

Name:

Date:

## Tragedy of the Commons

### Introduction:

Imagine you own a fishing boat, and fish for a living in a pond. The other members of your group also fish for a living. After each year of fishing, the remaining fish reproduce to double their numbers (i.e. two fish become four) up to a maximum of 20 fish. Each person is allowed to take as many or as few fish as you like, but your family requires two fish to survive. Any additional fish you catch could be sold for profit.

For this simulation, the table is your pond, and the M&Ms are the fish. Fish are caught using straws. Each person in your group will fish one at a time for 15 seconds, and the order will rotate after each round. After each round, the number of fish remaining in the pond doubles.

Fill out the data tables, then answer the analysis questions as a group.

### Part 1: Simulation Part A

- You **CANNOT** communicate with other members of your group *in any way*.
- Remember: your family requires 2 fish to survive, and any additional fish you catch can be sold for profit.
- Rotate who goes first after each round

Group member's name	Number fish caught Year 1	Number fish caught Year 2	Number of fish caught Year 3	Number of fish caught Year 4	Total Fish caught (Individually)
<b>Total fish caught (collectively)</b>					

- Did you have a strategy for Part 1 of this task?

### Part 2: Tragedy of the Commons

Use the videos ([#1](#) and [#2](#)) to answer the next questions

1. Explain the idea of the “Tragedy of the commons.”

2. What are possible solutions to the “Tragedy of the commons?”

**Part 3: Simulation Part B**

- This time, your group may **talk to each other** and plan a strategy.
- Remember: your family requires 2 fish to survive, and any additional fish you catch can be sold for profit.
- Rotate who goes first after each round

<b>Group member's name</b>	<b>Number fish caught Year 1</b>	<b>Number fish caught Year 2</b>	<b>Number of fish caught Year 3</b>	<b>Number of fish caught Year 4</b>	<b>Total Fish caught (Individually)</b>
<b>Total fish caught (collectively)</b>					

What was your group's strategy or plan going into Part 2?

#### **Part 4: Analysis**

3. What happened in Part A? Why?
4. Did anything different happen in Part B? Why?
5. What do you think the best strategy would be for fishing in the pond?
6. The video discussed three possible solutions to the Tragedy of the Commons. Which did we model here? How could we have incorporated other solutions?
7. How does our simulation relate to the real world? Give at least two concrete examples.

## Graphic Organizer-Socratic Seminar Preparation

Question	Your Answer	Evidence and/or Reasoning to Support Your Answer
How do you define sustainability?		
Should moving towards sustainability be a priority? Why or why not?		
What best describes your worldview on Environmental Ethics? Why?  <i>ervation, Preservation, pment, Bio/Eco/Anthropocentric</i>		
What is an environmental ethic viewpoint that you disagree with? What is the strongest argument FOR this ethic?		
What are some ways that we can prevent tragedies of the commons?		

Question	Your Answer	Evidence and/or Reasoning to Support Your Answer
Name one specific environmental problem you have researched in this project. What do you think the best solution to this problem is?		
Something I feel very strongly about related to sustainability is _____. Why is this important?		
What is the biggest challenge we face to becoming sustainable in your lifetime? What would it take to overcome that challenge?		
What is one issue or perspective that you think should be part of our discussion?		
<i>Write a question of your own:</i>		

*Write a question of your own:*

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## **My Environmental Outlook Essay**

***Directions:*** Write 1-2 pages (single spaced) answering the following prompt. Don't forget to use your work in Checkpoint 2 to help you get started!

***Prompt: What experiences, attitudes, and perspectives do you bring when considering environmental science issues?***

**YOUR ESSAY:**

## Self Assessment - My Environmental Outlook Essay

*Directions:* Evaluate where you think this essay falls on this rubric. Write your score and **the reason you think you deserve this score** underneath the rubric. *Tip: If this is your final draft, reference changes that you made based on any feedback you received on your earlier version(s). How does your final draft reflect your growth in this skill?*

### Narrative

(Adapted for My Environmental Outlook Essay)

4	5	6	7
<p>Orientation (including point of view) and/or organization of experiences and events are clearly established; organizational sequence is logical, coherent, and/or unfolds naturally; where appropriate, multiple narrative techniques are used (e.g., description or reflection); description includes some precise vocabulary and some details; conclusion generally follows from the narrated experiences/events.</p>	<p>Orientation (including point of view) and organization of experiences and events are clearly established; organizational sequence is logical, coherent, and unfolds naturally <b>and smoothly</b>; where appropriate, multiple narrative techniques are used <b>effectively</b> (e.g., description or reflection); description includes <b>precise</b> vocabulary and, where appropriate, <b>vivid details</b>; conclusion <b>clearly follows from the narrated experiences/ events</b>.</p>	<p>All of Level 5, plus: <b>Uses a variety of techniques to sequence sections of your essay so that they build on one another to create a coherent whole, a particular tone, mood, and/or a specific conclusion.</b></p>	<p>All of Level 6, plus: <b>Uses narrative techniques to provide deep insight into your environmental outlook (your personality, experiences, motivations, significance of events, etc.) Develops multiple storylines, and makes reasoning visible.</b></p>

Score:

Rationale:



# STAND UP!

We're going to play a round of

<<-----AGREE

DISAGREE ----->>

# Agree/Disagree

- We have different perspectives!
- For each slide, read the statement. Then move to the side of the room that best matches your reaction (agree/disagree).
- Afterwards, turn to one person standing near you. Why did you choose that spot?
- Be prepared to share your partner's thoughts
- Skills you are practicing:  
**Discussion/Contribution** and  
**Norms/Active Listening.**

<<-----AGREE

DISAGREE ----->>

Improving human welfare in the short term should be our primary concern,  
**even if it has long-term consequences for future generations.**

<<-----AGREE

DISAGREE ----->>

Improving human welfare should be our first concern, but we should also try to minimize environmental damage to improve the **welfare of future human generations.**

<<-----AGREE

DISAGREE ----->>

We should minimize negative impacts on other organisms and ecosystems, but only **because humans rely on them for our own well-being.**

<<-----AGREE

DISAGREE ----->>

**Other living organisms have some right to exist, and though we should prioritize human well-being, and we should try to reduce the negative impacts of human activity on other species whenever possible.**

<<-----AGREE

DISAGREE ----->>

We should minimize negative impacts of human activity on other organisms, *even when it does not benefit humans* in any way, **because all living things have inherent value and a right to exist.**

<<-----AGREE

DISAGREE ----->>

We should act to preserve whole ecosystems (both living and non-living parts of the environment, and the relationships between them), **even when that means sacrificing human interests.**



<<-----AGREE

DISAGREE ----->>

When a small scale farmer in a developing nation cuts down a patch of rainforest in order to grow food, **that action is environmentally unethical.**

<<-----AGREE

DISAGREE ----->>

**If we can move threatened wildlife to suitable new habitats (like a preserve or a zoo), it would be okay to change their ecosystem for human purposes.**

<<-----AGREE

DISAGREE ----->>

There are obvious solutions to most environmental problems, **people just need to do the right thing.**