

Sustainability and Engineering Tasks and Standards

	Task	Grade level	Standard
E	Build shade structure model	K	K-PS3-2. Use tools and materials to design and build a model of a structure that will reduce the warming effect of sunlight on an area.*
S	Composting/Recycling	K	K-ESS3-3. Communicate solutions to reduce the amount of natural resources an individual uses.* Clarification Statement: • Examples of solutions could include reusing paper to reduce the number of trees cut down and recycling cans and bottles to reduce the amount of plastic or metal used.
S/E	Design watering can/irrigation system	1	1.K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change that can be solved by developing or improving an object or tool.*
E	Design a fence/protection for garden	1	1.K-2-ETS1-2. Generate multiple solutions to a design problem and make a drawing (plan) to represent one or more of the solutions.*
S	Non native species/Long-horned asian beetles	2	2-LS4-1. Use texts, media, or local environments to observe and compare (a) different kinds of living things in an area, and (b) differences in the kinds of living things living in different types of areas. 2-LS2-3(MA). Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live.
E	Test and collect data bulb planter vs. shovel	2	2.K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same design problem to compare the strengths and weaknesses of how each object performs.*
S	Collect seeds/Design seed dispersal models/devices	2	2-LS2-3(MA). Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live.
S/E	Hand Pollinators	2	2-LS2-3(MA). Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live. 2.K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same design problem to compare the strengths and weaknesses of how each

			object performs.*
S	Pesticides	3	3-LS4-4. Analyze and interpret given data about changes in a habitat and describe how the changes may affect the ability of organisms that live in that habitat to survive and reproduce.
S	Solar energy to enhance the garden	4	4-ESS3-1. Obtain information to describe that energy and fuels humans use are derived from natural resources and that some energy and fuel sources are renewable and some are not.
S	Rain barrels	5	5-ESS2-1. Use a model to describe the cycling of water on Earth through a watershed between the geosphere, biosphere, hydrosphere, and atmosphere through evaporation, precipitation, absorption, surface runoff, and condensation, and transpiration. State Assessment Boundary: Transpiration or explanations of mechanisms that drive the cycle are not expected in state assessment. 5.3-5-ETS3-1(MA). Use informational text to provide examples of improvements to existing technologies (innovations) and the development of new technologies (inventions). Recognize that technology is any modification of the natural or designed world done to fulfill human needs or wants.
S/E	Composters	5	5-LS2-2(MA). Compare at least two designs for a composter to determine which is most likely to encourage decomposition of materials.* 5-ESS3-1. Obtain and combine information about ways communities reduce human impact on the Earth's resources and environment by changing an agricultural, industrial, or community practice or process.