Food Webs and Population Balance

5th-8th Grade Virtual Education Class

Standards Alignment:

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun.

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Overview:

Pre-class activity (10-15 min): take a virtual tour through the St. Louis Aquarium at Union Station! We will send a link to an online video that your students can watch to learn about the Aquarium and prepare them for the virtual class!

Virtual Class (30 min): Explore the relationship and interconnection of all animals, and how energy is transferred from the sun through the food chain. Thinking critically about how environmental changes and population changes of one species affect others, students will discover the important roles played by aquatic life of all sizes. Students will get to see animals up close and ask questions live on camera!

Follow-Up Activity: An interactive, web-based activity will allow students to further explore their understanding of how changes in animal populations might affect other animals in their food web. With a focus on conservation, this activity will urge students to think of ways to mitigate the effects of human impacts on the environment. A link to this activity will be sent to teachers via web-based Google suite.

Suggested Supplemental Activities:

- Ask students to develop a model that helps them predict how animals might be affected by environmental issues like pollution or climate change in the future.