Assignment Handout

Predator-Prey Assignment

Your goal is to learn more about how predators and their prey interact by using a computer program. By the end of the assignment, you should be able to read a graph and explain what happens when the number of prey increases and when the number of predators increases.

There are four options for the assignment. In your groups, you should choose the assignment that challenges you but is also achievable before the due date.

Tier 1 – Guess what might happen if the number of predators increased. Then guess what would happen if prey increased. Justify your guesses.

You will then use the program provided to input numbers so that you can graph what happens over time for predators and prey.

Tier 2 – Write out the steps a computer program would have to take to figure out what would happen to an ecosystem if the number of predators increased. Then write out the steps to figure out what would happen if prey increased.

You will then use the program provided to input numbers so that you can graph what happens over time for predators and prey.

Tier 3 – Write your own code! Write code to figure out what will happen to predators if the number of prey increases and vice versa. The variables you will need to use are time, number of predators, number of prey, growth of prey, and growth of predators.

You will then use your program to input numbers so that you can graph what happens over time for predators and prey.

Tier 4 – Be creative! Use computer coding software to create something that demonstrates how biotic and/ or abiotic factors interact in an environment.
For example https://www.codesters.com/preview/ef72685cc1054a30aab873f67ca804dc/

Guiding Questions:
How are predators and prey related?
What does a computer model do?
What will you keep the same when inputting numbers for your graph? Why?
What are the titles for your graph? HINT: there should be two lines, one for the number of predators, and one for the number of prey.
What do you notice about the predator-prey graph?