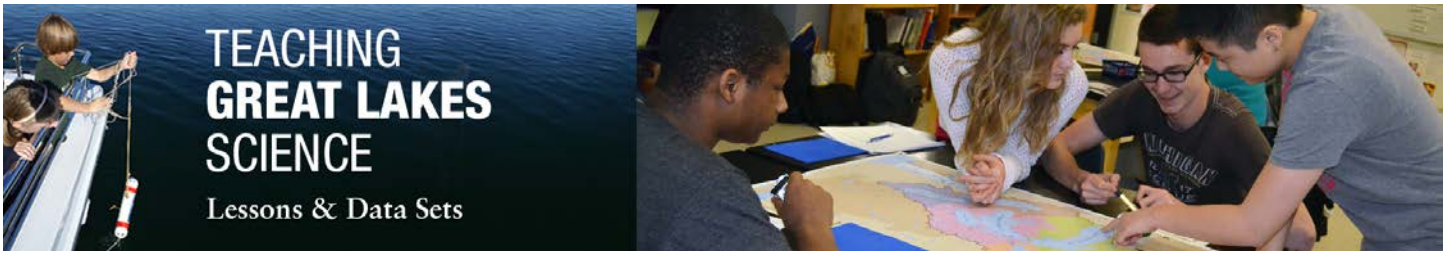



**Next Generation Science Standards**

**Lesson: Fish Habitat and Humans**
**Activity: Habitat Field Work**

**Prior Knowledge Should Include (learned in K-5th):**

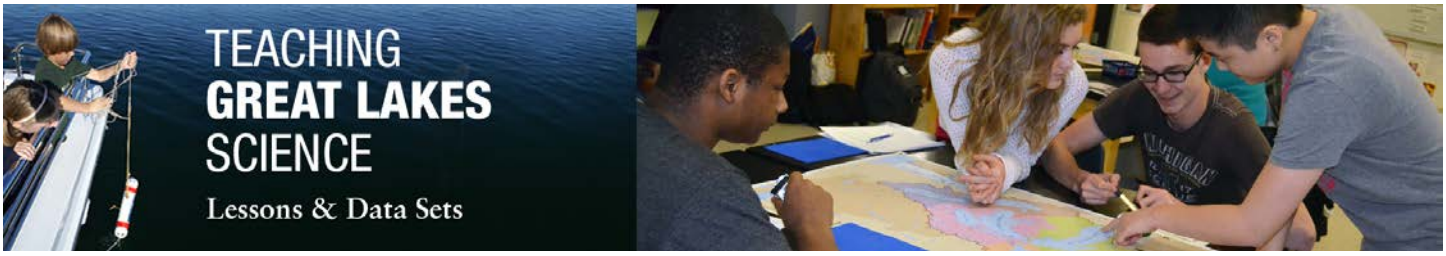
- Animals obtain food they need from plants and/or other animals.
- Certain organisms can only survive in particular environments.
- Populations of organisms live in a variety of habitats. Changes in those habitats can affect the organisms living there.
- Things people do can affect their environment, but they can make choices to reduce their impacts.

**Performance Expectations:**

- HS-LS2.7 Ecosystems: Interactions, Energy and Dynamics. Design, evaluate and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
- HS-LS4.5 Biological Evolution: Unity and Diversity. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.
- HS-ESS3.4 Earth and Human Activity. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

**Disciplinary Core Ideas:**

- **LS4.C Adaptation:** Changes in the physical environment, whether naturally occurring or human-induced have contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline — and sometimes the extinction — of some species. Species become extinct because they can no longer survive and reproduce in their altered environment. If members cannot adjust to change that is too fast or drastic, the opportunity for the species' evolution is lost.
- **LS4.D Biodiversity and Humans:** Biodiversity is increased by the formation of new species and decreased by the loss of species. Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
- **ESS3.C Human Impacts on Earth Systems:** Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and preclude ecosystem degradation.




**Practices:**

- **Constructing Explanations and Designing Solutions (6)** – Progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific knowledge, principles and theories.
- **Engaging in Argument from Evidence (7)** – Progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current or historical episodes in science.

**Crosscutting Concepts:**

- **Cause and Effect (2):** Events have causes, sometimes simple, sometimes multifaceted. A major activity of science is investigating and explaining causal relationships and the mechanism by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.

**Next Generation Science Standards**