**APES ~ TRAGEDY OF THE COMMONS ACTIVITY**

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| WHAT TO TURN IN: <br> Data Tables 1-3 <br> Discussion Questions 1-11 (you may write on the back of the printed data sheet) |

**INTRODUCTION**

The purpose of this simulation is to explore how resources are used and exploited when they are available to multiple parties. The tragedy of the commons is the situation in which individuals use a common resource for their own personal gain and degradation of the common resources results, leading to a decrease in yield for both the group and the individual. Sometimes the overuse is out of necessity; sometimes it is not. The use of common resources is a complicated issue. Who has rights to it? How are responsibilities shared?

**MATERIALS**
- Goldfish crackers (use marbles or beads for those who do not have crackers)
- Plastic bowls or cups
- Spoons or scoopulas

**PROCEDURE**

Divide into groups of 4-6. Each group should sit around the lake. The goal of this activity is to see how each of you will behave when resources are not privately owned.

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 which can accommodate 16 fish. You must fish by scooping up the fish from the lake with spoons or scoopulas.

You will get a chance to fish once a year, which lasts one minute for each person. Each time you fish you may take 0, 1, 2, 3 or 4 fish from the lake. You should rotate your fishing order every year so that everyone has a chance to go first. *It is your choice of how many fish you take, however, if you only take one fish, your family will starve.* If you take more than two fish, you can sell them for a profit. The fish in your lake will reproduce once a year. [See your teacher at the end of each year after everyone has a turn. Each remaining fish is able to spontaneously reproduce and make one new fish (four fish become eight, etc., to a maximum of 16)]. Keep the fish that you catch in front of you.

When your group runs out of fish, that round is over for all of you. You will move on to the next data table. The activity is done three times.

Do not comment to one another while fishing, unless a person who is not looking gets their fourth fish.

Part 1: go fishing with eyes open, facing front
Part 2: go fishing with eyes closed, facing front
Part 3: go fishing with  eyes closed, facing backward and reaching around

## DISCUSSION QUESTIONS

1) Did anyone in your group take too many fish?
2) How did that make you feel?
3) a) Did everyone try to take as many as possible?
   b) Why or why not?
4) Does society reward those with the most?
5) a) Did anyone sacrifice the number of fish, for the good of the community?
   b) Why or why not?
   c) Does society ever reward that type of person?
6) In part two... how did your strategy change, if at all?
7) Does it make a difference to know what the rewards are?
8) a) Is it possible to maximize the number of fish caught per person *and* the number of fish remaining in the pond *at the same time*?
   b) Why or why not?
9) Think of a *local commons* with which you are familiar.
   a) Do similar situations arise?
   b) Explain.
   c) How might those problems be solved?
10) What are some natural resources that are common resources?
11) a) What are the global commons?
    b) Are these being used wisely? Why or why not?
    c) What can people do to use these resources most wisely?

DATA TABLES on next page

Name _____    Initials of group members _____

**Data Table – Part 1 (eyes open, facing front)**

| YEAR | Number of fish in the lake (after reproduction) | Number of fish caught per person (list individually in order of turn) | Total number of fish caught per year |
|---|---|---|---|
| 1 | | , , , , , | |
| 2 | | , , , , , | |
| 3 | | , , , , , | |
| 4 | | , , , , , | |
| 5 | | , , , , , | |
| TOTAL | | | |

**Data Table – Part 2 (eyes closed, facing front)**

| YEAR | Number of fish in the lake (after reproduction) | Number of fish caught per person (list individually in order of turn) | Total number of fish caught per year |
|---|---|---|---|
| 1 | | , , , , , | |
| 2 | | , , , , , | |
| 3 | | , , , , , | |
| 4 | | , , , , , | |
| 5 | | , , , , , | |
| TOTAL | | | |

**Data Table – Part 3 (eyes closed, facing backward and reaching around)**

| YEAR | Number of fish in the lake (after reproduction) | Number of fish caught per person (list individually in order of turn) | Total number of fish caught per year |
|---|---|---|---|
| 1 | | , , , , , | |
| 2 | | , , , , , | |
| 3 | | , , , , , | |
| 4 | | , , , , , | |
| 5 | | , , , , , | |
| TOTAL | | | |