Next Generation Science Standards

Lesson: Predicting Smelt Runs
Activity: Predicting Smelt Runs

Prior Knowledge Should Include:
- Climate describes patterns of typical weather conditions over different scales and variations. Historical weather patterns can be analyzed.

Performance Expectations:
- MS-LS1-4 From Molecules to Organisms: Structures and Processes. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors affect the probability of successful reproduction of animals.
- 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.

Disciplinary Core Ideas:
- **LS4.C Adaptation:** Changes in the physical environment, whether naturally occurring or human-induced, have thus 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.
- **LS1.B Growth and Development of Organisms:** Animals engage in characteristic behaviors that increase the odds of reproduction. Plants reproduce in a variety of ways, sometimes depending on animal behavior and specialized features for reproduction.

Practices:
- **Engaging in Argument from Evidence (7)** – Progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).

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

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