



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Way the Water Flows

SUBJECT AREA:

Science – Earth Science,
Environmental Science.

GRADE LEVEL: Third
through fifth.

DURATION: 45 minutes
to an hour; staff will
need 20 minutes to set
up the demonstration.

AUDIENCE SIZE: 30
students; students will
be divided into five
groups.

OVERVIEW: This
program is designed
to engage students in



understanding the power of precipitation on various surfaces through the lens of a researcher. The program will begin with an introduction to the water cycle and the concept of runoff. From there, students will hypothesize which land use will best reduce runoff from a site - sand, mulched sand and vegetated sand. Instructors will guide students through a simulation of precipitation moving off various surfaces, and students will collect and analyze data to accept or reject their hypothesis. Throughout this program, students will become equipped with knowledge regarding the scientific method, sustainable land use practices and the department's role in conserving and preserving Florida's natural resources.

OBJECTIVES:

The student will:

- Analyze the behavior of precipitations and runoff on different surfaces through hands-on experiments.
- Describe methods for mitigating problems related to urban runoff.
- Explore various land surfaces and uses and determine their effectiveness in reducing stormwater runoff.
- Develop a hypothesis for which surfaces are most suitable at reducing runoff and evaluate their hypotheses on a model.
- Practice the steps of the scientific method to draw conclusions.



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SUNSHINE STATE STANDARDS:

SC.3.N.1.1 - Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.3.N.1.2 - Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.

SC.3.N.3.2 - Recognize that scientists use models to help understand and explain how things work.

SC.4.E.6.4 - Describe the basic differences between physical weathering and erosion.

SC.4.N.1.4 - Attempt reasonable answers to scientific questions and cite evidence in support.

SC.4.N.1.7 - Recognize and explain that scientists base their explanations on evidence.

SC.4.P.10.4 - Describe how moving water and air are sources of energy and can be used to move things.

SC.5.E.7.1 - Create a model to explain the parts of the water cycle.