

Macroinvertebrates

A Regional Science Consortium

Education Initiative



Subject: Science

Grades: 3-12

Number of Participants:

No limit

Regional Science Consortium

Macroinvertebrates

This lesson incorporates an informative PowerPoint lecture and hands-on activity to introduce students to macroinvertebrates, their use in determining water quality and their important role in aquatic environments such as Presque Isle State Park.

Supply List

In this lesson:

- Digital copies of materials available at www.RegSciConsort.com
 - Macroinvertebrates lesson (ppt)
 - Macroinvertebrates lesson (mp4)
 - Educational video
 - Paperwork
 - Introduction (pdf)
 - Activity instructions (pdf)
 - Macroinvertebrate Dichotomous Key (pdf)
 - Student worksheet (pdf)
 - Teacher guide (pdf)
 - Skype with a Scientist discussion points (pdf)

Component	Length
Lesson	12:56
Video	9:37
Activity	20-45 min depending on grade level
Worksheet	
Skype with a Scientist session	15 min

Goal

After completing this lesson, students will have gained a detailed understanding of macroinvertebrates and their role in the environment. Students will apply their knowledge of macroinvertebrates and their importance in determining water quality by utilizing a dichotomous key to identify 5 samples of macroinvertebrates that have been collected from one wetland, Thompson's Bay.

Additional Resources

Related RSC Lessons:

- Bacteria in Aquatic Environments
- Harmful Algal Blooms
- Stormwater Runoff

Citizen Science Programs:

- Seek by iNaturalist – Use your phone to identify organisms and optionally share for science!
 - <https://scistarter.org/seek-by-inaturalist>
- Nature’s Notebook – Contribute data on the lifecycles of plants and animals across the US for use in scholarly publications and reports for decision support and resource management.
 - https://www.usanpn.org/natures_notebook

Pennsylvania Academic Standards

Grade 4	Grade 7	Grade 10	Grade 12
3.1.4. A, E	3.1.7. A, B	3.1.10. B	3.1.12. B, C
3.2.4. A, B, C	3.2.7. B, C	3.2.10. A, B, C	3.2.12. C
3.3.4. A	3.3.7. A	3.3.10. A	4.1.12. C, D
3.7.4. A	3.5.7. D	3.5.10. D	4.6.12. A, C
4.1.4.A, C, D, E	4.1.7. C, D	3.7.10. B	4.7.12. A, B, C
4.3.4. A, C	4.3.7. C	4.1.10. C, D	
4.6.4. A	4.6.7. A, B, C	4.3.10. B, C	
4.7.4. B	4.7.7. B	4.6.10. A, B	
	7.8.7. D	4.7.10. A, B, C	

Sources

This lesson has been adapted from the University of Wisconsin, Wisconsin Department of Natural Resources, Izaak Walton League of America Aqua Bugs, Stream Smart, Dot Neely, Regional Science Consortium.