

Name: _____ **Period:** ____ **Date:** _____

Environmental Science

#5-1: The Tragedy of the Commons (aka "The Fishing Lab")

Purpose

You will take part in a simulation where you will be asked to go “fishing” for goldfish crackers in your group’s “fish pond”. Your goal is to survive as long as possible by “eating” at least one fish per “day”.

Prediction

In this simulation, how many turns do you think your group will last without anyone starving? Explain.

Procedure

Each group or “village” of students shares a community pond, and every “day” (or turn) you will go fishing in the pond. Each day you will roll dice to determine the order of who goes fishing first, second, third, etc. You must “eat” one fish in order to survive the night. **NOTE: DO NOT EAT THE GOLDFISH CRACKERS.** When fishing, you can take as many fish as you want, and you can either eat them during the night or save them for later days, but you are not allowed to look into your pond while fishing. At night, just as in nature, the fish reproduce. Repeat the procedure each day for as long as possible.

Data

[illegible][illegible]

Questions

1. Was your prediction correct? Why or why not?
2. What happened to your village's pond during the game? Why do you think this happened?
3. How did your fishing decisions affect future fish populations? How did your decisions affect the other members of your village?
4. How well did your village work together at managing your pond's fish? Why do you think this happened?
5. Instead of rolling the dice each turn, what do you think would happen in the simulation if one member of your group always fished first? How do you think this is mirrored in real life?
6. If you got to perform this simulation again, what do you think your village could do differently to better manage your pond? Why do you think this would work?
7. This simulation attempted to show what happens when individuals act out of self-interest and take more resources than nature can replenish. To what extent is this happening in real life in the ocean? Using online resources, give a specific example.
8. The "Tragedy of the Commons" describes how an individual will degrade natural resources by acting out of self-interest without concern for others. Besides fishing or hunting, give another specific environmental example of this "tragedy". Who is benefiting, who is hurt, and what is degraded?
9. Think of a specific school rule or law that exists because someone took advantage of the rules in the past for their own benefit, but to the detriment of others. What school rule or law fits this description? How is it similar to the "Tragedy of the Commons"?