**Lab 1: Protective Colouration and Survival**

**Problem:** Does the colour of an organism affect the organism’s chance of survival?

**Hypothesis:** Answer the problem with an educated guess. Use scientific reasoning to justify what you think will happen.

**Procedure:**

1. Split your group into three roles (3 predators, 1 recorder and 1 monitor).
2. The *monitor* will set up the ecosystem with 20 prey from each of the three colors. Space them out randomly across the ecosystem.
3. The *recorder* will mark down the number of each prey in the table for generation 1.
4. Have the *predators* take turns removing one prey at a time until there are only thirty left in the ecosystem (so each *predator* removes ten each)
5. The *recorder* will then mark down the number of survivors for that generation in the table.
6. Once this is done, have the *monitor* add on a new prey for each survivor (so a yellow would mean you add a yellow, a red would mean add a red). Place the prey randomly throughout the ecosystem. There should be sixty on the board.
7. Have the *recorder* mark down the number of prey for the next generation.
8. Repeat steps 4-7 until five generations are recorded.

**Observations:** Copy the chart from pg. 22.

**Analysis: (*Graph*):** Create a triple line graph to display the data over 5 generations. Remember to use a ruler and make sure your graph is labeled and has a title!

**Conclusion:** In paragraph form, discuss the following:

* Answer the problem. Back it up with data from the lab.
* Discuss if your hypothesis was correct, why or why not?
* Discuss how accurate a representation this type of simulation is. What are some problems with the experiment? How could it be made better in the future?
* What other elements could be added to the experiment to gain further understanding?

**Applying and Connecting:** For the particular ecosystem you are working with, research which organisms are present. Draw a food web that includes at least one predator and three prey (with one who has colour adaptions to help survival) for your ecosystem. Make sure to include their common name as well as their scientific classification (genus and species)