



# CAPE COD MARITIME MUSEUM

PO BOX 443 | 135 SOUTH STREET | HYANNIS, MA 02601

PH. 508-775-1723 | FAX 508-775-1706 | [INFO@CAPECODMARITIMEMUSEUM.ORG](mailto:INFO@CAPECODMARITIMEMUSEUM.ORG)

[WWW.CAPECODMARITIMEMUSEUM.ORG](http://WWW.CAPECODMARITIMEMUSEUM.ORG)

## Fish and Clean Water

### Lesson Goal:

This lesson explores fish as healthy-water indicators. Many factors affect the waters that our Cape Cod fresh and salt water fish live in. Some factors are obvious, like a fuel spill, and some are not, like septic tank seepage. Fish are only healthy to eat as long as their water is healthy.

### Lesson Objectives:

The students will:

- learn key concepts and terms associated Cape Cod fish: fish anatomy, marine ecosystem, fresh water and salt water fish identification, culverts, fisheries, estuaries, habitat protection, contamination, and sustainability.
- use fish of New England guide, fish anatomy guide, model of old and new culvert theory, fish finder, water quality data for local ponds, rivers and estuaries.
- learn the importance of fishing regulations, and what some are.
- discuss problem-based learning scenarios and find workable solutions for community involvement in marine ecology and conservation issues, like ocean acidification, ocean temperature & fishing line debris.

### Assessments:

The teacher will:

- listen and observe students while discussing topics.
- facilitate discussions regarding actions the students can take.
- explain the food web flow, how everything is interconnected, and observe students following along.
- explain the different parts of a fish, making sure students understand oxygen from water, not oxygen from air.
- guide students through using a fish finder and help confused students understand.
- observe how well directions are followed

### Frameworks:

- *PreK-ESS2 Earth's Systems* PreK-ESS2-1(MA); PreK-ESS2-3(MA); PreK-ESS2-6(MA)
- *PreK-LS2 Ecosystems: Interactions, Energy, and Dynamics* PreK-LS2-1(MA); PreK-LS2-2(MA); PreK-LS2-3(MA)
- *K-LS1 From Molecules to Organisms: Structures and Processes* K-LS1-1; K-LS1-2(MA)
- *2-LS2 Ecosystems: Interactions, Energy, and Dynamics* 2-LS2-3(MA)
- *2-LS4 Biological Evolution: Unity and Diversity* 2-LS4-1
- *K-2-ETS1-3 Engineering Design* K-2-ETS1-3

- 5-LS2  
*Ecosystems:  
Interactions,  
Energy, and  
Dynamics* 5-  
LS2-1

- MS-LS2  
*Ecosystems:  
Interactions,  
Energy, and  
Dynamics*  
MS-LS2-1;  
MS-

- LS2-2;  
MS-LS2-  
3; MS-  
LS2-4;  
MS-LS2-  
5; MS-  
LS2-  
6(MA);  
MS-LS2-  
7(MA)

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*For More Information About this Class:*

This class can be designed by the Museum staff for any grade level from k-12, and can be taught at the Museum or in the school classroom. To see how it can meet your educational needs, and for an estimate of costs per students, please contact CCMM's Education Coordinator and STEM teacher, Deirdre Detjens, at 508-775-1723 or [ddetjens@capecodmaritimemuseum.org](mailto:ddetjens@capecodmaritimemuseum.org)

*CCMM Education Mission:*

Cape Cod Maritime Museum provides students and educators of all ages, real-world, interactive, inquiry-based, learning opportunities utilizing Cape Cod centric pedagogy to inspire an enduring connection with Cape Cod maritime culture. With a comprehensive suite of educational programs, our science, technology, engineering, art and math topics drawn from our own coastal marine environment enabling students to embrace new knowledge and skills in a way that is relevant to Cape Cod and our local culture. All classes are based in an appreciation and respect for Cape Cod's maritime past, present and future.