

JULY 2020

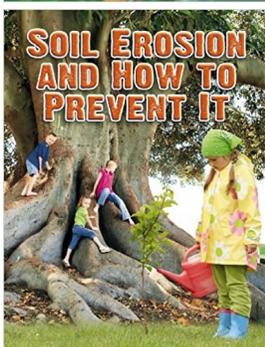
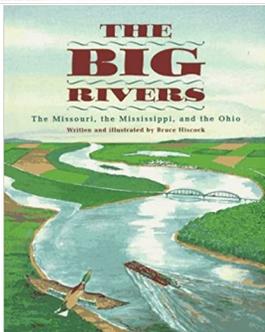
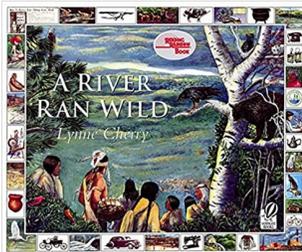
Issue 12

SWIFTlet

Soil and Water Information for Teachers: lessons on environmental themes

STREAM STEWARDSHIP

LITERACY CONNECTIONS



Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

1404 Goodale Blvd. Suite 100
Columbus, OH 43212
franklinswcd.org

Did you ever notice that natural streams are not straight? They wind and curve or meander back and forth. These meanders provide important diversity for animal habitats with deeper pools of almost still water in some areas, and shallow water flowing quickly over rocks in others. The faster moving water in the rocky (riffle) areas provides more oxygen which some organisms need. Some animals prefer the open, sunny water, while others prefer shaded, cooler areas. Rocks along the edge and bottom provide great hiding places and shelter for a variety of animals.



We do not generally think of a creek as having skin. However, the vegetation along a stream serves as its skin. This buffer protects the stream from pollution, much as our skin protects our bodies from bacteria and other things that could do us harm. When we mow to the edge of streams, build close to streams or, worst of all, pave to the top of the stream banks, we take away crucial protection from creeks—the vegetative buffers, their skin.

These buffers ought to contain a variety of vegetation: trees, shrubs and non-woody, native perennial plants. Each kind of vegetation plays a distinct role. Among other things, they have different kinds of roots. Trees have large, woody roots, while non-woody native perennials have finer, stringy roots that can extend 14' into the ground in contrast to the shallow roots of turf grass. These roots help keep pollution out of our waterways and can remove pollution from the water flowing into our streams. In addition, vegetated buffers stabilize banks, keep the creek cool, reduce algae growth and provide food and shelter for aquatic organisms. They are more effective when they are free from invasive plants that can take over stream corridors, excluding other plants and providing limited benefits to the stream.

Streams need vegetated banks and stable, channels to keep them clean. Preserving the meanders and planting trees and native plants along the banks can help. Even small changes to our streams can make a big difference.

Did you Know?

Franklin Soil and Water has discovered that structures installed in streams called, **stream inserts**, can enhance aquatic life in our waterways.

Check out this **stream insert in Willow Brook**.

STREAM STEWARDSHIP

EXPLORING EROSION AT HOME

**It's time to take a closer look and experiment.
Let's make our own soil erosion models!**

Supplies:

- * 4 rectangular plastic (take out food) containers or aluminum baking pans—2 larger than the other 2
- * Enough soil to cover the bottom of the 2 smaller pans
- * Enough fallen leaves, grass clippings or mulch to cover the bottom of 1 smaller container or pan
- * 2 measuring cups (clear if possible)
- * Water

Procedure:

- * Fill the bottom of the smaller pans with soil.
- * Cover the soil in one of the pans with leaves, grass or mulch.
- * Set the smaller pans inside the larger pans so the bottom edges of the small pans rest on the top of the larger pans and create a slope.
- * Pour an equal amount of water (one cup works well) across the high side of the 2 smaller pans.
- * Pour the water that ran off the smaller pans and into the larger ones into the measuring cups or other clear cups and compare the results.
- * Watch the example [Soil Erosion Experiment Video](#).

Follow Up Questions:

- * Did the mulch/leaves protect or hold the soil in place, reducing erosion and resulting in a lighter color of water?
- * Is there something else you could try to keep the rain water clean, protecting against erosion?
- * Why is it important to prevent erosion into streams?

ADDITIONAL RESOURCES

[Interactive kid's site by Project WET](#)

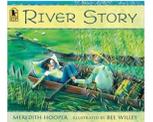
[Seeing Watersheds](#)

Online Lesson About Watersheds and Water Flow from [Project WET](#)

[USGS Water Science School](#) Week 4 focuses on water and features interactive learning tools

[Ohio Healthy Water Healthy People Activity Resources](#)

[River Story Read Aloud](#)



GIVE IT A TRY!!

Scientists look at certain factors to predict the health of a stream habitat. This survey is called the [Qualitative Habitat Evaluation Index \(QHEI\)](#).

Find a stream or creek that you can explore safely and make observations about the area. Use the guide above and the [Stream Walk Data Sheet](#) as you explore.

Do you think this is a healthy habitat? Why or why not?

QUESTIONS TO EXTEND LEARNING

1. What are some possible ways to slow down or stop soil movement (erosion) from happening during rain events? (Plant trees, use mulch or gravel, etc.)
2. What is the advantage of adding an "insert" to a stream channel? (Additional habitat that provides animals with shelter)



Extend learning with this [video](#) featuring FSWCD Education Specialist, Mrs. Pettit, as she conducts an experiment with the Soil Erosion Simulator.

Franklin Soil and Water Conservation District and the Natural Resources Conservation Service are equal opportunity providers and employers.

