

## Synergy Waste Recycle Product Ideas

### Suggested Project Ideas:( Examples)

1. Solar-Powered Lamp from E-Waste
2. DIY Air Purifier Using Old CPU Fans
3. Tetra Pack Modular Wall Organizers
4. Plastic Bottle Water Filter
5. Upcycled Fabric Insulated Lunch Bags
6. Eco-Brick Furniture (e.g., stools, planters)
7. E-Waste Desk Organizers
8. Reusable Tote Bags from Old Clothes

### Brief description of Waste Recycling Product Competition Ideas



### Waste-to-Wonder Competition Template

#### 1. Eco-Brick Furniture Challenge

**Objective:** Create durable and creative furniture for school use or donation.

**Materials:** Plastic bottles, wrappers, scissors, tapes, old fabrics.

**Sustainability Impact:** Reuses non-biodegradable waste innovatively.

**Ideas:** Stools, tables, planters, benches.

The **Eco-Brick Furniture Challenge** is a hands-on environmental project where students use **eco-bricks**—plastic bottles tightly packed with non-biodegradable plastic waste—to **build functional furniture** like stools, benches, or tables.



#### What is an Eco-Brick?

An **eco-brick** is a **plastic bottle filled with clean, dry plastic waste** (like wrappers, bags, straws, chip packets). These tightly packed bottles become sturdy, reusable building blocks.

## 2. Upcycled Tote Bag Project

**Objective:** Make reusable tote bags to reduce plastic bag use.

**Materials:** Old clothes, needles, thread, buttons, scissors.

**Sustainability Impact:** Promotes textile reuse and eco-friendly habits.

**Ideas:** Shopping bags, book bags, lunch carriers.

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## 3. E-Waste Desk Organizer

**Objective:** Transform e-waste into useful desk organization products.

**Materials:** E-waste (old CDs, keyboard parts, wires), glue gun, cardboard, scissors.

**Sustainability Impact:** Reduces toxic electronic waste creatively.

**Ideas:** Pen stands, cable organizers, mobile holders.

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## 4. Bottle Cap Mosaic Planters

**Objective:** Create artistic planters decorated with bottle cap mosaics.

**Materials:** Plastic caps, glue, soil, saplings, bottles.

**Sustainability Impact:** Encourages recycling and promotes gardening.

**Ideas:** Biodiversity-themed planters, water conservation designs.



# Advanced Waste Recycle Product Ideas

## 1. Solar-Powered Lamp from E-Waste

**Objective:** Design a solar lamp using parts from old electronics.

**Materials:** E-waste (solar toys, calculators), plastic bottles, LEDs, solar chips.

**Innovation:** Promotes clean energy and sustainable innovation.

## 2. Plastic Waste Water Filter

**Objective:** Build a simple water filtration system using plastic waste.

**Materials:** Bottles, cloth, charcoal, sand, gravel.

**Innovation:** Eco-engineering for affordable clean water solutions.

### 3. DIY Air Purifier from Computer Fans

**Objective:** Create a small indoor air purifier from e-waste.

**Materials:** Old CPU fans, containers, activated charcoal, filters.

**Innovation:** Smart upcycling to improve indoor air quality.

### 4. Modular Organizer Wall Using Tetra Paks

**Objective:** Design wall organizers using upcycled tetra paks.

**Materials:** Juice/milk cartons, staplers, tape, string.

**Innovation:** Functional, scalable, and eco-friendly classroom solutions.

### 6. Recycled Fabric Insulated Lunch Bags

**Objective:** Make reusable, insulated lunch bags from old materials.

**Materials:** Old jeans, foam padding, thread, foil.

**Innovation:** Sustainable and functional design to replace plastic bags.

## Do's and Don'ts for the Competition

#### Do's:

- Use only recycled or waste materials.
- Work safely with tools and materials (e.g., scissors, hot glue).
- Design for durability and real-world use.
- Think creatively about both utility and looks.
- Test your products if applicable
- Make neat, clean, and well-finished products.
- Explain how your project promotes sustainability.
- Work respectfully and collaboratively within your team.
- Document your process (photos, notes) if possible.

## Restricted Materials (Should Not Be Used)

### Environmentally Harmful Materials:

- Thermocol / Styrofoam (Expanded Polystyrene)  
 *Non-biodegradable, difficult to recycle, harmful to wildlife and environment.*
  - PVC materials (pipes, sheets, etc.)  
 *Releases toxins if burned or degraded; not suitable for student handling.*
  - Plastic straws, glitter, microbeads  
 *Single-use, hard to clean or recycle, contributes to microplastic pollution.*
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### Hazardous or Unsafe Materials:

- Broken glass or mirrors
- Sharp metal scraps or rusted objects
- Toxic adhesives (like industrial super glue or epoxy)
- Spray paint or aerosol cans
- Old batteries or electronic items with leakage risk
- Objects with mold, dirt, or unsanitary residue

### Safe and Aligned Materials in Shared Ideas:

| Project             | Materials Used                         |  Safe/Allowed? |
|---------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------|
| Eco-Brick Furniture | Plastic bottles, wrappers, old fabrics |  Yes           |

|                            |                                       |                                                |
|----------------------------|---------------------------------------|------------------------------------------------|
| Upcycled Tote Bags         | Old clothes, buttons, thread          | ✓ Yes                                          |
| E-Waste Desk Organizer     | CDs, wires, keyboard parts, cardboard | ✓ Yes                                          |
| Bottle Cap Mosaic Planters | Bottle caps, glue, bottles            | ✓ Yes                                          |
| Cardboard Mobile Stands    | Cardboard, paint, glue                | ✓ Yes                                          |
| Solar Lamp from E-Waste    | Reused solar parts, bottles, LEDs     | ✓ Yes (as long as parts are salvaged, not new) |
| Water Filter               | Bottles, gravel, sand, charcoal       | ✓ Yes                                          |
| DIY Air Purifier           | Old CPU fans, cloth, containers       | ✓ Yes                                          |
| Tetra Pak Wall Organizer   | Cleaned tetra paks, string, tape      | ✓ Yes                                          |
| Fabric Insulated Bags      | Old jeans, foil, padding              | ✓ Yes                                          |

