Appendix F

Camouflage Lab

In this lab, you will model "paper bugs" with color acting as camouflage against a predator. You will analyze the impact of color on bugs' visibility. Then, you will determine the population-level benefits of having a variety of traits as the environment changes.

In groups of two, one person is in charge of setup and timing. The other person acts as the predator. With the predator facing away, the partner in charge of set up will lay 10 red, 10 white, and 10 green paper squares on the red section of your paper. The predator will then turn and find as many paper squares as possible in five seconds. The predator may collect only one at a time. As a visual hunter, the predator is choosing those that are easiest to see. Record how many of each are found below.

Green	Red	White

Which color did you collect the most of? _____

Which color did you find the least of? _____

Why do you think your results turned out this way? _____

_____

_____

Let's look at the data of other groups to compare. Compile your data with two other pairs' data below and find an average.

	Green	Red	White
My data			
Other pair #1			
Other pair #2			
Add up all three numbers above			
Divide the number above by 3 to find your average			

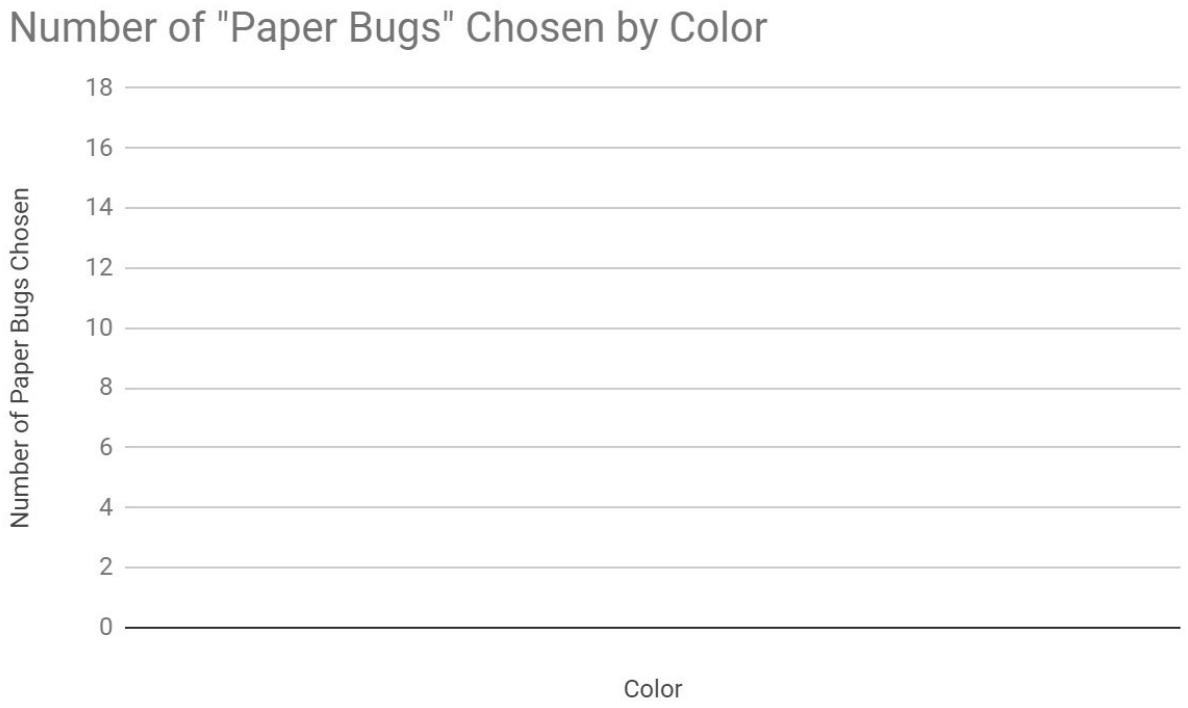
Were the averaged results the same as yours? _____

Why do you think that is? _____

_____

_____

Create a bar graph of your averaged results below.



Which color “paper bug” is most likely to be eaten by the predator? Why? _____

_____

_____

Which color “paper bug” is most likely to survive? Why? _____

_____

_____

What do you think future generations of “paper bugs” will look like? Explain your thinking.

_____

_____

Now, we are going to consider what happens if the “paper bug” is slowly pushed out of its environment and into a different environment. Consider switching roles in your partnership. The partner in charge of setup will lay 10 red, 10 white, and 10 green paper squares on the red and and green striped section of your paper. The predator will then turn and find as many paper squares as possible in five seconds. The predator may collect only one at a time. As a visual hunter, the predator is choosing those that are easiest to see. Record how many of each are found below.

Green	**Red**	**White**

Which color did you collect the most of? _____

Which color did you find the least of? _____

Why do you think your results turned out this way? _____

_____

_____

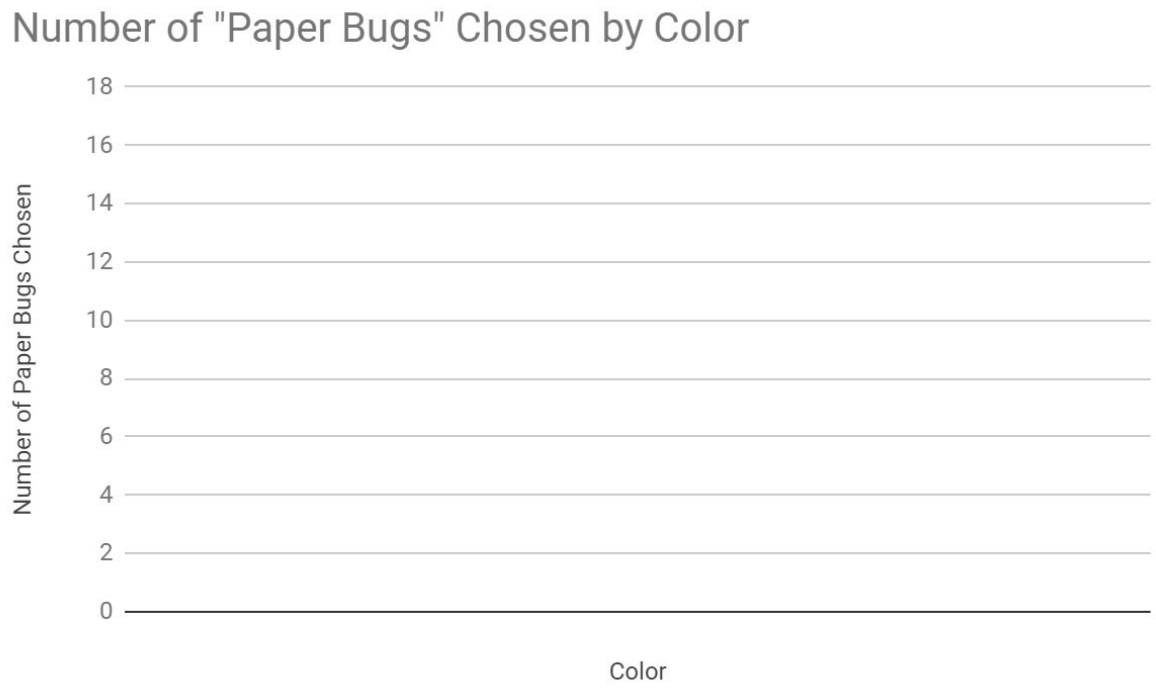
How is this different from your results in the last round? _____

_____

_____

Create a bar graph of your results below.

Create a bar graph of your results below.



Which color “paper bug” is most likely to be eaten by the predator? Why? _____

_____

_____

Which color “paper bug” is most likely to survive? Why? _____

_____

_____

As the environment changed, how do you think the variety of traits benefitted the paper bug? _____

_____

_____

Now, we are going to consider what happens if the “paper bug” is slowly pushed out of its environment and into another different environment. Consider switching roles in your partnership. The partner in charge of set up will lay 10 red, 10 white, and 10 green paper squares on the green section of your paper. The predator will then turn and find as many paper squares as possible in five seconds. The predator may collect only one at a time. As a visual hunter, the predator is choosing those that are easiest to see. Record how many of each are found below.

Green	**Red**	**White**

Which color did you collect the most of? _____

Which color did you find the least of? _____

Why do you think your results turned out this way? _____

_____

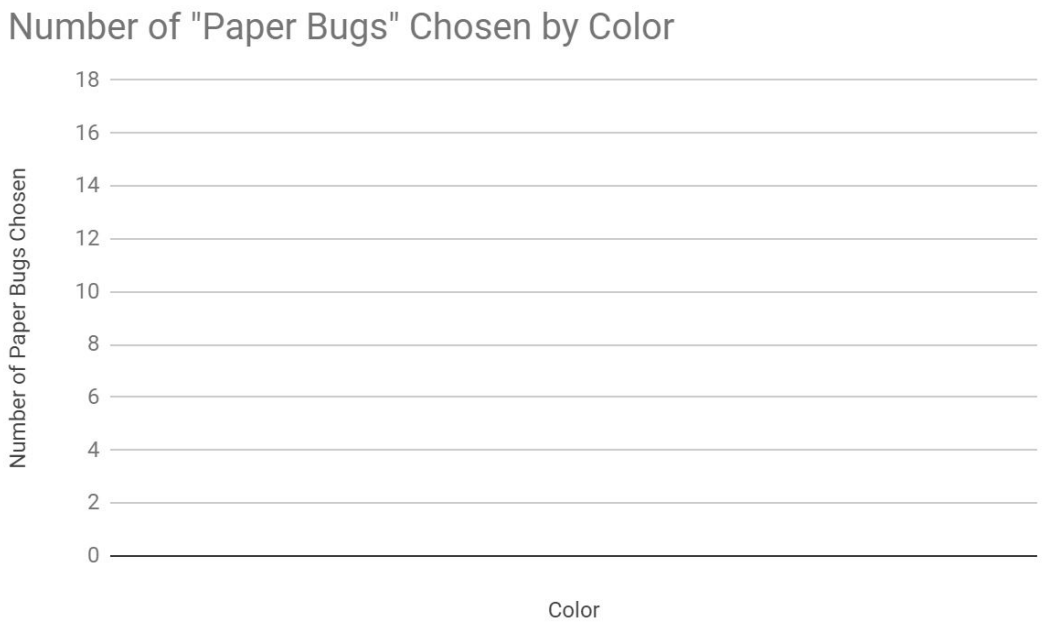
_____

How is this different from your results in the last round? _____

_____

_____

Create a bar graph of your results below.



Which color “paper bug” is most likely to be eaten by the predator? Why? _____

_____

_____

Which color “paper bug” is most likely to survive? Why? _____

_____

_____

As the environment changed, how do you think the variety of traits benefitted the paper bug? _____

_____

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Much like the “paper bug” expanded its territory, alligators also have expanded their range into Tennessee. How are are they able to make this change?

_____

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_____