Team Number: MELHS 34

School Name: Melrose High School and House Jr. High

Area of Science: Ecology and Oceanography.

Team Members:

Problem Definition:
Our project is about how jellyfish live in three levels of the ocean. The problem that we are trying to solve concerns how the jellyfish population exists at different habitat levels with sea turtles as one of their predators. We want to learn if jellyfish can populate fast enough so that when sea turtles feed on them they won't go extinct. Plankton -jellyfishes' main food source- are found at the top level of the ocean, and if some jellyfish float with the current and others swim, then how will the population growth differentiate if they can't get food in a specific amount of time. We would like to test, and see if jellyfish population will decrease if they can't get enough food, and if the sea turtles kill them off to fast.

Problem Solution:
To solve this problem we will be using the NetLogo program to use the variables of: depth, plankton numbers, jellyfish movement based on spaces type, and to set turtle population number. The model will show the species interactions and how they react and use each other.

Progress to Date:
We have done research about our project on the internet and YouTube. We have found the basic facts and information to use in our program. Our team has started to make a NetLogo model with agents representing the different organisms.

Expected Results:
We intend to end with a working model to help demonstrate how a jellyfish ecosystem works. This will be a spring board for us to make a more detailed ocean model with additional species in the future. How could your program help scientist maintain jellyfish populations?

Citations:
Melrose High School library:

The Ocean World of Jacques Cousteau- Vol 3- Danbury Press- 1975

Internet:

YouTube video by Free School.

Jellyfish website: factretriever.com, marinecareers.net,

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