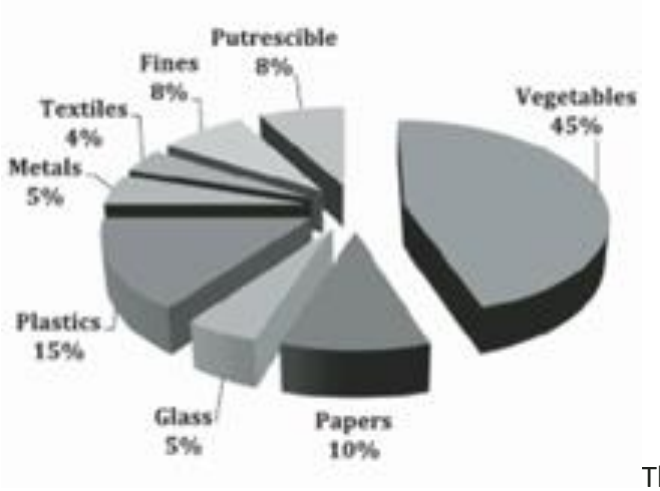
3. **Collaboration and Teamwork**: Students worked together, researching, analysing data and brainstorming ideas.

4. **Writing Skills**: Students understood how to write reports after research and analysis and how to present them.

WASTE MANAGEMENT IN NIGERIA:

1.What type of waste causes the biggest problem and why?

Domestic household waste (66.1% of the total solid waste)



They end up in open drains and nearby streams and water channels, littering streets and clogging drainage channels. Municipal Water leaches through the landfill, contaminating groundwater aquifers, potentially ending up in the food chain or drinking water sources. Burning organic waste on the open streets releases carcinogens into the atmosphere

2. How is this waste currently handled?

Solid waste is typically dumped in illegal makeshift landfills,

gathered in heaps and incinerated in situ, or abandoned by highways and street corners, batteries and other hazardous chemical waste are inappropriately disposed resulting in the leaching of dioxins into the surrounding soiling addition

3. Who is most involved? (government / private sector / informal workers)

There are state and local government agencies in place for waste collection and disposal.

4. What fails most often in the system?

The waste collection agencies are inefficient and lack modern technology for waste management.

Poor funding makes it difficult for the agencies to collect and manage the wastes efficiently.

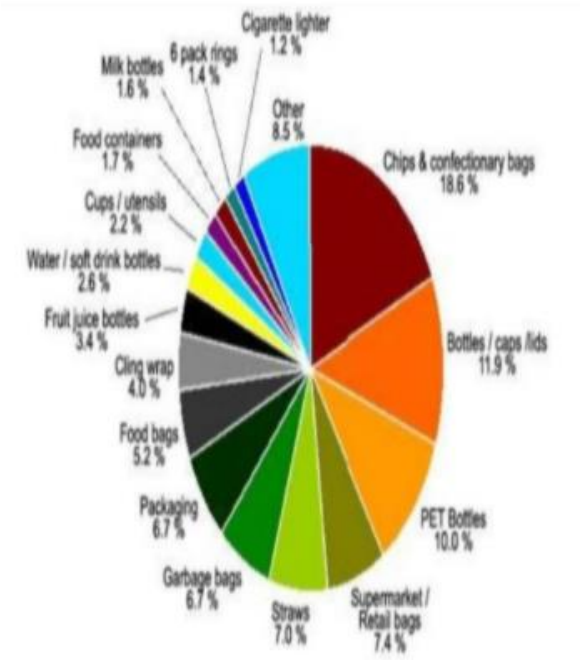
Citations:

1. Omole, David & Isiorho, Solomon & Ndambuki, Jm. (2016).
2. Waste management practices in Nigeria: Impacts and mitigation. 10.1130/2016.2520(33).
3. The Problem with Solid Waste Management in Nigeria's Low- Income Neighbourhoods by Mathias Agbo Jr.
4. Godspower Oke Omokaro, Ikioukenigha Michael, Ogheneochuko Shadrack Efeni, Opelopejesu Israel Adeyanju, Justice Obomejero,

WASTE MANAGEMENT IN INDIA:

1.What type of waste causes the biggest problem and why?

In 2016, India generated about 61 million tonnes of solid waste, out of which 9.3 to 10.5 million tonnes



were plastic waste. Untreated plastic waste clogs drain, causes marine pollution, contaminates soil and can last millions of years by breaking down into microplastics.

2. How is this waste currently handled?

Plastic waste is handled by a combination of recycling, landfilling and incineration.

3. Who is most involved? (government / private sector / informal workers)

The informal sector, consisting of 1.5 to 4 million waste pickers, forms 'the backbone of recycling' of plastic waste in India. These people collect and separate plastics, accounting for the majority of plastic recycled.

4. What fails most often in the system?

The main failure in India's plastic waste management system is that plastic production vastly outpaces recycling and waste management infrastructure.
Moreover, littering and lack of proper waste collection in slums aggravates the problem.

Citations:

1. https://www.aipma.net/new/Past-Events/Presentation/02July21-1.pdf
2. https://www.plasticsforchange.org/blog/india-emerges-as-the-worlds-largest-plastic-polluter-what-went-wrong-and-whats-next#:~:text=India%2C%20a%20nation%20celebrated%20for,tipping%20point%20in%20plastic%20pollution.
3. https://www.drishtiias.com/daily-updates/daily-news-editorials/india-s-battle-against-plastic-waste
4. https://www.genevaenvironmentnetwork.org/resources/updates/plastic-waste-management/
5. https://sbmurban.org/storage/app/media/pdf/SBM%20Plastic%20Waste%20Book.pdf

COMPARISON AND ANALYSIS:

Waste Pathways Comparison:

Some Charts Showing Differences in Waste Management:

This chart shows how waste moves through the management system in India and Nigeria and where it leaks into the environment. It tracks waste from generation to disposal, highlighting points where poor collection, limited processing, or illegal dumping cause waste to enter drains, landfills, air, and water. The final stage shows the resulting environmental damage in each country.

This chart compares how the impacts of waste change over time. The horizontal axis shows time (immediate to decades), and the vertical axis shows severity. India's impact increases over the long term due to persistent plastic pollution, while Nigeria experiences more immediate health and environmental damage from organic waste and burning.

Solutions Suggested by Students:

1. One idea India could adapt from Nigeria:

Prioritize biodegradability at the source.

Nigeria's waste stream is dominated by organic and household waste, which is easier to neutralize if managed well. India could reduce long-term environmental damage by pushing harder on biodegradable packaging and limiting persistent plastics, shifting part of its waste problem from permanent to reversible.

2.One idea Nigeria could adapt from India:

Integrate informal waste workers into the system.

India's informal waste pickers significantly improve material recovery and system resilience. Nigeria could adapt this by recognizing, organizing, and supporting informal collectors, increasing recycling efficiency without relying solely on costly formal infrastructure.

3. One common solution for both:

Source-level waste separation combined with public education.

Separating waste at the household level prevents contamination, improves recycling, and reduces environmental leakage. When paired with basic waste education, this single intervention lowers

system stress in both countries—reducing plastic pollution in India and preventing organic waste from entering drains and open dumps in Nigeria.