



Tragedy of the Commons

Materials

- Bowls
- Tokens, beads, or beans (something small to represent fish)
- Data chart that can be used to record information (attached)

Prep

This activity can be used as a pre-lesson activity to get students thinking about the ways people consume resources. The goal of the activity is to teach students what can happen when renewable resources are depleted. Following the activity, Lesson 1 will develop on the idea of how human activities can significantly impact wildlife. The activity can be repeated post-lesson to see if students approach it any differently and if their perspectives on resource use have changed.

How to

- Divide the students into groups of four. Each group will receive a bowl which represents a lake with 16 fish (beans, beads, tokens, etc.) in the lake.
- Explain that each student will represent the head of a household who is fishing at the shared local lake to provide food for their family.
- Students will then take turns fishing in the lake. Each round 0-4 fish may be taken.
 - Rotate which student starts each round so that everyone has an opportunity to go first.
 - Make sure each student is aware of the following rules:
 - There should be no communication with one another as you fish.
 - If zero or one fish is taken, your family will be hungry.
 - If two fish are taken, your family will have just enough to eat.
 - If more than two fish are taken, they can be sold to earn money.
 - Data can be recorded in a table that has been included in the materials section, but this is optional.

- At the end of each round, the fish reproduce. Each fish can produce one more fish. Therefore, the number of fish in the bowl will double. Walk around to each group and make sure they have the correct number of fish before beginning each round. When there are no fish left in the lake, the activity is over.
- The activity can be completed several times. Allow students to communicate during one round to see if that has any effect on the outcome.
- Once each group has had a chance to go through the activity several times, including at least once with communication, pause to discuss the activity as a whole class. Ask students about their strategies for maintaining the population of fish in the lake.
- Prompt the students to consider if the activity is similar to how humans interact with the environment. Discuss what the ideas of sustainability and renewable resources mean.
- Reflect on the following items as a class:
 - Are there any parallels between natural resource use and sustainability in this activity?
 - What resources other than fish can be used up in this way?
 - Create a class list of natural resources that humans utilize in daily life.
 - Divide the list into renewable resources and nonrenewable resources.
 - Renewable resources are resources that can replace themselves within a human lifespan (animals, trees, water, etc.). Nonrenewable resources are resources that can't be readily replaced by natural means on a level equal to their consumption.
- Ask students if they think this activity was a true representation of how some people or communities overuse resources.
 - Ask students to list examples of resource overuse in the real world.
 - What consequences will there be if people do not include sustainable practices in their lifestyle?
 - How will communities be affected by this as a whole in the future?
 - Do you believe that the behaviors and lifestyles of people 100 years ago were more sustainable or less sustainable than today?
 - What are potential solutions or alternatives to this simulation? How can we change our actions to become more sustainable as a community?

Tragedy of the Commons Data Sheet

Round	Number of fish at the start of the round	Number of fish you caught	Number of people with not enough to eat	Number of people with just enough to eat	Number of people with a profit
1					
2					
3					
4					
5					
Total					