

In the (Riparian) Zone	
<b>Student name</b>	Thomas Rainbolt (thomasrainbolt1@gmail.com)
<b>Summary of lesson</b>	<i>Introduce students to the ideas of riparian zones and use these as a way to think about environmental changes and solutions to environmental issues. Give students the ability to use their senses to develop ideas of a riparian zone.</i>
<b>Setting</b>	<i>Beside a stream or lake with a riparian zone easily accessible by students.</i>
<b>Season</b>	<i>Spring</i>
<b>Activity Length</b>	<i>10 minutes</i>
<b>Type of program</b>	<i>A short program for school students visiting a nature park or wilderness area with streams and/or lakeshore.</i>
<b>Audience and Number of Participants</b>	<i>5-10 students, preferably at least one adult chaperone per child (if a family event) or one teacher/chaperone per group (if a school trip).</i>
<b>Grade or Grade Band</b>	<i>Grade 3</i>
<b>ONE Academic Standard for the above grade or grade band:</b>	<p><b>Next Generation Science Standards</b>  <b>3-Life Sciences 4-4.</b> Make a <u>claim</u> about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.* <b>[Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]</b></p> <p><b>To fulfill this standard:</b>  Add in an additional lesson(s) about what makes the riparian zone unique and work, and then compare and contrast with another riparian zone of similar type that has some key difference in it as set out by the standard. Use this to help students develop <u>claims</u> about how these changes might affect the biome and <u>claims</u> about the merits of different suggested solutions to these issues.</p>
<b><a href="#">Alignment with ONE Indiana Environmental Literacy Guideline Strand</a></b>	<i>Indiana Environmental Literacy Guideline Strand 2: Knowledge of Environmental Processes and Systems</i>
<b>Objectives</b>	By the end of this activity, students will be able to: <ul style="list-style-type: none"> <li>• Identify what a riparian zone is and where to find them.</li> <li>• Be able to tell at least four animals that live in riparian zones.</li> </ul>

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<b>Materials</b> – detailed list	<ul style="list-style-type: none"> <li>• <i>Wet wipes or Hand sanitizer</i></li> <li>• <i>Projector + screen and computer/phone with a speaker (possibly)</i></li> </ul>
<b>Advance Prep (if any)</b>	<p><i>If students are known not to want to get near or cannot physically get near the riparian zone set out, see if there is a bridge nearby that might allow them to get close without getting muddy/wet. Potentially move the location slightly if this is the case to allow all participants equal access as best as you can provide. Ask teachers/parents to bring kids with boots and weather-appropriate clothing to best participate.</i></p>
<b>Activity Outline and Details</b>	
<p>0:00-2:00: “Hey folx! My name is Thomas, and I’ll be your lead educator for this lesson! Who here has been to a stream or riverbank and can tell me what it was like?” When a student raises their hand, prompt them to talk about the plants and their appearance, maybe even prompt them to describe the temperature. If no students have been to one in person, ask if anyone has seen one on TV and proceed from there.</p> <p>2:00-3:00: “Okay, so that area we’re talking about, where the water has that little strip of green along the edge of it, we call that a riparian—rip-air-ian— zone. It’s where lots of life happens with different animals and plants, and they are very crucial environments for both them and us. Rather than just telling you about this, I’d rather have you tell me what makes this zone special. Let’s look at one right now! Look around for a few minutes and look for interesting things: they can be plants, mud, animals, rocks, or whatever you find here that sparks your interest!” and then point students over towards the nearby stream/lake where there is a riparian area waiting to be discovered.</p> <p>3:00-8:00: Give students time to look around the area for a few minutes, allowing them to explore and see what they can find there. Give a one-minute warning at the 7-minute mark to let students know to start to wrap up their mini-discoveries and come back together as a group. When they return, offer them wet wipes or hand sanitizer if they got their hands muddy or wet.</p> <p>8:00-10:00: Bring students back together and ask them to describe the riparian biome you’re visiting. Probe them to talk about plants, temperatures, how the water moved, and if there were differences between close to the water and farther away from the water in the riparian zone. Make sure that they come up with at least four different animals, if not more. Finish by thanking them for taking the time to learn about riparian zones.</p>	
<b>Assessment</b>	<p><i>Informally quiz students to come up with at least four animals that live in riparian zones near the end.</i></p>
<b>TWO Suggested modifications for poor weather or participants of differing abilities or for COVID</b>	<ul style="list-style-type: none"> <li>• <i>In case of bad weather, take the lesson indoors and use the simulated trip on pages 178-179 to make up for the lack of hands-on experience. Play some soft water running in the background and pull up an image of a riparian zone if a projector/computer screen is available.</i></li> <li>• <i>For students with sensory overload, consider doing the lesson inside or allowing these students to do the lesson outside from a bridge if they don’t feel comfortable getting their hands muddy or wet.</i></li> </ul>
<b>Adaptation</b>	<p><i>This lesson was adapted from Aquatic WILD ‘Riparian Retreat’ (pg. 175-179) for an assignment for the course Field Techniques in Environmental Education, Indiana University - Bloomington</i></p>

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