Wooly Worm Lab

Leilehua High School has just been invaded by a new kind of pest called the wooly worm. It comes in many different colors and loves to hide in the grass. Right at this moment, scientists are trying to find a way to get rid of these worms. They are testing two types of birds to see if they can help control the worm population. The beaker tong birds are the large beak birds, while the forceps birds are the small beak birds. The scientist need to find out which of these two birds is more efficient at getting rid of the worms, and which worm color is the most difficult to catch for the birds.

Materials
6 beaker tongs (large beak bird)
6 forceps (small beak bird)
12 plastic cups

Procedures
1) The class will be divided into large beak birds (beaker tongs) and small beak birds (forceps). Members within a group will find a partner to work with. One partner will be the hunting bird (has the beaker tongs or forceps) and the other will be the collecting bird (has the plastic cup). The hunting bird will hunt wooly worms and give it to the collecting bird to hold on to. The roles will alternate with each hunting season.

2) Wait on the sidewalk outside the classroom. When your teacher gives the signal, the hunting birds will capture wooly worms for 30 seconds and will give the worms to the collector bird to hold.

3) When the 30 seconds are over, return to the classroom and record on your table how many worms of each color you captured. Record this data on the class data table (further instructions will be given as to how to do this).

4) The surviving wooly worms will asexually reproduce and become two worms. These worms will distribute randomly in the grass.

5) The 30 second hunting season will again repeat follow steps 2-4 three more times.
Clean up by helping your teacher capture any remaining wooly worms. Return all materials to the proper place.

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Pre-lab Questions
1) Which wooly worm do you think has the best trait for the environment? Explain why.

2) Create a hypothesis based on your inference on which wooly worm you think has the best traits for survival.

3) Which bird do you think has the best trait for capturing wooly worms? Explain why.

4) Create a hypothesis based on your inference on which bird you think has the best traits for survival.

Graph: Using the class data, construct two graphs
1) Prey fitness (**line graph**)   X-axis: generation number   Y-axis: number of prey surviving
2) Predator fitness (**bar graph**)X-axis: type of bird   Y-axis: total prey caught

Post - Lab Questions:
1) Which **wooly worms** were best suited for survival in this environment? Why?

2) Which **wooly worms** were least suited for survival in this environment? Why?

3) Which type of **predator** was best suited for capturing wooly worms? Why?

4) What factors contributed to the survival of the **worms** besides color? Why?

5) What do you predict the F4 population would be like? Why?

6) What is natural selection? Explain using your own words.

7) What is protective coloration? Use the wooly worms as an example in your explanation.

Conclusion
1. Brainstorm and fill in the following conclusion chart
2. Use what you came up with to write two conclusive paragraphs in the claim, evidence, reasoning format

	Claim	Evidence	Reasoning
Worm Survival Fitness		1. 2.	1. 2.
Bird Predator Fitness		1. 2.	1. 2.