



3rd Grade

Turning Chaos into Order- You don't have to be outside very long to notice the vast differences in organisms in our very backyards. From trees to birds to bees, each organism has very specific characteristics. In this lesson, students will explore basic concepts of taxonomy, by student-led discussion. As a class, they will develop a system to sort themselves by the characteristics they create. In small groups, students will practice using a dichotomous key to classify the various fish specimens found in our watershed. **Standards: S3L1**

Macroinvertebrate Mayhem... This lesson is excellent for the kinetic learners in the group to interactively experience the ramifications of environmental stressors on macroinvertebrates (organisms that lack an internal skeleton and are large enough to be seen with the naked eye). These organisms are an integral part of the food web in any stream or creek and their presence or absence tells us a lot about the health of that stream. Each species of macroinvertebrates has a varying degree of tolerance to environmental stressors, so the more diverse the population the healthier the stream. This activity is a scientific version of tag with specific modifications in place to account for the effects of environmental stressors. Certain organisms that are more sensitive to pollution are restricted in their movement across the field. * We will need an open space (larger than the classroom) inside or outside. **Standards: S3L1, S3L2**

All the Way to the Ocean and the Fatal Food Relay.

The students are read (or it can be acted out as a play) the book "All the way to the ocean" The book explains how important it is to not put trash in storm drains because the trash goes all the way to the ocean. Then the students participate in a relay where they are an animal looking for "good" food like a fish, frog, or a snake. They may get good food or they may get "fatal" food such as fishing wire, a plastic bag, balloons, or get stuck in a bottle or 6-pack holder. We explain the dangers of plastic pollution on the environment. * We will need an open space (larger than the classroom) inside or outside. **Standards: S3L2**

Enviroscape –The flexibility of the Enviroscape makes it possible to address human impact issues such as erosion, litter, animal waste, fertilizers, pesticides, pharmaceuticals, and other non-point source pollutants or the process involved with bringing clean water to the home and the removal of it safely back into the environment. This interactive model is a strong visual lesson that does an excellent job of portraying somewhat abstract concepts in an easy-to-understand format. **Standards: S3L2**

Build a River – In this activity, students will gain an understanding of the components of a river and the valuable resources found in the Etowah Watershed. Students help create the river by adding rocks, vegetation, benthic macroinvertebrates, and fish (especially darters – Etowah, Rainbow, and Cherokee). We will talk about what makes a healthy river for the macroinvertebrates, fish, amphibians, and mammals that need the river to survive. Then we start adding in human influences such as dirt, fertilizer, and pesticides. We explain how that affects the water quality and the basic needs of the animals (including humans). **Standards: S3L2**

Create an Aquatic Macroinvertebrate – Students draw imaginary macroinvertebrates and explain how their form fits their function. Students will recognize how an organism’s physical features are adapted for its survival. This activity brings out the creative side of students while making them think about the scientific reasoning of what they are drawing. **Standards: S3L1**

Don’t Trash your Toilet- This activity begins with the reading of Toilet: How it Works by David Macaulay. This book explains how a toilet functions, and where waste goes when it is flushed including a general overview of wastewater treatment. This is followed by a whole group discussion of what belongs in a toilet and what doesn’t. Students apply their newfound knowledge with an interactive relay. The relay begins with students being randomly given an item, which includes: toilet paper, paper towels, flushable wipes, cotton swabs, Band-Aids, floss, laminated “pee”, and poop emoji stress balls. Students will take their item and run to where a “toilet” (toilet seat on top of a 5-gallon bucket) and trashcan are. Students must correctly place their item in the correct receptacle and run back. This lesson ties into the standard because when inappropriate items are flushed, they can result in sewer back-ups and spills that adversely affect our environment. * We will need an open space (larger than the classroom) inside or outside to play. **Standards: S3L2**