



Best Management Practice Challenge

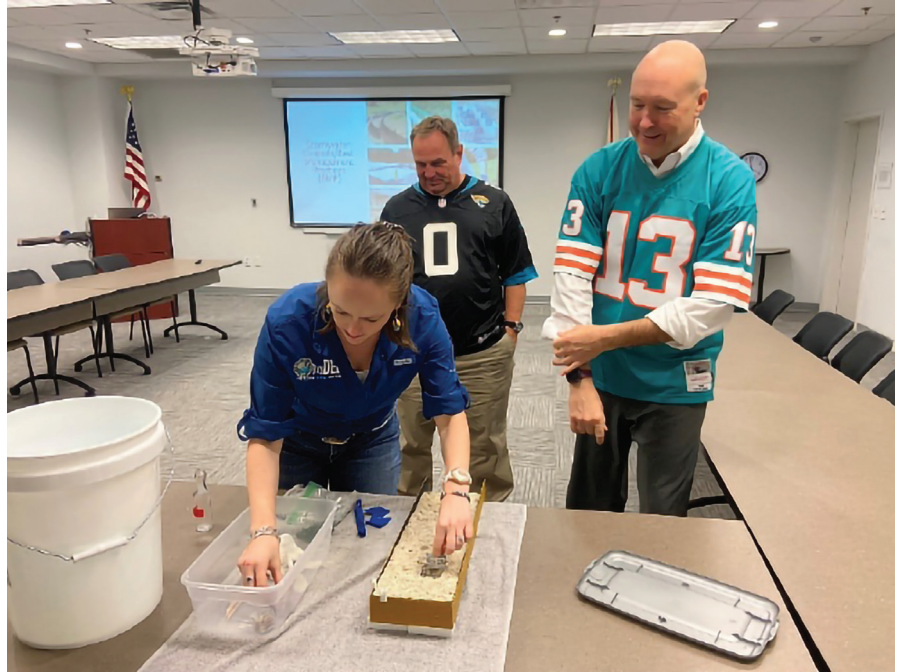
SUBJECT AREA: Science – Earth Science, Environmental Science

GRADE LEVEL: Ninth through twelfth.

DURATION: 45 minutes to an hour; staff will need 30 minutes to set up the demonstration.

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

OVERVIEW: This engaging and immersive program dives deep into stormwater runoff and innovative engineering solutions that minimize its impact to our environment. First, students will gain a comprehensive understanding of stormwater runoff and different management techniques. Second, our expert instructors will challenge students to think creatively and develop strategies to minimize stormwater runoff by utilizing various best management practices (BMPs). These BMPs are environmentally friendly techniques designed to capture, treat and infiltrate stormwater, subsequently reducing the volume and pollution it carries. Through this hands-on activity and practical demonstration, students will compete to see who has the most efficient placement of BMPs. By the end of the program, participants will possess a strong foundation in understanding stormwater management and the department's role in ensuring BMPs are properly used and maintained to enhance the overall health of our environment.



OBJECTIVES:

The student will:

- Describe methods for mitigating urban runoff problems.
- Explore various stormwater BMPs and their effectiveness in reducing stormwater runoff.
- Develop a hypothesis for which BMPs are most suitable in specific locations and evaluate their hypothesis on a model.
- Utilize solution-based creative thinking skills to implement sustainable land use practices.
- Understand the role of DEP in ensuring the use and maintenance of proper BMPs.



Best Management Practice Challenge

SUNSHINE STATE STANDARDS:

SC.912.E.7.6 - Relate the formation of severe weather to the various physical factors.

SC.912.L.17.17 - Assess the effectiveness of innovative methods of protecting the environment.

SC.912.N.1.6 - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.3.5 - Describe the function of models in science, and identify the wide range of models used in science.

SC.912.N.4.1 - Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.

SC.912.N.4.2 - Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

SS.912.G.3.2 - Use geographic terms and tools to explain how weather and climate influence the natural character of a place.

SS.912.G.3.5 - Use geographic terms and tools to explain how hydrology influences the physical character of a place.

ADVANCED PLACEMENT COURSE CURRICULUM:

Topic 5.3 - Methods to Reduce Urban Runoff - Describe the methods for mitigating problems related to urban runoff.

Science Practice 2 - Analyze visual representations of environmental concepts and processes.

Science Practice 4 - Analyze research studies that test environmental principles.

Science Practice 7 - Describe the function of models in science, and identify the wide range of models used in science.