

## Answer Key for Forest Ecology

### Oh Deer Reflection Questions:

**1. What does this data mean?**

The graph is so up & down, up & down because as the deer die and decompose, they are adding nutrients to the forest to grow more resources (so deer population goes down, resource population goes up). The opposite is also true: as the deer population grows, they eat too many resources, making the resource population deplete.

The Deer and Resource populations are an **INVERSE** Relationship.

**2. Is there any way to stabilize the deer-resource population?**

Yes--by introducing an apex predator to the environment to keep the deer population in check.

### Wolves in Yellowstone Video Questions:

**1. When the wolves were absent from the park, and the deer had nothing hunting them, how did that affect other plants and animals in the park? What does this remind you of?**

When the deer had nothing hunting them and their population exploded, they ate all the other plants. This in turn affected the insect, rodent, and bird populations, which in turn affected various plant populations, eventually altering the shape of the river as riverbanks were less stable without plant roots. This deer population boom and resource population bust reminds me of the Oh Deer! game we just played.

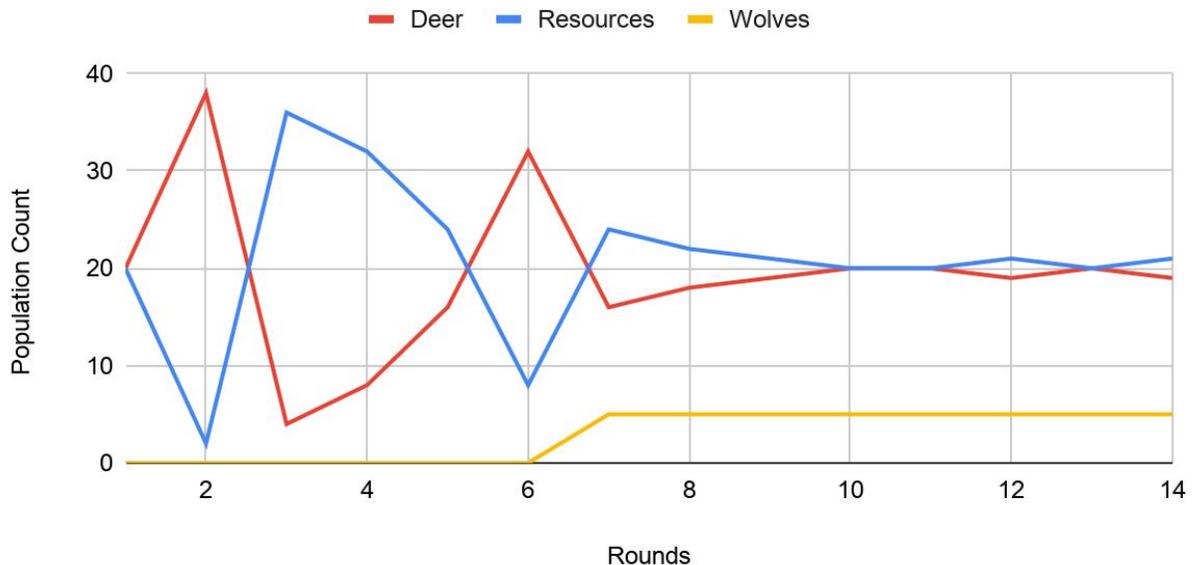
**2. What changed after the wolves were reintroduced?**

The wolves stabilized the deer population by hunting them--creating fear that changed their behavior. No more open meadow grazing all day every day! With the deer population stable, the resource population stabilized as well. This trickled down throughout the entire ecosystem.

**3. If there was a way to introduce wolves in our Oh Deer! dice game, how would that have affected the graph? Draw what you think a graph would look like in an Oh Deer! game that had wolves.**

# Oh Deer!

w/ Wolves



If wolves entered our ecosystem they would stabilize the deer (and therefore the resource) population. Note that these populations wouldn't be completely without change, those changes would simply be much smaller and not on a scale that would completely disrupt an ecosystem.

**4. The narrator of the video says this event was a “Trophic Cascade.” Describe this term in your own words.**

A Trophic Cascade is when a change in a population has an effect that is felt through every other level and layer of an ecosystem.

## The Lorax

Answers will vary, these questions are meant to probe discussion and thought about the ODS lessons and the environment.

### Section 1-

- 1.) Is the truffula forest healthy?
  - a.) Yes because the trees are healthy and lots of animals live there
  - b.) Kind of No because there's not a lot of plant diversity
- 2.) Possible answers include:
  - a.) It's not bad to cut one tree. The Lorax shouldn't be mad because using resources isn't bad.
  - b.) It's not bad to cut one tree. He shouldn't be mad because everything dies eventually and clearing one species could make room for another

- c.) It's bad to cut down any trees. The Lorax should be mad because the tree wasn't cut down for a need; resources should be used for needs
- d.) It's not bad to cut one tree, but the Lorax has a right to be mad because it's his home and he's in charge of it.

### Section 2-

- 1.) Possible answers include:
  - a.) It's a good business because the Oncler is making money
  - b.) It's a good business because the Onceler is a smart businessman
  - c.) It's a bad business because he isn't making something people need
  - d.) It's a bad business because he's cutting down truffula trees

### Section 3-

- 1.) The Thneed advertisements say "You need a thneed", which is not true.
- 2.) Examples of "Thneeds":
  - a.) Fidget Spinners
  - b.) Toys from fast food restaurants
  - c.) Hair Chalk or other beauty items
  - d.) Silly flavored snacks
- 3.) The creatures used to rest under the trees and eat the fruits, and they used to live in the river. Now there are no trees to rest under or fruits to eat, and the river is too dirty to live in. Cutting down the truffula trees and building a factory made the forest dirty and unhealthy.

### Section 4-

- 1.) Possible answers include:
  - a.) Yes because he's right; people are inherently bad
  - b.) No because he should have no better, it's his responsibility
- 2.) He changes his mind because he sees the damage the thneeds did to the environment. The value of thneeds is not the same as the value of trees
- 3.) Possible answers include:
  - a.) Everyone thinks they're not the one who has to make the change, so you've got to make the choice to make a difference
  - b.) It's up to everyone to make a difference
- 4.) Possible Answers Include:
  - a.) Save the trees!
  - b.) Use resources wisely
  - c.) Everyone does not need a thneed

Bonus Question: An allegory is a story, poem, or picture with a hidden message, often to teach a lesson or warn about something