Athens Water Rangers: explore your local stream

Activity objectives:

1. Have fun exploring a local stream!
2. Turn over rocks in your stream and look for bugs.
3. *Optional challenge:* Observe which areas in your stream contain the most bugs and identify the bugs you find.

Safety Notice:

- **Do** be sure to bring an adult with you as your adventure buddy.
- **Do not** enter any streams where the water is more than about 1 inch above your ankle.
- **Do not** enter any stream with fast moving water.
- **Do not** enter any stream that has metal or trash that you can see.
- **Do not** enter a stream from a steep sloped bank.
- **Do** have fun and an adventure mindset!

Step 1: Watch this video from Ranger Nick exploring a creek in Athens: https://www.youtube.com/watch?v=JSXbAeUNpGw&ab_channel=FarmMonitor

Step 2: Find any stream that you can safely walk in. Use this website to find streams in your neighborhood: http://uown.org/UOWN-Wordpress/education/wheres-my-creek/

Step 3: Slowly flip rocks in different areas, do you see any little bugs moving on these rocks? What you are seeing are called macroinvertebrates!

- Macroinvertebrate bugs are a tasty food for many fish in streams
- Many macroinvertebrates spend most of their life (around one year) in water. Then, they grow wings and spend 2-7 days flying around the stream and depositing their eggs.

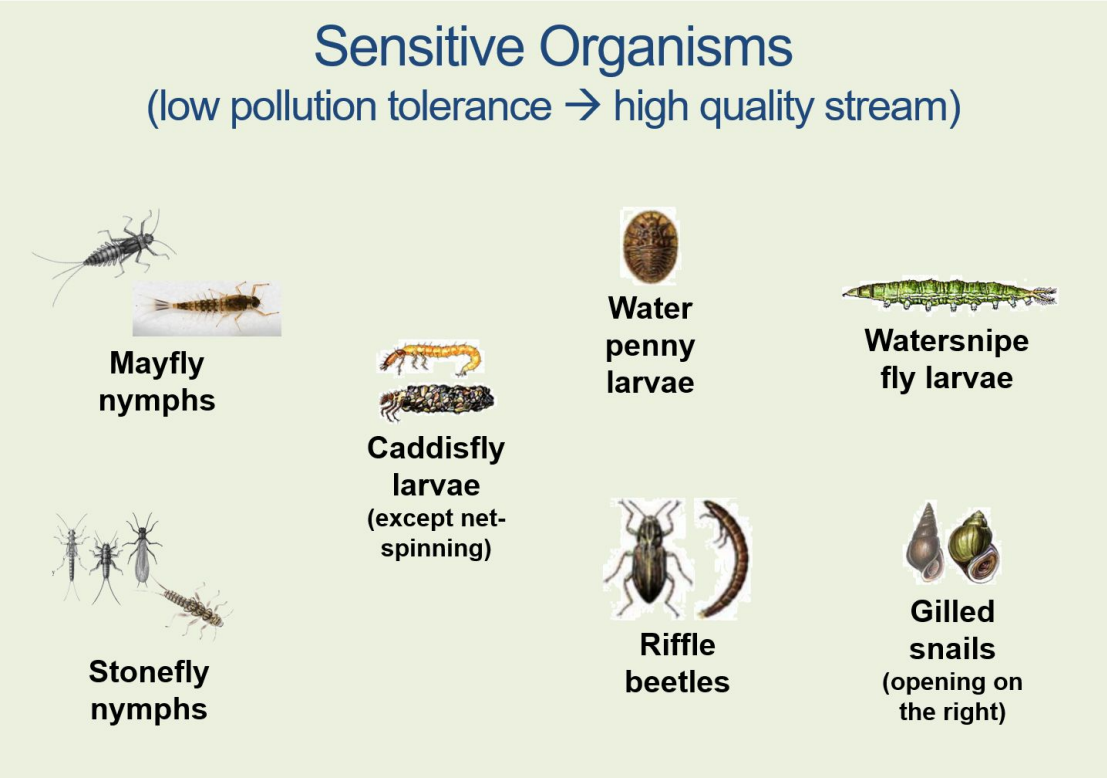
[OPTIONAL] Step 4: Which areas of the stream did you find the most bugs? Was it in faster flowing water? Deeper slow water? Or by the edges?

- Based on the Ranger Nick video, what does this tell us about water quality?

[OPTIONAL] Step 5: Look at the images below to help identify some of the macroinvertebrates that you have found.

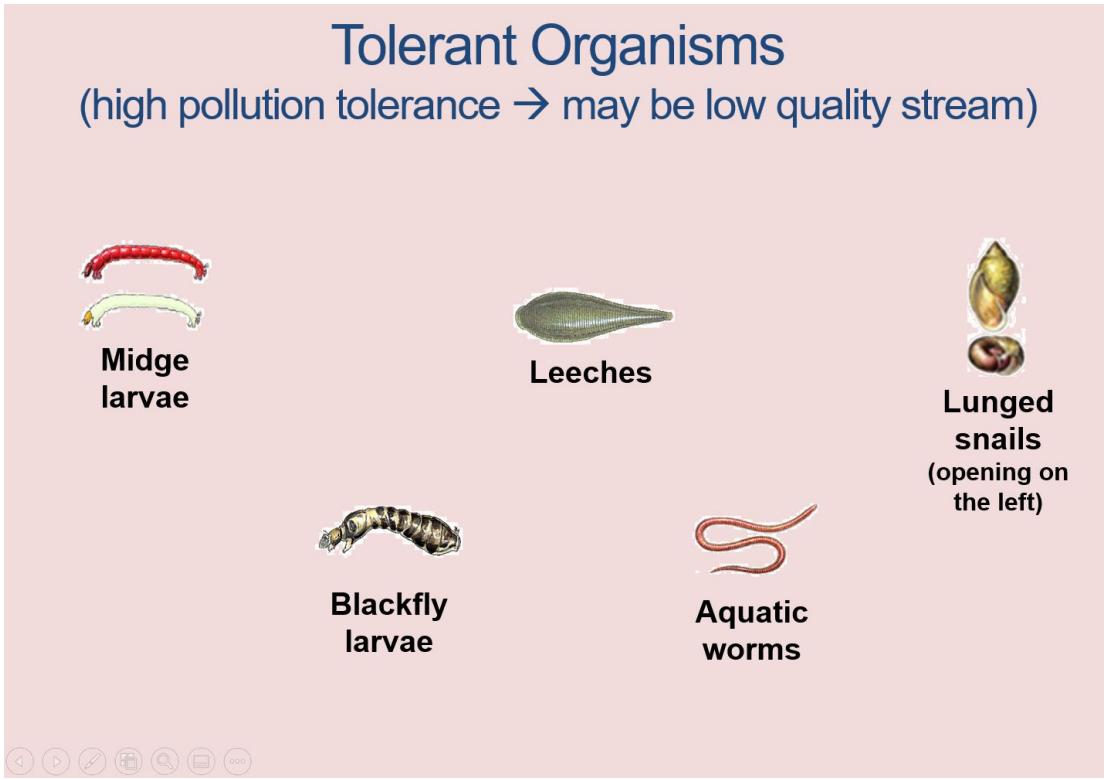
- Based on the bugs you saw, can you make an inference about the water quality in your stream?
- Reminder: The presence of a particular bug can tell you about water quality, but the absence of a particular bug **won't** be able to tell you about water quality.
    - Example: If you see a rare bird, this may mean you are in a high-quality habitat! But, just because you don't see a rare bird doesn't mean that you are in a low-quality habitat

Guide to some stream macroinvertebrates:



If you see any of these bugs in this category, it means your stream is probably "healthy" with good water quality! These bugs usually only live in streams with clean water

Bugs in this category can live in both “healthy” and “unhealthy” water



If a stream is “unhealthy” these organisms can live there since they are very tolerant of less clean water. However, these bugs can also live in high quality water as well.