Mayflies & Aquatic Worms

After Macroinvertebrate creek activity, you can play this active game called “Mayflies & Aquatic Worms” to review the concepts presented.

Location: Outside in a clearing, or in a gym or empty classroom.

1. Divide the class into two equal teams (mayflies and aquatic worms). You can remind them that mayfly nymphs are not able to survive pollution, and the aquatic worms can withstand pollution.

2. Line up the two teams facing each other, about two feet apart, explaining that they are in a stream.

3. About 15 feet behind each team, draw a line for home base.

4. The teacher makes a statement aloud, and if the statement is true, the mayflies chase the aquatic worms, trying to catch them before they reach their home base. *Remind them that they need to stay in the stream, to stay alive.*

5. If the statement is false, the aquatic worms chase the mayflies.

6. Anyone caught must join the other team.

7. If the answer isn’t obvious to the players, you’ll get some of the mayflies and aquatic worms running toward each other, and others running back to their home bases.

8. During the confusion, the teacher should remain silent and neutral.

9. When the action has calmed down, the teacher can reveal the correct answer.

10. Ask true or false questions alternating to keep the teams somewhat balanced.

11. After the students start to tire, mention that we just had a pollutant enter our stream.

12. Now ask only false questions until you end up with all aquatic worms.

13. Point out that this is how many pollutants change the balance of life in a stream food chain, allowing only those organisms tolerant of the pollution to survive.

List of possible questions to ask for Mayflies & Aquatic Worms:
(It's best to start with some simple, obvious questions, until they get the hang of it)

1. The sky is blue (true or false)
2. It is snowing out (true or false)
3. We are on a watershed (true)
4. Macro means that you need a microscope to see it (false)- *naked eye*
5. We are invertebrates (false)- *we have a backbone*
6. A snail is an example of an invertebrate (true)
7. Animals that live in the water do not need oxygen (false)- *they need dissolved oxygen*
8. Some insects spend a part of their life cycle in the water (true)

NOW SOME POLLUTANT HAS ENTERED THE STREAM

9. Looking at the different types of invertebrates living in a stream will not tell you anything about the health of the stream (false)- *the more different types of invertebrates there are, the healthier the stream is*
10. Rainwater doesn't play a role in getting pollutants into a stream (false)-*run-off*
11. All macroinvertebrates have the same sensitivity to pollution (false)- *some are tolerant of pollution*
12. When some types of macroinvertebrates die off from pollution, it does not affect things like frogs, turtles, and fish. (false)

<u>Vocabulary</u>

1. **benthic macroinvertebrate**- bottom dwelling, aquatic organisms without a backbone, which can be seen with the naked eye.

2. **life cycle -** stage of development that an organism goes through from egg to adult.

3. **pollutant** – anything that alters an environment, making it less suitable for certain uses including survival of some biological organisms

4. **food chain** – recognizing consuming links between living organisms dependent upon energy needs.

5. **biodiversity** – number of different types of organisms living in one location.

* Designed by Debra Butler Mayers, 2003, from a game in Sharing Nature with Children by Joseph Bharat Cornell http://www.watersheds.org/teacher/stream.htm