

Episode 3

Strand 6.4	Standard 6.4.2	Big Idea Organisms interact with other living organisms in their environment.
------------	----------------	---

Title Snowy Owls and Lemmings	Time 60 minutes	CCCs Patterns	Practices Construct an explanation
---	---------------------------	-------------------------	--

Phenomenon: Snowy owl populations are affected by lemming populations in a predictable pattern.

Summary of Episode

Teacher Background Information: A well-studied predator-prey relationship is that of the snowy owl and the lemmings, a type of rodent, that are their prey. Lemming populations go through cycles of growth and decline. When lemming populations become too large, they consume all of the moss that is their food. Without the moss, the lemmings starve and the population crashes. This cycle repeats every three to four years. Snowy owls are predators that rely on lemmings for food. Snowy owls will only reproduce if lemming populations are large enough for the owls to have enough food to feed both themselves and their chicks.

Gathering

Ask Questions

Students will observe the graph of snowy owl and lemming populations. Students will construct questions based on their observations of the data.

Questions could include the following:

- What patterns do we see?
- What happens to our pattern when the lemming population increases?
- What might be causing the snowy owl population to fluctuate? Would you expect this pattern to continue?
- Why are there some years without any lemmings or snow owls? What is causing this pattern?
- Does the graph show a predictable pattern?

Reasoning

Evaluate Information

Students will obtain information from an article about the recent spike in snowy owl populations (see website link). Students will use the information from the article to answer questions about the graph of snowy owl and lemming populations.

Communicating

Construct an Explanation

Students will individually construct a written explanation of the pattern of the prey/predator relationship between snowy owls and lemmings.

Assessment: Students' explanations should demonstrate an understanding of the pattern of the prey/predator relationship between snowy owls and lemmings.

Materials, resources, handouts, etc.

Website link:

<https://www.theguardian.com/environment/2014/feb/24/snowy-owl-lemming-population-us-canada>

[6423.a Snowy Owls and Lemmings handout](#)