Survival in Motion |
Exploring Ecosystem Interactions

In this lesson, students will explore a study on how fish conserve energy by reducing drag and turbulence when swimming in schools.

Grades: 6-8	Subject(s): Science
Focus Standard(s)	MS-LS2-2 - Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
Learning Objective(s)	Students will be able to explore how fish swimming in schools conserve energy, relate this behavior to other organisms, and analyze how interactions within ecosystems help species survive.
Materials/Resources	Swim Together, Save Energy! Science notebooks
Vocabulary	**resistance:** pushback **predator:** animal that hunts and eats other animals
Anticipatory Set	**Class Discussion:** "Have you ever seen birds flying in a V-shape? Why do some animals travel in groups?"
Mini-Lesson	1. Show Image #2, cyclists drafting behind one another in a race, from the Slide Show. Ask students, "How do you think riding close together helps them?" 2. Briefly introduce the concept of drag and turbulence.
Guided Practice	1. Have students read the article in pairs or small groups. 2. While reading, students should highlight key information about how schooling fish conserve energy and how this helps them survive. 3. Lead a discussion using the following questions as guidance: a. What challenges do fish face when swimming alone? b. How does swimming in a group help them? c. What might happen if fish couldn't swim in schools? d. Can you think of other animals that move together for survival?
Independent Practice	Allow students to search for another article that shows an example of animals working together to reduce energy use or increase survival (e.g., migrating birds, herd animals, penguins huddling). Students can present their findings with a quick sketch or explanation in their science notebooks.
Closure/Assessment	**Exit Ticket:** Students write a short response to the question: "How does schooling behavior help fish survive, and how does this relate to interactions in other ecosystems?"
Differentiation	Adjust lexile® levels as needed; answer questions as a whole group; use accessibility features or read-to-me feature as needed; print copies of article