

Lesson Summary

Students will be introduced to the SNA program, learn about Minnesota Point Pine Forest SNA, and develop an understanding of erosion through several demonstrations. Students will use an interactive model of a beach to demonstrate the process of erosion. The experiment will be repeated several times with different variables to determine how the amount of erosion changes with each variable. Students will also use a model to visualize the effect of grass roots on soil erosion and draw connections to the dune grass on Minnesota Point. Students will consider the positive and negative impacts their actions can have on erosion.

Standards

Minnesota Benchmark: 7.4.4.1.2

Wisconsin Benchmark: MS-ESS2-2

Objectives

- Explain what an “SNA” is and why they are unique.
- Describe the process of erosion.
- Compare and contrast the natural erosion process and erosion caused by human activity.
- Identify ways their actions can either worsen or improve erosion.

Materials

- Beach erosion model: clear bin, sand, water, plastic folder for wave-making, rocks, plastic trees
- Grass erosion model: 2 liter bottles, soil, grass, water containers
- Laminated photos: severe erosion on MN Point, trails in dune grass.

Engagement

Instructor will lead discussion through questions, using a mix of broad and narrow questions. Instructor will pose some questions that require each student to consider their answer individually instead of calling on the first hand-raisers. Students will experiment with hands-on models.

Exploration

Many students will have an opportunity to interact with the model, i.e. create waves, draw beach shape, reshape sand, add trees, pour water over grass/soil, make predictions, etc.

Evaluation

Students will be able to answer culminating questions that draw connections from the model to the real-life management issues on Minnesota Point.