



# Young Elementary School

School of Conservation Leadership  
Model STEM School  
Arkansas GEM School - ELA Growth  
School Report Card Letter A  
Office of Educational Policy Best Growth Scores - ELA  
National Blue Ribbon School



# STREAM BUG INVESTIGATORS!

3rd Grade Field Identification Guide for Freshwater Macroinvertebrates

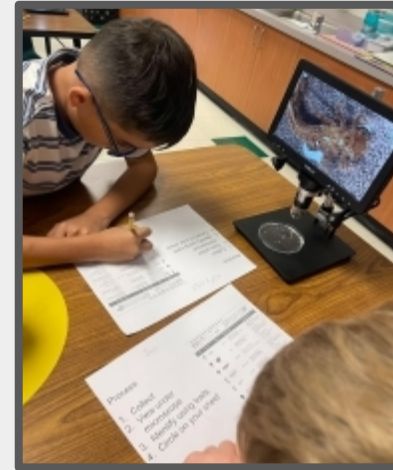
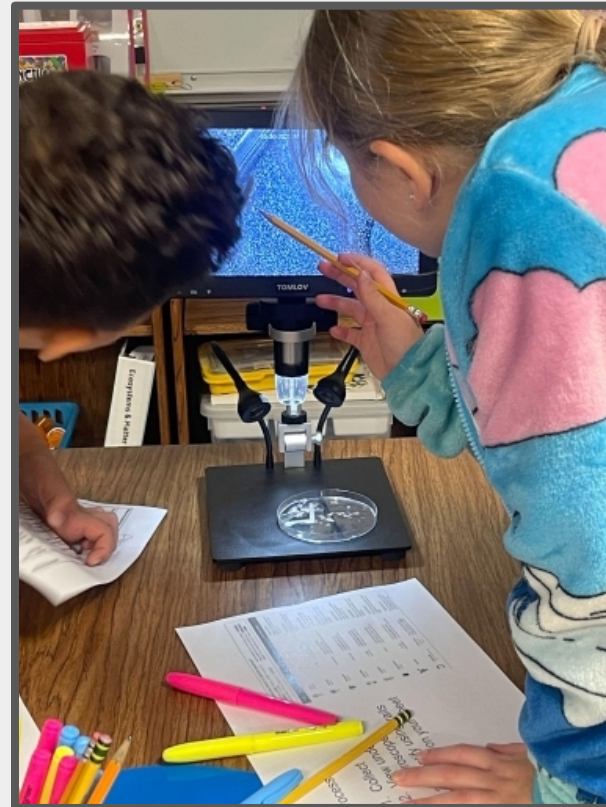
Junior Scientist: \_\_\_\_\_ Date: \_\_\_\_\_

## QUICK DETECTIVE TRICKS TO IDENTIFY BUGS FAST!

- Count the Tails: **3 Thin** = Mayfly | **2 Thin** = Stonefly | **3** = Caddisfly
- Leaf Paddles = Damselfly
- Check for Armor: 10 Legs + Big Pinchers = Crayfish
- Built a House? Tubes of sand, rocks, or twigs = Caddisfly
- Tiny & Slow? Hard dark oval shell on rocks = Riffle Beetle
- Wiggler? Tiny, no legs, bends in a "C" shape = Midge

| Look                                                                              | Creature                                | Legs                                       | Physical Traits                                                                                                                                             | Cool Field Clues!                                                                                          |
|-----------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|    | <b>Mayfly</b><br>(Nymph)                | <b>6 Legs</b>                              | <ul style="list-style-type: none"> <li>3 thin, hair-like tails</li> <li>Feather-like gills along its belly</li> <li>Slender curved body</li> </ul>          | <b>Belly Breather!</b><br>Wiggle its belly gills back and forth like tiny fans to breathe underwater!      |
|    | <b>Stonefly</b><br>(Nymph)              | <b>6 Legs</b>                              | <ul style="list-style-type: none"> <li><b>ALWAYS 2 tails!</b> (Never 3)</li> <li>Long, thick antennae</li> <li>Two claws on each foot</li> </ul>            | <b>Rock Hugger!</b><br>Clings tightly to the underside of rocks in fast-moving, cold streams.              |
|    | <b>Dragonfly</b><br>(Nymph)             | <b>6 Long Legs</b>                         | <ul style="list-style-type: none"> <li>Wide, fat, or oval body</li> <li>Huge eyes on head</li> <li>Short, pointy tail tips (no long threads)</li> </ul>     | <b>Scoop Jaw Hunter!</b><br>Has a lower jaw that shoots out like a hinged spoon to catch passing bugs!     |
|    | <b>Damselfly</b><br>(Nymph)             | <b>6 Thin Legs</b>                         | <ul style="list-style-type: none"> <li>Very slender, long body</li> <li><b>3 leaf-like paddle tails</b></li> <li>Large eyes on side of head</li> </ul>      | <b>Swim Paddles!</b><br>Uses its 3 leaf-shaped tail fins to wiggle and paddle through the water.           |
|    | <b>Caddisfly</b><br>(Larva)             | <b>6 Legs</b><br>(Near head)               | <ul style="list-style-type: none"> <li>Caterpillar-like soft body</li> <li><b>Lives inside a tube case</b></li> <li>Tiny hooks on its back end</li> </ul>   | <b>Master Builder!</b><br>Glues tiny sand, rocks, pebbles, or bits of twigs together to make a armor suit! |
|    | <b>Riffle Beetle</b><br>(Adult)         | <b>6 Legs</b>                              | <ul style="list-style-type: none"> <li>Tiny, hard oval shell body</li> <li>Dark brown or black color</li> <li>Very small (size of a sprinkle!)</li> </ul>   | <b>Slow Walker!</b><br>Does not swim! It slowly crawls along rocks underwater using tiny claws.            |
|    | <b>Crayfish</b>                         | <b>10 Legs</b><br>(2 Big Claws)            | <ul style="list-style-type: none"> <li>Hard outer shell (armor)</li> <li><b>2 large pinching claws</b></li> <li>Fan-shaped tail for jet swimming</li> </ul> | <b>Mini Lobster!</b><br>Shoots backward super fast by snapping its fan tail under its body!                |
|  | <b>Midge Fly</b><br>(Larva / Bloodworm) | <b>0 True Legs</b><br>(2 tiny front stubs) | <ul style="list-style-type: none"> <li>Tiny, soft worm-like body</li> <li>Often curls into a "C" shape</li> <li>Usually red, green, or white</li> </ul>     | <b>Wiggle Worm!</b><br>Very small (under 1/2 inch). Thrashing back and forth constantly in the mud.        |

## Milo - 3rd Grade Student



# Hannah - 5th Grade Student

**That's my drinking water!**

**Protect LITTLE things**



**Make a BIG difference**

How did the algae get in the lakes?

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How can you prevent the algae?

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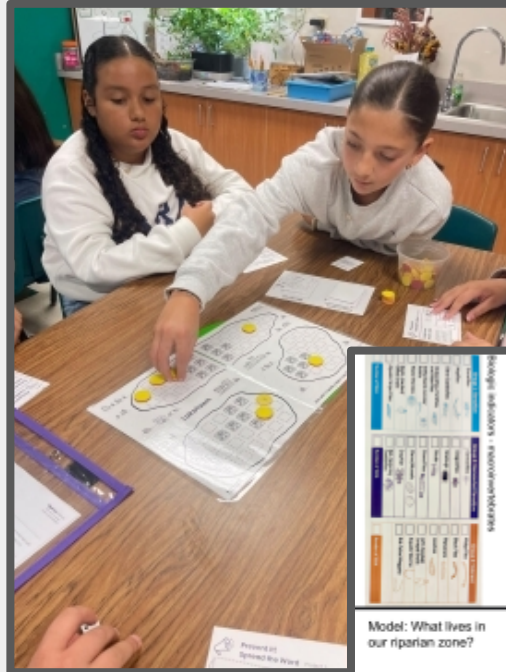
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What is a consequence of ignoring the algae?

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**Stream Team Chemical Info**

Name: \_\_\_\_\_

Temperature: \_\_\_\_\_

Dissolved Oxygen: \_\_\_\_\_ ppm (mg/L)

Turbidity: \_\_\_\_\_ NTU (Nephelometric Turbidity Unit)

pH: \_\_\_\_\_

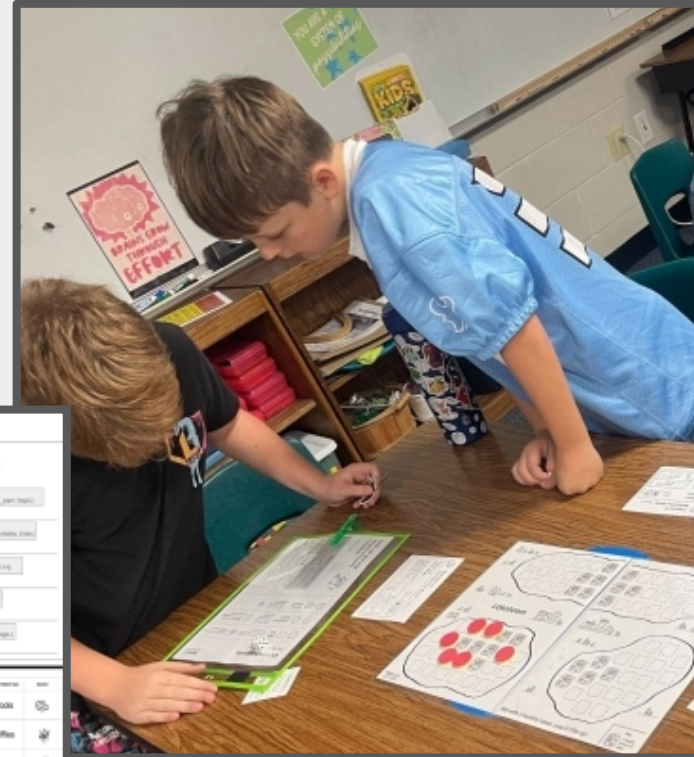
Nitrate: \_\_\_\_\_ ppm (mg/L)

Phosphate: \_\_\_\_\_ mg/L

**Model: What lives in our riparian zone?**

| Animal                   | Plant                    |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |

Model the habitat variations



# Micah - 4th Grade Student



Thank  
you!

