



M.E.S.S. Lab

Program Summary

Synthesising Louisiana standards of Math, ELA, Social Studies and Science to serve environmental education, because we want to be responsible for our own mess.

The Green Project's Environmental Education and Paint Recycling Programs are colliding as we launch the M.E.S.S. Lab, combining Math, English, Social Studies and Science (M.E.S.S.) standards in a place-based learning lab for K-12 students.

The M.E.S.S. Lab will house a small scale paint recycling operation where students will experience the recycling process from start to finish. Each class will recycle roughly 60 gallons of paint for resale at an equitable price, making an immediate and measurable impact on the community and the environment. Students will also learn about the city's local waste stream and discuss who is responsible for ensuring the proper disposal of waste—municipalities, corporations, or citizens? Our curriculum will pull from a variety of state standards to reach students in both the sciences and humanities, altogether inspiring a duty of civic engagement and environmentalism.

Our lab serves public and private 4-12th grade students by giving them the tools to be knowledgeable and empowered environmental stewards. The program aligns to our mission of developing a culture of creative reuse, and cultivating a respect for the value of reclaimed resources.

Program Overview

Students will explore the benefits of waste reduction at The Green Project with hands-on learning opportunities to better understand creative reuse, recycling systems, the definition of household hazardous waste and issues associated with it, and a linear vs. circular economy. Students will discuss the roles, rights, and responsibilities of being a good citizen in a family, class, and school and understand that they can make choices to reduce their impacts on the land, water, air, and other living things. Students will leave with the tools to be better environmental stewards.

Learning Targets

- Students will understand the environmental benefits of waste reduction, including reducing pollution, and saving resources and energy.
- Students will understand the differences between "Reduce, Reuse, and Recycle" and be able to explain how each action functions to reduce landfill waste.
- Students will learn that successful recycling includes 3 steps: collection of material, processing of material into something useful, and a marketplace to sell the recycled product.
- Students will understand that they can make choices to reduce waste.
- Students will understand how to process waste paint.
- Students will understand how to reduce the paint that they purchase by calculating surface area.
- Student teams will recycle 4 gallons of latex paint.

M.E.S.S. Lab: Syllabus

PART I: *To be completed at The Green Project.*

1. **Reduce, Reuse, Recycle:** Students will be introduced to The Green Project and its inception—an inspiring story of how one citizen had an idea for a creative sustainability center which has grown into this 26 year old non-profit which serves the community in many ways, always with an emphasis on reducing landfill waste. Discussion about what we need vs. what we want-can we reduce what we buy?
2. **Creative Reuse Scavenger Hunt:** Walking through our warehouse, students will look for creative reuse in action, and discuss why landfill diversion is important. Questions are guided by TGP's Environmental Educator and cover Disciplinary Core Idea concepts of how individuals can affect their environment, with a focus on reusing, repairing, or donating items.
 - a. [Scavenger Hunt Key for Teachers](#)
3. **Whose Responsibility Is It?:** Students come to the paint department, where they get a visceral experience of the quantity of unwanted paint in their community. Students learn what HHW is, and that the consequences of limited city drop off events can lead to hazardous dumping, usually in lower-income neighborhoods. Discussion of what makes a good citizen follows. Students are challenged to think critically about this waste issue in their community, and brainstorm realistic solutions, touching on mechanisms of how a city functions and pays for services, and where corporate responsibility should lie.
4. **Waste Not Want Not:** We lead into an orientation on how to process latex waste paint. Students learn how to read and analyze paint labels to determine if the product is latex or oil based. After a safety orientation, students get the novel experience of hardening their own waste paint with sawdust donated from local wood shops. This is a physical experience that engages almost all senses, and gives students a personal opportunity to support their community by making paint safe for disposal.
5. **Math Outside of the Box:** We move into our classroom, and share thoughts on waste paint processing. We revisit what makes a good citizen. What can these students do to help spread this message? How can we reduce waste paint? Students work on math skills by measuring the classroom to calculate how many gallons of paint would cover the walls, useful information to curb purchasing too much paint. Students also calculate how many gallons of waste paint they processed. This gives real world application to math skills and a more concrete environmental outcome of their work.
6. **Paint Teams!:** Moving into our paint lab, students learn how to recycle latex paint. They break into teams of 3-4 to make and mix their own 5 gallons of original paint. This is a unique team-building activity which requires communication and collaboration with the use of drills and mallets. Students will name their color with an opportunity to advertise it as well. Their paint goes onto the warehouse floor available for community members to buy. All student paint sales go right back into the funding of the M.E.S.S. Lab to benefit future students, allowing students to participate in their very own circular economy.
7. **Reflections:** Students will take time to share their thoughts on the M.E.S.S. Lab experience, with time carved out to brainstorm and design new paint recycling systems based on what students learned, and what they can imagine.

Part II: *To be completed at the end of the lesson or to take back to class.*

Persuasive Advertising Campaign: Each team has an opportunity to consolidate and synthesize everything they have learned about the social and environmental impacts of excessive waste, and the benefits of reclaimed materials-in this specific instance, recycled paint. Teams work together to create an advertisement for the paint color they create. Each advertisement will be used in TGP to help stakeholders learn more about the benefits of recycled paint. This follow up assignment is designed by a TGP's Environmental Educator and is easily edited to meet teachers' specific needs.

- [Assignment Template](#)
- [Rubric](#)

Call to Action

1. Visit a MRF (Material Reclamation Facility). Waste Connections offers a school program.
2. Host an informative latex waste paint processing information table at a local environmental fair or school event.
3. Think about your school waste stream and come up with ways to divert additional landfill waste.
4. Engage in a waste reduction competition between classes or schools.

Additional Resources

1. Story of Stuff short film: <https://www.filmsforaction.org/watch/the-story-of-stuff/>
2. New Orleans Sanitation Department for current local waste and recycling info: <https://nola.gov/sanitation/>
3. [New Orleans Recycling Guide](#), for how to donate unusual items.
4. Paint calculator: <https://www.sherwin-williams.com/homeowners/color/try-on-colors/paint-calculator#/home>
5. Local grant to start an eco project: <https://ecorise.org/si-program/>
6. USGBC Green Schools Challenge: https://usgbclouisiana.org/Green_Schools_Challenge