San Mateo County Office of Sustainability 4R's curriculum and activities for teachers

Subject	Grade(s)	Curriculum	Description	Keywords
Environmental Education	K-12	Environmental Education Initiative	The EEI Curriculum is a K-12 environmental based curriculum, and each unit correlates with the Next Generation Science Standards and the Common Core Standards	multi-disciplinary, environmental literacy, people and their impact, CA
4R's, natural resources and resource recovery	K-6	Close the Loop	An interdisciplinary K-6 curriculum emphasizing waste prevention, recycling and composting through hands-on activities.	4R's, composting, worms
4R's, natural resources and resource recovery	4-12	Recycling Ethics in the Science Classroom	Students are presented with a hypothetical scenario for discussion about the importance of recycling in cooperative groups of three. Each group strives to reach a consensus decision. Each group devises a skit in which members role-play the hypothetical scenario	environmental values, law and ethics, personal responsibility, effective communication, negotiating consensus

4R's, natural resources and resource recovery	4-12	The Landfill	Students discuss the risks a landfill may pose to a community. The setting is a school board faced with a decision about whether to close a school until the landfill is capped (a 3 year period). Students are asked to determine (and defend) how they would vote.	prioritizing values, risking health vs lowering property values, role of environmental experts in public policy
4R's, natural resources and resource recovery	K-12	Trash a Pizza!	A visualization activity to imagine how much of each type of trash is buried in landfills by using pie charts and percentages. We can create a model by making a trash pizza covered with samples of the actual solid waste that is thrown away everyday.	hands-on visualization activity, landfill, resource recovery, solid waste, reuse, recycle
4R's, natural resources and resource recovery	K-12	Waste/ Recycling Lessons	This site has comprehensive lesson plans on a variety of earth science topics. It contains links to **hundreds** of content specific resoruces.	recycling, reduce, reuse, rot/compost

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Food conservation, 4R's, natural resource, and resource recovery	K-12	Project Food, Land & People	Correlated curriculum for grades K-12 covering food systems, waste management, gardening, and nutrition. FLP educates students, teachers and citizens about the interrelationships between food, resources and people.	food systems , natural resources, interdependencies

4R's, natural resource, and resource recovery	K-2	Recycle Often, Recycle Right	Lesson plans for teaching the 4R's. The goal is to help students develop an understanding of why they should make recycling a habit and how to recycle correctly. These resources and materials are STEM based and align with the Next Generation Science Standards.	recycling, natural resources, waste management
4R's, natural resource, and resource recovery	K-8	11 Reduce, Reuse and Recycle Activities for Every Subject	multi-disciplinary extensions to promote sustainability practices	Language arts, science, literary arts, math, advocacy, monitoring

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4R's, natural resource, and resource recovery	K-8	Recycling and waste reduction activities and lessons	Units on recycling, waste management, composting and plastic pollution with corresponding activities and lessons	4R's, composting, plastic pollution
4R's, natural resource, and resource recovery	4-5	Doing the 4R's	A Classroom Activity Guide to Teach Reduce, Reuse, Recycle and Rot	activities, lesson plans, curriculum

Energy and Climate	6-12	Energy Literacy Series	Interactive program examining renewable and nonrenewable energy sources.	energy, renewable, non-renewable
Climate	4-5	Protect Your Climate	16 science-based lessons that investigate the science and causes of climate change and how to take action to protect our climate.	hands-on, air quality, waste management, transportation issues
Gardening	K-5	Grade specific garden as classroom activities	Comprehensive resources for garden programs; curriculum, prof. devpt., field trips	gardening, edible schoolyard,

Composting	K-12	Composting with Worms	A classroom composting experiment demonstrates why worms are called "nature's recyclers."	composting, worms, recycle, garbage, biodegradable
Plastic Pollution	4-12	A Plastic Ocean movie	Educational supplement to movie, activities and discussion questions, fact sheets	marine debris
Plastic Pollution	K-8	Microplastics and the Marine Environment	Peer reviewed activity, food web interactive with detailed extensions for grade specific content	ecosystems and food chains, biogeochemical cycles, organic chemistry, natural resources, pollution
Plastic Pollution	9-12	Bioaccumulation	This is a food web lesson plan and activity. The activity looks at the mechanisms of how plastics can move up the food chain.	Microplastic, bioaccumulate.
Plastic Pollution	6-8	Mitigating Microplastics	Everything included standards correlated lesson plans looking at microplastics in 3 distinct lessons.	sources, potential impacts and solutions

Plastic Pollution	9-12	Make it or Break it: bioplastics from starch	This unit creates bioplastics from different plant starches and then tests their strength and durability.	bioplastic, polymers, tensile strength, engineering