**MC900335608[1]MC900335608[1]TRAGEDY OF THE COMMONS: LAB ACTIVITY**

**Name(s):**  **Date:**

**BACKGROUND:**

Each of you is a local, commercial fisherman that fishes to feed your family and to make a profit. We will be simulating what happens in a real-life situation relating to the Tragedy of the Commons.

*\*\*What are* ***three*** *popular, edible fish species that are caught near the Seacoast of New Hampshire?*

**PROCEDURE:**

**1.** You must use your thumb and index finger as your “fishing pole”. You are not allowed to use both of your hands, only those two fingers on one hand.

**2.** Calculate the size of the fish population that lives in the ocean and enter that number into your “Round One” data table under the first column.

**3.** Your teacher will clearly signal when each fishing season starts and ends (30 seconds total). You can fish as much as you want during the fishing season but you cannot communicate to the other fishermen in your group. **You need at least two fish to feed your family and any more you can sell for profit.** Keep the fish you catch on the table in front of you.

**4.** After the fishing season ends, count the number of fish that each fisherman has caught and enter names and numbers into the data table’s second column. Then, add up the total amount of fish caught by everyone and enter it into the third column. Finally, count up how many fish are left in the population after the fishing season has ended, and enter that into the fourth column.

**5.** Before a second fishing season, your fish population will reproduce. Your teacher will come around and simulate this by restocking your population. Then, repeat the above procedure for a total of five fishing seasons.

**6.** After five fishing seasons, total all of your amounts in the final row of your data table.

**7.** Answer the following questions using **complete sentences**:

**a.** Did anyone fisherman catch significantly more fish than the others? How did that make you feel?

**b.** Did everyone try to catch as much as possible? Why or why not?

**c.** How did your fishing strategy change as you fished for five seasons?

**d.** Did anyone catch less fish *on purpose*, for the good of the whole fishing community?

**e.** Your teacher came around and simulated fish reproduction at the end of each fishing season. For every one fish left over at the end of the season, how many did your teacher add to the population?

**8.** You are going to fish another round, this time with some new rules.

* New Hampshire Fish and Game has now set fishing regulations. Despite the fact that there are strictly enforced fishing seasons, fish populations are still being overfished. They have decided that **from now on, during the fishing season, fishermen can only catch 4 fish total.** That leaves you with enough fish to feed your family and enough to turn a profit. \*You still can’t communicate to the other fishermen during this activity. \*

**9.** Repeat steps 2-6 for another round of five fishing seasons. This time, record your data in the second data table.

**10.** After Round Two is complete, answer the following question using complete sentences:

**a.** How did the new fishing regulations affect the fishing outcomes?

**b.** How did your fishing strategy change this round?

**c.** Is it possible to maximize the number of fish caught per person **AND** the number of fish remaining in the ocean **at the same time**? Why or Why not?

**d.** What are some strategies that might have helped you to both maximize the amount of fish caught while also maintaining a healthy fish population in the ocean?

\*Be prepared to share your answers with the class.\*

**DATA TABLES:**

**ROUND 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of fish in the ocean to start:** | **Number of fish caught per person and name of person:**  **(EX: 9-Jane)** | **Number of fish caught TOTAL**  **(by everyone):** | **Number of fish left in bowl after fishing season:** |
| **First Fishing Season:** |  |  |  |  |
| **Second Fishing Season:** |  |  |  |  |
| **Third Fishing Season:** |  |  |  |  |
| **Fourth Fishing Season:** |  |  |  |  |
| **Fifth Fishing Season:** |  |  |  |  |
| **TOTAL AMOUNTS:** |  |  |  |  |

**ROUND 2:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of fish in the ocean to start:** | **Number of fish caught per person and name of person:**  **(EX: 9-Jane)** | **Number of fish caught TOTAL**  **(by everyone):** | **Number of fish left in “ocean” after fishing season:** |
| **First Fishing Season:** |  |  |  |  |
| **Second Fishing Season:** |  |  |  |  |
| **Third Fishing Season:** |  |  |  |  |
| **Fourth Fishing Season:** |  |  |  |  |
| **Fifth Fishing Season:** |  |  |  |  |
| **TOTAL AMOUNTS:** |  |  |  |  |

**Tragedy of the Commons Lab: Follow-Up Questions**

Using information from the lab today, answer the following questions in *complete sentences*.

**1.** A “commons” is a shared space or resource, like the Atlantic Ocean or your living room. Write down the name of another commons that you are familiar with: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**2.** Now remember the problems you encountered during our fishing lab when multiple people tried to share a commons (the fish). Do any of these same problems arise in the commons you wrote down above? Why or why not? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

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**4.** Are these being used wisely? Why or why not?

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**5.** What are two things people can do to use these resources most wisely?

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**6.** Why do you think shared resources are often overexploited or polluted?

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