2nd Grade

Caddisfly Activity - Students are read the book "The Secret Life of Streams" by Lynell Marie Garfield. The book teaches about the characteristics and lifecycles of mayflies, stoneflies, caddisflies, dragonflies, dobsonflies, and midgeflies in a fun story. Then we focus on Rocky the case building caddisfly and show the students pictures of different cases made by caddisflies. Then students create their own unique case out of rocks, sticks, and other craft items. **Standards: S2L1**

Dragonfly Activity – We start the activity by reading "Elisa and the Dragonfly" or "This is Your Life Cycle" The books explain the dragonfly lifecycle, how the dragonfly starts its life off in the water and ends with a set of beautiful wings. Then students make a dragonfly craft with a clothespin body, colorful paper, pipe cleaner, and ribbon. We can also add in a water scope craft (described in the Elisa book). This is a great educational activity and fun for all. **Standards: S2L1**

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: S2E3**

Build a River – teaches about the same concepts as Watershed Enviroscape but in a different format. 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). This can be paired with some basic water quality Exploration. **Standards: S2E3**

All the way to the ocean and the fatal food game.
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. Discuss the 5 gyres, located in our oceans. Then the students play a game called "Fatal Food" where they are an animal looking for "good" food like a fish, algae, or a jellyfish. 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 to play fatal food. **Standards: S2E3**

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: S2E3**

Just Pipe Up! – This activity ties the water cycle to water treatment. This lesson begins with the book "The Magic School Bus: At the Waterworks", which discusses both the water cycle and drinking water treatment. The second half of the lesson is an interactive construction of the drinking water treatment and conveyance using clear tubes and marbles. Students hold the tubes in the proper order (labeled on the tubes) and using elevation and gravity have to move the marbles from the river through the water treatment process. There are discussions about water line breaks and the consequences. It is a fun, hands-on approach to learn about the water process, the water cycle, and how they are related. **Standards: S2P1, S2P2**