Next Generation Science Standards

Erosion Erasers

Grade 2

2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Begin the day learning about erosion. Investigate our soil run off model, collect quantitative and qualitative evidence, and support a student-generated claim. Then launch into a collaborative engineering project that focuses on how engineers design systems to prevent the movement of land due to its possible negative impact on the environment. Students will work together to compare multiple solutions to prevent soil from moving.

Watch as one group runs their second test on their design: Testing Video

Science/Engineering Practice:	Disciplinary Core Idea:	Cross Cutting Concept:
Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. Compare multiple solutions to a problem. (2-ESS2-1)	**ESS2.A: Earth Materials and Systems** Wind and water can change the shape of the land. (2- ESS2-1) **ETS1.C: Optimizing the Design Solution** Because there is always more than one possible solution to as problem, it is useful to compare and test designs. (secondary to 2-ESS2-1)	**Stability and Change** Things may change slowly or rapidly. (2- ESS2-1) **Influence of Engineering, Technology, and Science on Society and the Natural World** Developing and using technology has impacts on the natural world. **Science Addresses Questions About the Natural and Material World** Scientists study the natural and material world. (2-ESS2-1)

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

2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.*

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

- A situation that people want to change or create can be approached as a problem to be solved through engineering
- Asking questions, making observations, and gathering information are helpful in thinking about problems
- Before beginning to design a solution, it is important to clearly understand the problem

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs