Fernwood Day 2021

Water Monitoring Sites: (Streams #1 – #7) **(Depending on the number in your class you may not have all streams)

Benthic Macroinvertebrates that are commonly monitored in streams belong mainly to three large groups of animals, Phylum Arthropod: Insects (Class Insecta), Crustaceans (Subphylum Crustacea), Phylum Mollusca: (mussels and gastropods), and Phylum Annelida: (aquatic worms).

Instructions:

1. Have students watch the stream monitoring video. Identify the tools used. (exp. kick seine)
2. Discuss with your students the meaning and functioning of a watershed.
    - A watershed is an area of land that drains rain water or snow from the ground to small tributaries, to larger creeks, into one location such as a large stream, lake, wetland, or river. The water collected in these tributaries, streams, and rivers supply our drinking water, water for agriculture and manufacturing, offer opportunities for recreation (canoeing and fishing, etc.) and provide habitat to thousands of plants and animals.
3. Have your class discuss the name of the watershed in your school district. (or the watershed where they live), (Jefferson County watershed map provided in packet)
4. Divide your class into groups of 4 – 5 students. (or what works best for your class).
5. Provide one packet for each group. (Each packet represents one stream, and contains one key and multiple aquatic specimens found in that stream, not all groups will have the same number of organisms).
6. Have your students select a fun name for their stream.
7. Have students identify the organisms found within their stream. (You may want to have the students color code their stream specimens with green, yellow, and red crayons or markers, based on their identification from the key)
8. Have students group their aquatic specimens based on pollution tolerance (found on top of key, color coded).
9. Have students determine if their stream is 1) Healthy, 2) At Risk, 3) Polluted.
    - **Healthy Stream:** A clean healthy stream will have few organisms that are pollution tolerant or pollution sensitive, however they may have one or two. The clean stream will contain mostly green coded organisms
    - **At Risk Stream:** The at-risk stream will generally have a mix of tolerant, sensitive and intolerant, however there will be far more tolerant and sensitive than intolerant (mainly yellow coded organisms).
    - **Polluted Stream:** The polluted stream will by far have more tolerant organisms than any other type of organism (mainly red coded organisms).
10. Have your class discuss what man-made or natural events could be expected to cause the pollution of a stream.
11. Have your class discuss things they can do to prevent pollution of the environment, including watersheds, streams, and the Ohio River within our county.

See key for the correct responses based on the stream (#) below. **(Depending on the number in your class you may not have all streams)

KEY:

Stream #1	Healthy
Stream #2	Polluted
Stream #3	At Risk
Stream #4	At Risk
Stream #5	Healthy
Stream #6	Polluted
Stream #7	At Risk