

# LAB GUIDE

## TESTING THE WATERS

**THE LAB:** Become an environmental scientist and discover what caused a fish kill in the Chicago River! Students explore the watershed and work in teams using environmental science methods to determine the quality of water samples. Which site is responsible for causing the fish kill? Find out!

**GRADE:** 4th–8th    **CAPACITY:** 30 students    **DURATION:** 60 minutes

### KEY CONCEPTS & TERMS

**TO REVIEW WITH YOUR STUDENTS BEFORE YOUR VISIT:**

**POLLUTION:** contamination of the environment through human activities

**NITRATE:** a nutrient that comes from decaying vegetation, fertilizers and sewage

**PHOSPHATE:** a nutrient found in fertilizers, industrial chemicals and laundry detergent

**POINT SOURCE POLLUTION:** contamination that originates from one specific location

**NONPOINT SOURCE POLLUTION:** contamination from runoff that does not originate from one specific location and is spread over a wide area

**WATERSHED:** an area of land collecting snow and rain that all drains into the same body of water, like a river or lake

**ENVIRONMENTAL SCIENCE:** a branch of science that studies the physical, chemical and biological conditions of the environment and their effect on living organisms

**RUNOFF:** rain or snowmelt that moves over and through the ground into bodies of water

**LAB GUIDES** provide tools to help you make the most of your Museum visit and lab experience. You'll find key vocabulary and activity ideas to share with your students *before your visit*, a list of Illinois Learning Standards addressed by the lab, important things to remember *on the day of your visit* and follow-up activities and additional resources to continue the exploration *back in the classroom*. We look forward to seeing you and your students at the Museum!

### LEARNING STANDARDS:

The content of this lab aligns with the following Illinois Learning Standards:  
State Goal 11: 11.A.2, 11.A.3  
State Goal 12: 12.E.2  
State Goal 13: 13.A.2, 3; 13.B.2, 3  
State Goal 16: 16.A.2, 3; 16.E.2, 3

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## ADDITIONAL INFORMATION:

**MUSEUM VISIT:** Plan to arrive at the Museum at least 30 minutes before your first lab is scheduled.

**LAB INFORMATION:** Let the Lab Coordinator know of any special needs or requests in advance at (773) 684-9844 ext. 6254 or [learning.lab@msichicago.org](mailto:learning.lab@msichicago.org). On the day of your lab, please advise the Lab Facilitator of those requests as soon as you arrive.

The Lab Facilitator is not responsible for the discipline of your students and, for safety reasons, has the right to ask disruptive students to leave the lab. Please notify chaperones they will be responsible for student behavior. The Lab Facilitator may request the help of teachers and chaperones during the lab. Please notify your chaperones to be prepared to assist during the lab.

**PAYMENT AND REFUND POLICY:** Payments must be received two weeks prior to the lab or it will be cancelled. Labs cancelled with fewer than two weeks notice will not be refunded. Based on availability, labs may be rescheduled for a handling fee of \$10. No exceptions.

**LATE ARRIVAL POLICY:** If you are late to your scheduled lab session, the Museum reserves the right to cancel the lab and reschedule it at a later date if availability permits. If the lab cannot be rescheduled, lab fees are forfeited.

## PRE-VISIT ACTIVITY

Before your visit, please complete the following activity with your class.

### POLLUTION SOURCES

Create a list of different sources of air, water and land pollution that can be found around your school and home. As a class, decide on a definition for the word Pollution. Then brainstorm a list of ways students can prevent these sources of pollution.

## RESOURCES

### [www.epa.gov/kids](http://www.epa.gov/kids)

Kid-friendly information and resources.

### [www.projectwet.gov](http://www.projectwet.gov)

Project WET provides teacher resources and inexpensive workshops focusing on water education.

### [www.earthforce.org](http://www.earthforce.org)

Web site promoting youth education and action in environmental science. Includes information about community and teacher training programs, lesson plans and resources, and local partners.

For additional Testing the Waters activities related to pollution, water filters and much more, please visit:

[www.msichicago.org/education/field-trips/learning-labs](http://www.msichicago.org/education/field-trips/learning-labs)



**Specific questions about lab content or information in this guide?**

Contact us at 773.684.9844, ext. 6254 or e-mail [learning.lab@msichicago.org](mailto:learning.lab@msichicago.org)

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