

# **Climate Change Mitigation: Upcycling Plastics into Functional Materials**

*Sunday Akinlade*

# Introduction

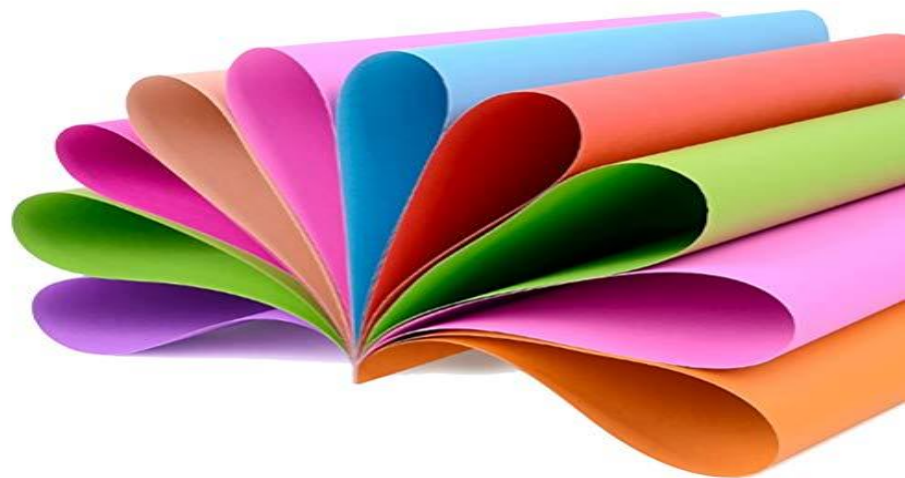


Today, we'll discover how everyday plastic waste from the community can spark creativity.



## Materials Needed

- **Main Substrate:** Used plastic bottles (cleaned and dried)
- **Cutting & Adhesion:** Sharp scissors, craft glue (or hot glue guns), and adhesive tape
- **Measuring & Marking:** Markers, rulers, and pencils
- **Decorative Supplies:** Acrylic paint, colored paper, and cardstock
- **Embellishments:** Decorative items (beads, ribbons, or stickers)
- **Cleanup:** Waste collection bags or bins




## Do you Know?



*"Recent studies show that at our current rate, plastic production alone could consume up to 20% of the world's remaining carbon budget by 2050. This means we cannot solve the climate crisis without first solving the plastic crisis."*

# Resin Identification Code

						
<b>PET</b>	<b>HDPE</b>	<b>PVC</b>	<b>LDPE</b>	<b>PP</b>	<b>PS</b>	<b>OTHER</b>
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Drink bottles, produce clamshells, cooking oil, vinegar	Milk bottles, shampoo bottles, detergents	Chemical containers, packaging, piping, electrical tape	Plastic bags, squeeze bottles, bread bags, bin liners	Plastic bottle tops, buckets, yogurt pottles, straws, potato chip packets	Disposable cups, take-out containers, foam packaging, packing 'peanuts'	Other plastics includes acrylics, polycarbonates, nylon, fiberglass

*Note: While codes 1 and 2 are easily recycled, 3–7 are harder to recycle*

# Why Does Plastic Matter to Climate?



- **Production:** 99% of plastic comes from fossil fuels (oil and gas).
  - **Emissions:** Extracting and refining these fuels releases massive amounts of CO<sub>2</sub>.
  - **Incineration:** Burning plastic waste releases greenhouse gases and toxic chemicals.
- Every piece of plastic saved is a win for our atmosphere.*

# The effect of Plastic Waste Climate Change

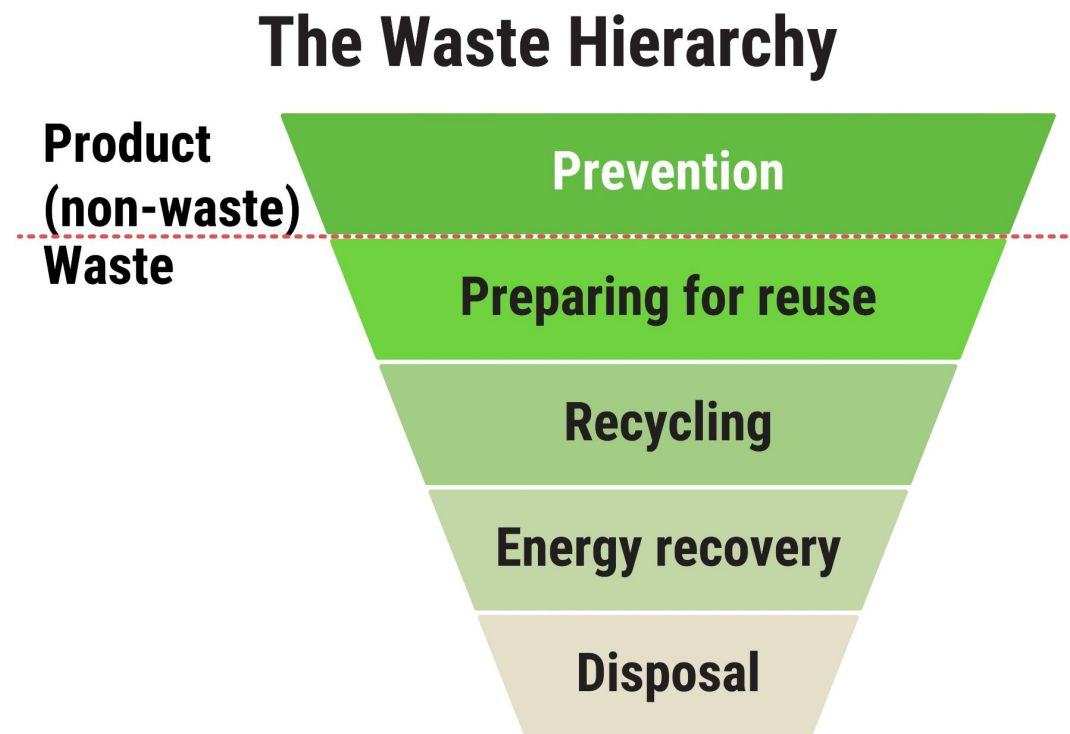


Climate change is seen in our rising heat, sudden rains, and flooded streets. A major cause hiding in plain sight is plastic waste.

These plastics never truly disappear; they clog our drains and release toxins that worsen pollution. But we can take action. By upcycling bottles into pen cases, cutlery holders, or vases, we reduce waste at the source.

*Choosing to reuse means choosing a cleaner community and taking a powerful stand against climate change.*

# The Solution: Upcycling vs. Recycling



- **Recycling:** Breaking down material to make the same thing (energy-intensive).
- **Upcycling:** Transforming waste into something of *higher* value or different function.
- **The Benefit:** Reduces the need for new raw materials and lowers energy consumption.

# Today's Project: Functional Art

**Materials Needed:** Bottles, scissors, glue, markers, and decorative items.

**What We Are Making:**

- **Pen Cases:** Organizing our learning tools.
- **Flower Vases:** Bringing nature back into our spaces.
- **Cutlery Holders:** Promoting reusable utensils.

**Focus:** Skill-building and creative problem-solving.

# Create your MasterPiece!

## Steps:

1. **Prep:** Clean and dry your plastic bottle.
2. **Cut:** Carefully remove the top (Safety first!).
3. **Smooth:** Use tape or sandpaper on sharp edges.
4. **Decorate:** Use paint and paper to express your style.
5. **Function:** Test your item—does it hold what it's supposed to?



# Reflection and Discussion

- Explain your design: Why did you choose these colors/shapes?
- Climate Impact: How does this specific item help the planet?

# Thank You!

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