

# Lesson Plan

## Target Audience

Vet Trainers

## Goal (50-60 words)

The goal of this Lesson Plan is to encourage the VET trainer to lead the trainees to implementing sustainable practices in businesses, offices and schools. It would help the process to design a successful Action Plan and choose the best way to impact larger communities.

## Objectives (1-3 Objectives)

Upon completing the Module, the trainees will be able to:

- Apply sustainable paper waste management practices
- Design comprehensive action plans for reducing paper waste and implementing sustainable waste management practices

## Optional Theoretical Background (200-400 words)

Paper waste has become a significant environmental concern. The excessive consumption of paper products has led to a massive accumulation of paper waste, which poses a threat to our ecosystems. However, with effective paper waste management strategies we can turn this challenge into an opportunity for a greener and more sustainable future.

Proper paper waste management is essential to reduce the environmental impact of paper consumption and includes all aspects of paper waste management, including collection, container

provision, and waste disposal or recycling.

The steps that pulp and paper mills undertake in the paper waste management process – from **collection and sorting to pulping, de-inking, and drying** – highlight the industry's commitment to sustainable management practices. This journey from waste to renewal is not just about reprocessing; it's about turning discarded paper into valuable pulp, ready for a new life in a surprising variety of paper products.

**Recycling paper** is one of the most effective ways to reduce its environmental impact. Recycled paper reduces the need for virgin wood pulp, thereby minimizing deforestation. It also consumes less energy and water compared to producing new paper from raw materials. It is important to note, however, that paper recycling is limited up to seven times.

Paper recycling is important for businesses across all sectors to contribute to a sustainable future. **Effective paper waste management** can benefit educational institutions, healthcare facilities, government bodies, and manufacturing companies. Retail outlets, offices, and the print and publishing industry also produce considerable volumes of paper waste, which can lead to environmental harm if not managed correctly.

Adopting paper recycling practices allows every organisation, regardless of size or industry, to play a vital role in preserving natural resources, minimising landfill waste, and fostering sustainability.

Here are some best practices that can guide businesses in this endeavor:

### **Segregation**

Segregation is the first, and one of the most critical steps in paper waste management. It involves separating recyclable paper waste from non-recyclable waste. Not all paper is recyclable. For example, paper products contaminated with food, paper towels, or glossy paper often cannot be recycled. It's essential to train employees in correctly identifying and segregating these types of waste.

### **Reduction**

Reducing paper usage is key to minimizing paper waste. Businesses can radically cut down paper consumption by encouraging double-sided printing, using digital platforms for documentation and communication, and reusing paper for non-official purposes. By doing this, in the long run, they significantly reduce costs and shrink the business's environmental footprint.

### **Recycling**

Setting up an effective recycling program is central to paper waste management. Place paper recycling bins in key areas around the office, such as near printers and in the pantry. Encourage employees to use these bins for necessary paper waste. Regularly check these bins to ensure that the waste is properly segregated and ready for recycling.

## Lesson Plan Details

Lesson Plan title	Lesson Plan 3: <b>Best actions to tackle the global environmental issues connected with paper production and paper waste</b>
21st Century Skills	<p>Choose the skills that will be developed in the lesson:</p> <ul style="list-style-type: none"> <li>● Analytical skills</li> <li>● Collaboration</li> <li>● Communication</li> <li>● Researching</li> <li>● Critical Thinking</li> <li>● Problem-solving</li> <li>● Decision making</li> </ul>
Duration	<p>Total duration: 120 minutes</p> <p><b>Activity 1:</b> Introduction to the paper waste management practices and discussion about benefits, advantages and disadvantages of having a paperless office/organisation (20 min)</p> <p><b>Activity 2:</b> Presentation of case scenario "From Waste to Resource: Implementing a Paper Management System" (20 min)</p> <p><b>Activity 3:</b> Brainstorming sustainable solutions for paper waste reduction and design of a mini-action plan (80 min)</p>
Classroom setting	<p>For Activity 1 and Activity 2 - in groups</p> <p>For Activity 3 – in pairs</p>
Required material/resources	<p>Activity 1</p> <ul style="list-style-type: none"> <li>● Flipchart and markers</li> </ul> <p>Activity 2</p> <ul style="list-style-type: none"> <li>● Scenario handout</li> <li>● Electronic device for each group of trainees (optional)</li> <li>● Internet connection</li> </ul> <p>Activity 3</p> <ul style="list-style-type: none"> <li>● Electronic device for each pair (optional)</li> </ul>

	<ul style="list-style-type: none"> <li>Internet connection</li> </ul>
Prerequisites	<p>General knowledge about the environmental impact of paper production and use in business and at home.</p> <p>Awareness about paper sorting and recycling.</p>
Final Assessment (if applicable)	<p>Quiz:</p> <p>Which of the following is a major environmental concern related to paper production?</p> <p>a) Water consumption b) Deforestation c) Air pollution from chemicals d) All of the above <b>(correct)</b></p> <p>What is one significant benefit of recycling paper compared to producing new paper?</p> <p>a) It produces higher-quality paper b) It requires fewer natural resources like water and energy <b>(correct)</b> c) It can be done indefinitely without degrading paper quality d) It reduces the need for plastic production</p> <p>How many times, on average, can paper be recycled before the fibers degrade too much to be reused?</p> <p>a) 2-3 times b) 5-7 times <b>(correct)</b> c) 10-15 times d) Indefinitely</p>
Additional resources	<p>From Waste to Renewal: Exploring the Paper Waste Management Process  <a href="https://paperexcellence.com/from-waste-to-renewal-exploring-the-paper-waste-management-process/">https://paperexcellence.com/from-waste-to-renewal-exploring-the-paper-waste-management-process/</a></p>
References	<ul style="list-style-type: none"> <li>Hatem Abushammala, Muhammad Adil Masood, Salma Taqi Ghulam and Jia Mao, <i>Sustainability</i> <b>2023</b>, 15(8), 6915; <a href="https://doi.org/10.3390/su15086915">https://doi.org/10.3390/su15086915</a>  On the Conversion of Paper Waste and Rejects into High-Value Materials and</li> </ul>

## Lesson Plan for Activities & Scenarios #1 (include 1-3 activities & 1-2 scenarios)

**Activity 1: Introduction to the paper waste management practices and discussion about benefits, advantages and disadvantages of having a paperless office/organisation (20 min)**

*This activity consists of two steps.*

**Step 1:** Introduction to the [paper waste management practices](#) (10 min)

**Step 2:** Reduce, Reuse, Recycle – discussion on paperless office (10 min)

- Divide your trainees into groups
- Ask each group to think of and list benefits, advantages and disadvantages of having a paperless office
- Initiate a common discussion.

**Activity 2: Presentation of case scenario "From Waste to Resource: Implementing a Paper Management System" (20 min)**

*This activity consists of three steps.*

**Step 1:** Present the mini scenario to your trainees: "From Waste to Resource: Implementing a Paper Management System" (5 min)

You are a VET trainee specializing in environmental management. You have recently been assigned to work at an office of a local company that has not yet established a comprehensive paper saving and paper waste management system. The office produces a significant amount of paper waste. Due to the lack of a proper system, paper waste is piling and being stored taking space and causing fire hazard and health hazard for the workers. You have to find the best solution for the company.

**Step 2:** Ask them to reflect on it and present them these three choices (10 min):

1. I'll create a detailed proposal outlining steps to implement a comprehensive paper waste management and paper saving system and present it to the plant manager. Including paper waste audit, steps for reducing paper consumption and avoiding paper waste, introducing an incentive system for using e- mail and electronic documents archive.

2. I'll organize a team to clean up and segregate the waste, contacting paper recycling companies and will produce posters for paper waste awareness.

3. I'll suggest hiring an external paper waste management company, research options, and present the best quotes and service details to the management.

**Step 3:** Based on their responses, share with them the feedback below (5 min).

**1. Feedback 1:** Developing a paper waste management and paper saving proposal is the best choice. It provides a systematic, sustainable solution tailored to the company's needs. By presenting a comprehensive plan, you demonstrate your ability to think strategically and address long-term environmental and health concerns. Implementing the proposal would likely lead to improved safety for workers, compliance with environmental regulations, reduced paper consumption and reduced paper waste.

**2. Feedback 2:** Organising an immediate cleanup, one off paper recycling effort and temporary solutions shows initiative and addresses the urgent need to mitigate fire hazards. However, this approach only provides a short-term fix without addressing the underlying systemic issues. While it might have temporarily reduced risks, it did not offer a sustainable long-term solution.

**3. Feedback 3:** Suggesting outsourcing paper waste management indicates resourcefulness and a practical approach to solving the problem. However, relying on an external company might have delayed the implementation of a tailored, comprehensive paper waste and paper saving management system. While it could ensure professional handling of paper waste, it might not fully address the plant's specific needs and long-term sustainability.

### **Activity 3: Brainstorming sustainable solutions for paper waste reduction and design of a mini-action plan (80 min)**

*This activity aims to empower students to take an active role in sustainability efforts within their school and community. This activity consists of four steps.*

**Step 1:** Divide trainees in pairs and ask them to brainstorm ideas for mitigating the environmental impacts of paper production and waste (10 min)

**Step 2:** Let each group to present identified ideas for mitigating the environmental impacts of paper production and waste and discuss as a class (15 min):

- How can organisations reduce paper use?
- What sustainable alternatives exist (e.g., digital transformation, recycled paper, etc.)?
- How can recycling rates be improved?
- How can education and awareness campaigns be implemented?

**Step 3: Action plan for reducing paper waste design (45 min)**

- Divide again the trainees into pairs
- Ask each pair to choose one of findings from the LP2, Activity 2 – Paper Waste Audit
- Using the information gathered from the Paper Waste Audit, each group will create a mini action plan focusing on one aspect – administration office, library or classrooms
- Each group presents their mini action plan to the class.

**Action Plan for Reducing Paper Waste** (Example with main steps)

**1. Assessment of Current Paper Usage**

- Conduct a survey to understand how much paper is used in classrooms, offices, and other areas.
- Identify the main sources of paper waste (e.g., printing, handouts, packaging).

**2. Education and Awareness**

- Organise workshops or presentations on the importance of reducing paper waste and the impact of waste on the environment.
- Create informative posters and digital content to raise awareness among students and staff.

**3. Implementing Reduction Strategies**

- Encourage digital submissions for assignments and projects to minimize printing.
- Promote double-sided printing and the use of smaller font sizes to reduce paper consumption.
- Set up a paper reuse station where students can collect and use scrap paper for notes or drafts.

**4. Recycling Initiatives**

- Establish clearly marked recycling bins in classrooms and common areas specifically for paper waste.
- Partner with local recycling facilities to ensure proper disposal and recycling of collected paper.

**5. Monitoring and Evaluation**

- Set up a system to track paper usage and waste reduction over time.
- Conduct periodic reviews to assess the effectiveness of implemented strategies and make adjustments as necessary.

**6. Community Engagement**

- Organise a paper waste reduction campaign that involves the wider community, encouraging families to adopt similar practices at home.
- Host events such as “Paperless Days” where students and staff commit to minimizing paper use for a day.

**Step 4: Conclusion and wrap up (10 min)**

- Discuss how the action plan can be implemented in their school or company.