POND STUDY Using invertebrates to determine water quality

Did you know certain bugs can help determine the water quality of a pond? These bugs, called benthic macroinvertebrates, can be hyper-sensitive to pollution. The presence of sensitive benthic invertebrates is a good indication that the water body is healthy. But if they're missing, water guality could be poor possibly from pollution.

Conducting your experiment

- Collect samples from the pond using your • kitchen strainer. Scoop up some of the vegetation and muck from the bottom of the pond and place it in a bucket of pond water.
- Locate and sort organisms. Watch for movement and use your plastic spoon to gently sort similar organisms into the compartments of an ice cube tray, pre-filled with pond water.
- Examine each organism and use your key to determine which type of macroinvertebrate it is. Record in your data collection sheet.
- On your data collection sheet, calculate index values by determining points for each tolerance category (Sensitive, Somewhat Sensitive, and Tolerant). For example, if you

What you'll need:

- A kitchen strainer
- 1 or 2 buckets
- White ice cube trays
- A plastic spoon
- Magnifying glass (optional)
- Benthic invertebrate key (attached)
- Data collection sheet (attached)
- Any pond or stream

find three kinds of organisms in the sensitive category, the index value will be 12 (3 species x 4 points = 12). NOTE: Each type of macroinvertebrate counts toward the index value, not each individual organism.

Return your samples to the collection site.

What did you find?

Refer to the chart at the bottom of the data collection sheet to determine if your sample's water quality is Excellent, Good, Fair, or Poor.

If it's fair or poor, you might want to sample another spot in the pond before drawing any conclusions.









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Benthic Macroinvertebrate Study - Key

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