The Tragedy of the Commons
A Lesson on the Environment

Engaging the Learner

The concept of the Tragedy of the Commons, first coined by Garrett Hardin, is a very important idea for understanding the degradation of the environment.

Think about the recent oil spill in the Gulf of Mexico. See FAU/ Harbor Branch Oceanographic Institution and their work on the Gulf of Mexico oil spill.

http://www.fau.edu/hboi/oilspill_field.php

Exploring the Concept

Each one of you represents the head of a family that is starving. In order for your family to survive, you must catch enough fish for them to eat. The only food source is a small local lake that can hold up to 16 fish. You may name your lake.

Once a year you will get a chance to fish and each time you fish you may take 0, 1, 2, 3, or 4 fish from the lake. It is your choice how many fish you take, however, if you only take one fish, your family will starve. Keep the fish that you “catch” in front of you. (You will be able to eat them later)

At the end of each year your fish can reproduce. Simply double the number of fish that are left in the lake.

You are not allowed to talk or communicate while fishing!

Use your chopsticks (coffee stirrers) to catch your fish. You will fish for 15 seconds per year. Have one angler keep time.

Now you are ready to began fishing.

Fish for 5 years and fill in the Data Table for 1st game after each round.
Lake Name _____________________________

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Fish in the Lake</th>
<th>Total Number of Fish Caught at the Lake per Year</th>
<th>Number of Fish Left per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
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<td></td>
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<td>Year 3</td>
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<tr>
<td>Year 4</td>
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<tr>
<td>Year 5</td>
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</tbody>
</table>

1. Did anyone in your group take too many fish? How did that make you feel? Did everyone try to take as many as possible? Why or Why not? Does society reward those with the "most"?

2. Did anyone sacrifice the # of fish, for the good of the community? Why or why not? Does society ever reward that type of person?

**Continue to Game 2. Remember that you are not to talk or communicate while fishing.**

In this game, if you take more than 2 fish, you can sell them for a profit (or trade them for a different food).

The fish in your lake will reproduce once a year. Again, keep the fish that you catch so that you can eat them later.

Name of Lake ____________________________________

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Fish in the Lake (after Reproduction)</th>
<th>Total Number of Fish Caught at the Lake per Year</th>
<th>Number of Fish Left per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>16</td>
<td></td>
<td></td>
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<tr>
<td>Year 2</td>
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<td>Year 3</td>
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<td>Year 5</td>
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</table>
1. In Game two... **how** did your strategy change, if at all? Does it make a difference to know what the rewards are?

2. Is it possible to maximize the number of fish caught/person **AND** the number of fish remaining in the pond at the same time? Why or Why not?

3. Think of a **local commons** that you are familiar with. [parking lots, dorm social rooms, bathrooms, etc.] Do similar situations arise? Explain. **HOW** might those problems be solved?

4. What are some **natural resources** that are **common** resources?

5. What are the **global commons**? Are these being used wisely? Why or why not?

6. What can people do to use these resources most wisely and avoid the Tragedy of the Commons?

**Explaining the Concept**

In 1968, environmentalists coined a term or concept called the Tragedy of the Commons. The tragedy being the notion that any resource that is open to everyone – such as the air or parts of the ocean – will eventually be destroyed because everyone can use the resource but no one is responsible for preserving it. When people are not compelled to preserve resources for the welfare for future generations, the Tragedy of the Commons occurs.

**Elaborating on the Concept**

View the video or read the children’s book, The Lorax, by Dr Seuss. It was first published in 1971.

The video is available online at: [http://video.google.com/videoplay?docid=7915135816862639754#](http://video.google.com/videoplay?docid=7915135816862639754#).

How does the story of “the Lorax” relate to the “Tragedy of the Commons?”

How can you relate the “Tragedy of the Commons” concept to the issues involved in the global climate change debate?

**References**

Ocean World Resources,
http://oceanworld.tamu.edu/resources/oceanography-book/tragedyofthecommons.htm