

APES  
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Name:

## FISHING FOR THE FUTURE

The world's fisheries are under more pressure than ever before. From 1950 to 1990 there was a fivefold increase in the world annual fish catch. Today, 70 percent of the planet's marine stocks are fully exploited or over exploited.

The number of people fishing and practicing aquaculture worldwide has doubled since 1970. The technology used to catch fish and the number of fish caught per fisher varies greatly. Modern fleets are the most environmentally destructive, as they use such modern technologies as radios, seafloor maps, and video sonar to track schools of fish.

You are a fisherman (or woman) in the Pacific Ocean. However, with all of the changes in the world today, how will the oceans continue to stay healthy and full of fish? Changes in fishing technology and environmental legislation can greatly alter the make-up of ocean life. As our human population continues to grow more and more people rely on fishing as a major industry and food source.

In this activity you will be recording the number of fish you individually catch as well as the change in population in your ocean after each fishing season. From this data you will need to assess how your ocean can become a more sustainable ecosystem and your business can continue to be prosperous.

1 M&M = 1 fish

1 pretzel M&M = major game fish such as tuna or swordfish

Fish will reproduce seasonally; by counting the fish left after each season you will be able to replenish your fish. Restock your ocean accordingly after each round.

While fish populations are important, fishing is also an industry. If you are fishing in order to support your family, you will need to be relatively successful at fishing in order to pay the bills and feed your family. If you cannot catch at least three fish in a season, your family was not able to live off of your meager earnings and did not survive the long months where you made no money. Therefore, you are no longer fishing in the ocean. However, for sake of the activity you still need to record information about the health of the ocean.

Materials:

Straw for each person

Small cup of M&Ms for each person

Bowl to start with ( 20 plain M&Ms and 10 pretzel M&Ms)

1. How did you feel when your ocean was depleted?
2. What happens to a resource when you have infinite population growth, growing technology, and a finite resource?
3. What aspects of the real world and fishing industry are missing in this simulation? How could it be more realistic?
4. What does this game have to do with the Tragedy of the Commons?
5. Are there any commonly owned resources in our region or community? If so, what are some similar issues around them, and how can they best be managed?