Invert Investigator Station

This video is going to help guide you through the process of hosting the **Intertebrate Investigator Station.**

The objectives of the Invertebrate Investigator station are to:

- Gain an understanding of what aquatic macroinvertebrates are and why they are important both as prey species for fish and as an indicator species for water quality and land management

- collect and analyze data by identifying macroinvertebrates collected from the stream using a field id key and determining if the species are tolerant or intolerant of pollutants

- Learn that the number and diversity of the macroinvertebrates found can be an indication of the overall productivity of the stream

2. The bullet list / steps

- When the students arrive, introduce yourself and the other station members by giving your name, career, and agency
- Ask students to define macroinvertebrate and prompt them to answer why an invertebrate is important to the stream
- State the goals and objectives of the Invert Investigator station

1. Get students into the water right away to collect macroinvertebrates.
   a. Break into three groups to collect from separate habitat types such as a pool, riffle, and glide
   b. Explain water and wader safety and how to use collection equipment, then send them to collect with a station assistant who will guide through the collection process
2. Bring collections back to tables to complete a survey and analysis of what was found
   a. Sort the collections into compartments based on similar looks
   b. Use a dichotomous key and microscopes to determine what was collected, students will discover the identity, classification and quantity of species
3. As students discover what they have collected from the stream, encourage them to consider the life history, functional feeding, mating, and metamorphosis of each of the species

4. Discuss the differences in species & numbers between each group/habitat type and by water quality tolerance levels, then have students determine the ranking the water quality using the survey they just conducted

In conclusion, summarize the lessons learned at the Invert Investigator Station:

Macroinvertebrates contribute to the ecosystem as prey, as an important part of the food web, and are an important indicator species used by scientists to determine the health of a stream as well as the functionality of various reaches within the stream. Any activities in or along a stream we participate in may influence and greatly impact Macroinvertebrates.