Next Generation Science Standards

Stormwater Solutions

Grade 4

4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

Start with a tour of the Watershed Center's green infrastructure strategies, including rain gardens and green roofs, that increase stormwater infiltration and slow runoff. Then small groups of students will launch into a collaborative engineering project that focuses on how engineers design green stormwater runoff systems to help minimize the effect of stormwater on local flooding events. Students will design and build models and compare the solutions.

Science/Engineering Practice:	Disciplinary Core Idea:	Cross Cutting Concept:
Constructing Explanations and Designing Solutions Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution. (4-ESS3-2)	**ESS3.B: Natural Hazards** A variety of hazards result from natural processes, e.g., Earthquakes Tsunamis volcanic eruptions. (FLOODS) Humans cannot eliminate the hazards but can take steps to reduce their impacts. (4-ESS3-2) (Note: This Disciplinary Core Idea can also be found in 3.WC.)	**Cause and Effect** Cause and effect relationships are routinely identified, tested, and used to explain change. (4-ESS3-2)

This program is designed to advance your student's knowledge and understanding of the following Earth Science and Engineering Standards:

Engineering Performance Expectations

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.