Maryland
Department of
the Environment

Waste Diversion:
More than cardboard boxes and and compost

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Welcome & Agenda

- Introduction - Waste Diversion Division
- Application of recycling in education, schools and community
  - Green School Applicability
  - Food Diversion Law
- Recycling sculpture contest
- Questions

What is recycling?

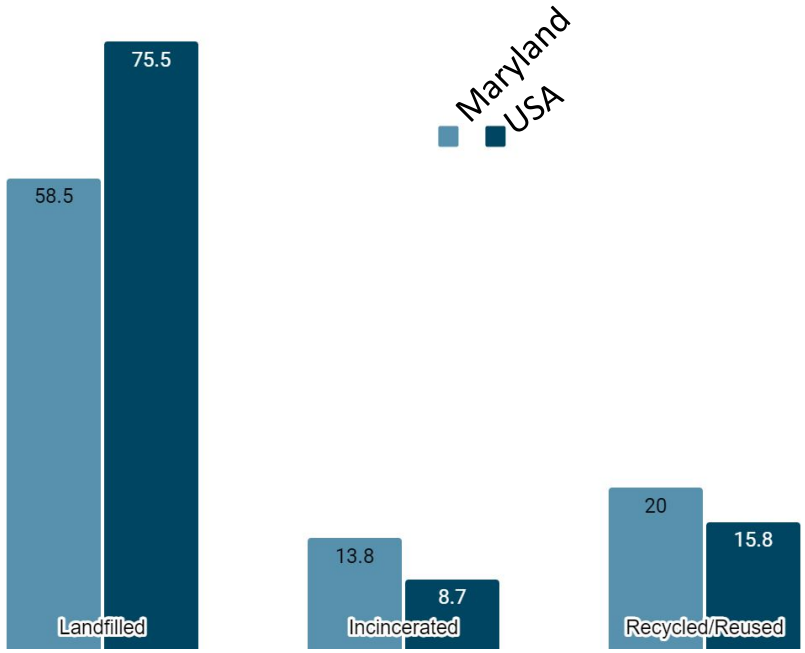
Code of Maryland Regulations

"Recycling" means any process in which materials that would otherwise become solid waste are collected, separated, or processed and returned to the marketplace in the form of raw materials or products

Source: TerraCycle US

Solid Waste

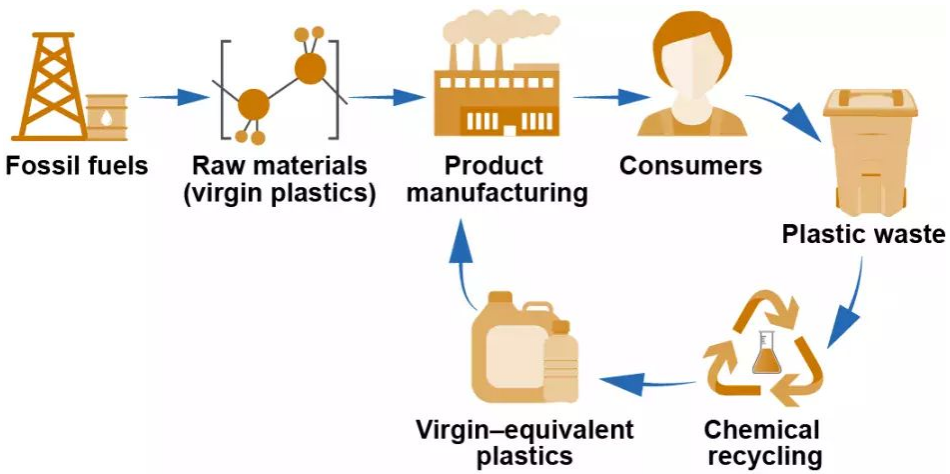
- Comparing Maryland to the National average, we are exceeding recycling rates.
- In 2020, Maryland recycled 1.8 Million tons
- The EPA estimates that 75% of the American waste stream is recyclable, but we only recycle about 30% of it.



Source: GAO analysis of 2018 US EPA data (GAO-21-105317)
Source: MDE Solid Waste Management and Diversion Report CY2020
Source: Indiana University. "Waste & Recycling." Web Accessed April 25, 2015

How does diversion and recycling work?

Raw Refine Construct
Consume Dispose Recycle
Re-construct



Source: GAO illustration based on review of literature. | GAO-21-105317

Source: https://www.mastershred.co.za/content/21-save-the-planet

Shift the Paradigm

Education 	**Laws** 
Business Development	**Resources** 

GREEN SCHOOL OBJECTIVES AND APPLICABILITY

GS: OBJ 1 - Integrating into Instruction

Grade	Idea of Exploration	Educational Standards
K-2	K - Growing a plant - materials used, how do they breakdown overtime 1 - Measurement - performing waste audit and extrapolating impact 2 - Soils - Earth Science & Investigation - Harvesting materials (raw) and impact on earth - weathering, changing landscapes	K-2-ETS1-2 Engineering Design MP.2 - Reason abstractly and quantitatively MP.4 - Model with Mathematics 1.MD.C.4 - Organizine, Represent & Interpret 2-PS1-1-4: Structure and Properties of Matter
3-5	3 - Improve on existing technology - write an opinion 4 - Energy - biogas, solar, petrochemical - how can existing and future systems impact environmental justice 5 - Quantification of materials and their impact on local economies	W.3.1 & W.3.7 - Writing Standards 3-ESS3 Earth and Human Activity 3-5-ETS1 Engineering Design 4-ESS3 Earth and Human Activity 5-ESS3 Earth and Human Activity MP.2 - Reason abstractly and quantitatively MP.4 - Model with Mathematics
6-8	Chemical composition of materials Environmental Impacts of Mining	MS.Chemical Reactions MS-PS1-2 Matter & its Interactions
9-12	Jobs and the roles we play *art - marketing *soil science - composting *chemistry - materials manufacturing *algebra - finance, analyst *literacy - author, educator	HS-LS4-6 Evidence

GS: School Wide (OBJ1.3.1+OBJ2)

School waste is up to 80% recyclable

Partner with national programs for funding

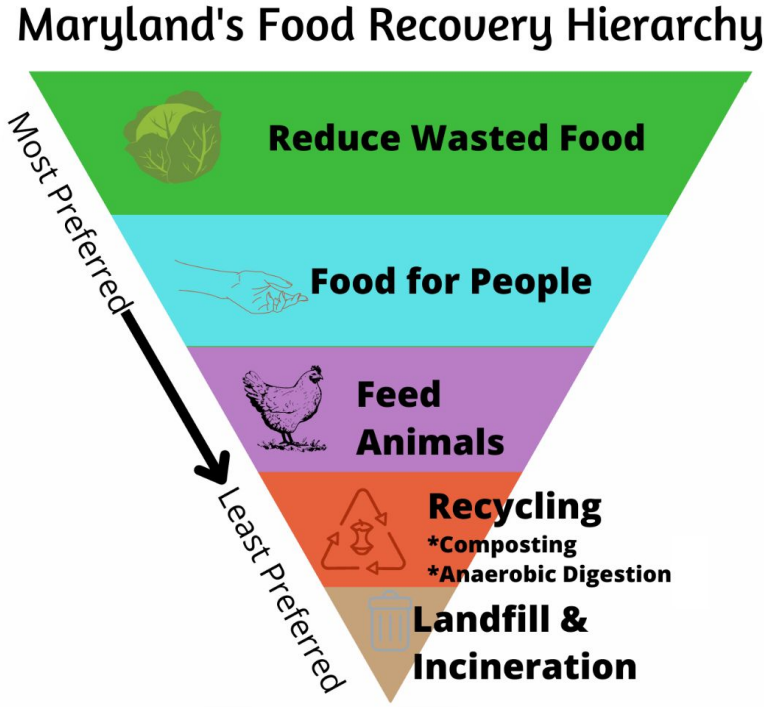
Create a challenge to visualize the results

GS: OBJ 3 - Partnership with Community

Source: https://www.littlefreepantry.org/

FOOD DIVERSION LAW

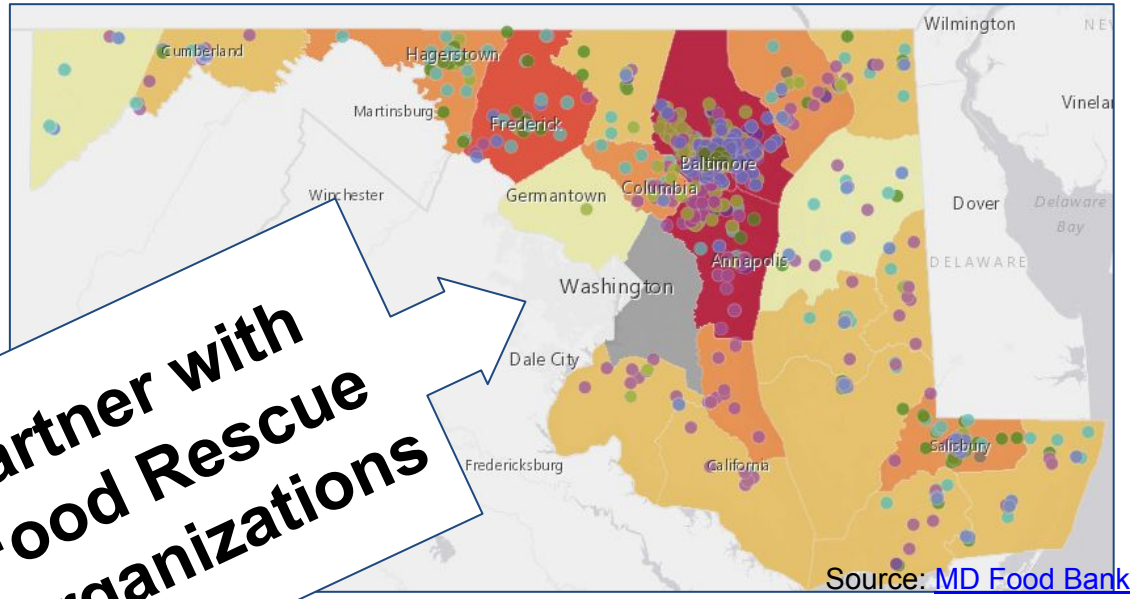
Food Law & Organics Recycling



What do we do at the school?

Waste Audit	Analyze the Data	Develop a Program	Execute the Plan
• Food & Nutrition Program • Janitorial Staff • Students	• Administrative • Curriculum • Green/Garden Club	• Collection of Materials • Where will they be stored • Where will they be transported or managed • How will they be reported	• Work within the community • Funding

How does this relate to food insecurity?



Source: MD Food Bank

Partner with Food Rescue Organizations

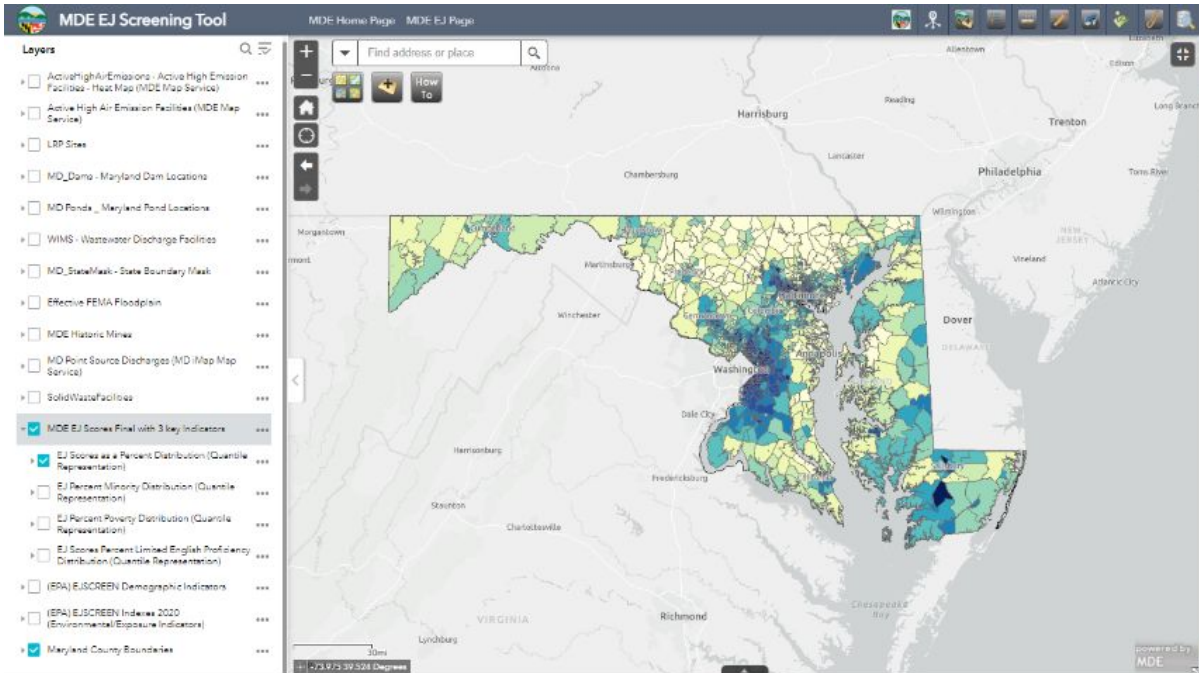
Share tables

Onsite food pantry

Source: Student Support Network

Direction towards Environmental Justice

Source: Kiss the Ground



Fixing erosion to benefit soils, water & air

Source: Compost Council

Source: Institute for Local Self Reliance

Source: Baltimore Compost Collective

Source: Homegrown National Park

RETHINK RECYCLING SCULPTURE CONTEST

What is the sculpture contest? Videos

Videos continued

Videos continued

21st Annual Contest Winners (2022)

2022 winners (cont)

2023 Contest

Friday, November 17, 2023

High school & 4H students

- 2 entries for each school

Winners

- Overall Winner
- Individual
  - Creativity
  - Workmanship
  - Use of Materials
- People's Choice

Resources

Instruction/Programs
https://www.youtube.com/watch?v=jAqVxsEgWIM
https://www.weareteachers.com/school-recycling-changed-classroom
https://www.weareteachers.com/best-recycling-videos/
https://www.youtube.com/hashtag/worldwidewaste
https://www.nextgenscience.org/pe/2-ps1-1-matter-and-its-interactions
https://www.nextgenscience.org/sites/default/files/evidence_statement/black_white/K-LS1-1%20Evidence%20Statements%20June%202015%20asterisks.pdf
https://www.nextgenscience.org/pe/2-ess1-1-earths-place-universe
https://www.nextgenscience.org/pe/k-2-ets1-2-engineering-design
https://cdn5-ss3.sharpschool.com/UserFiles/Servers/Server_9046958/File/Mathematics/22-23%20Year%20At%20A%20Glance/02%20Grade%201%20Year%20at%20a%20Glance%202022-2023.pdf
https://lessismore.org/materials/23-school-recycling/
https://lessismore.org/wp-content/uploads/2019/08/Food-Forward-School-Edition.pdf
https://lessismore.org/materials/271-teacher-resources/
https://www.education.com/common-core/first-grade/math/
https://www.foodspan.org/lesson-plans/index.html
https://www.foodspan.org/_pdf/lesson-plan/citizen-action-project/food-citizen-action-project-lessonplan.pdf
https://www.epa.gov/students/resources-teachers-starting-planet-protectors-club
https://www.worldwildlife.org/teaching-resources/toolkits/be-a-food-waste-warrior
https://marincarbonproject.org/what-is-carbon-farming/#what-is-carbon-farming
https://wegotleaves.files.wordpress.com/2015/08/img_1440.jpg https://www.nextgenscience.org/search-standards?keys=&page=3
https://mde.maryland.gov/programs/crossmedia/EnvironmentalJustice/Pages/WhatisEJ.aspx
https://www.npr.org/2023/01/10/1147986096/extreme-weather-fueled-by-climate-change-cost-the-u-s-165-billion-in-2022
https://kisstheground.com/regenerative-resources/#resource
https://vimeo.com/574593834
https://thegreenteam.org/the-green-team-presents-compost-for-the-earth-the-compost-song/
https://www.epa.gov/students
https://www3.epa.gov/recyclecity//
https://recyclesmartma.org/resources/
https://youtu.be/exhgrxpeQws
https://www.nextgenscience.org/topic-arrangement/hshuman-sustainability

Programs
https://futurecity.org/
https://maeoe.org/green-schools-and-green-centers/green-schools-program/current-green-schools
http://mdenvirothon.org/
https://www.chesapeakebay.net/what/goals/environmental_literacy
https://dnr.maryland.gov/pgc/Pages/default.aspx
https://mde.maryland.gov/programs/air/ClimateChange/MCCC/Pages/index.aspx
https://www2.ed.gov/programs/green-ribbon-schools/index.html

Industry
https://www.americanchemistry.com/chemistry-in-america/chemistry-in-everyday-products/plastics
https://www.afandpa.org/
https://youtu.be/2srE7muq-Hk
https://kab.org/programs/ard/organize-an-event/
https://www.gpi.org/recycling
http://springfieldmrf.org/
https://napcor.com/recycling/
https://plasticsrecycling.org/
https://www.cancentral.com/sustainability
https://thegreenteam.org/
https://www.wm.com/us/en/inside-wm/who-we-are

Food Diversion Law
https://mde.maryland.gov/programs/land/RecyclingandOperationsprogram/Pages/Solid-Waste-Management---Organics-Recycling-and-Waste-Diversion---Food-Residuals.aspx

Sculpture Contest
https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Pages/recycled-sculpture.aspx

Summary / Contacts

- Where to find more information
  - County recycling coordinators
  - State coordinators
- Website
- Questions
  - Shannon.McDonald@maryland.gov
  - Christy.Bujnovszky@maryland.gov