Nature's Engineers:
Evaluating Beaver Dams vs. Human Dams

In this lesson, students will compare and contrast the effects of natural and human-made dams on the environment and surrounding ecosystems.

Grades: 6-8	Subject(s): Science
Focus Standard(s)	MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
Learning Objective(s)	Students will evaluate the effectiveness of a beaver-built dam compared to a human-made dam by analyzing its impact on biodiversity and ecosystem services.
Materials/Resources	Beaver Dams Save Money! Klamath River Runs Free Again
Vocabulary	**nuisance:** annoyance; annoying problem **practically:** almost **complex:** complicated; hard to understand **habitat:** home; area where animals live **culture:** way of life **restore:** bring back to normal **sediment:** small leftover pieces; dust
Warm-Up Discussion (5-10 mins)	Ask students, "What do you already know about beavers? How do their dams affect the environment?" Show students pictures from the Slide Show or play the videos found within each article.
Independent Practice (15 mins)	Begin by having each student read both articles, independently or with a partner. Then divide the students into groups, and have them create a T-Chart comparing a beaver dam and a human-made dam using information found within the articles. Provide students with the following guidelines for their T-Charts: • **Cost** (Which is more expensive?) • **Time** (Which takes longer to build?) • **Impact on animals** (Which helps or harms more species?) • **Effectiveness** (Which better protects water quality?)
Closure/Assessment (15 mins)	Assess student understanding by having each group present their findings and argue which type of dam they think is better. End the lesson with a class discussion, asking students, "Should humans rely more on nature to help ecosystems? Why or why not? Can nature and human engineering work together?"
Extension (optional)	Design Challenge: Students draw or build a model of a dam that uses both natural and human-made features for biodiversity protection.
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