Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Natural Selection: Wooly Worms

**Purpose**

In this lab, you will play a hungry bird searching for a meal. You diet consists of “wooly worms.” The population of wooly worms has been found in five different colors. After a feeding period, you will evaluate how the population and species color will change over time.[[1]](#endnote-1)

**Background**

While evaluating your data, consider Darwin’s theories about how population is shaped by natural selection. Natural selection is based on the following ideas:

1. More organisms are born than the environment can support.
2. There is competition for limited natural resources (food, water, shelter, space).
3. Variety exists within a species (color, size, speed).
4. Those with the successful variation live to reproduce, thus passing those genes for that favorable variation on to their offspring.

**Procedure**

 **Materials**

1. “Wooly Worms” (Yarn cut in 1” sections)
	1. Blue (50)
	2. Red (50)
	3. Brown (50)
	4. Green (50)
	5. Yellow (50)

**Sequence of steps**

1. Your teacher will spread worms out over one eating area (preferably outside).
2. When signaled by your teacher, collect as many worms as possible. It is important that you only pick up one at a time.
3. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Stop when your teacher indicates to stop.
4. Record your data below under “First Generation”
5. Now, the number remaining reproduces to create a second generation.
6. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Each wooly worm can reproduce and create two new worms. Calculate new population after the remaining population of first generation reproduces.
7. Record your data below under “Second Generation”
8. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Answer analysis questions.

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 **Data Table: First Generation**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Color of Wooly Worm*** | ***Initial Population*** | ***No. Eaten*** | ***No. Remaining to Reproduce*** |
| **Blue** | **50** |  |  |
| **Red** | **50** |  |  |
| **Brown** | **50** |  |  |
| **Green** | **50** |  |  |
| **Yellow** | **50** |  |  |

**Data Table: Second Generation**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Color of Wooly Worm*** | ***Population after the Feeding Period*** | ***No. Produced by Reproduction***  | ***New Population*** |
| **Blue** |  |  |  |
| **Red** |  |  |  |
| **Brown** |  |  |  |
| **Green** |  |  |  |
| **Yellow** |  |  |  |

**Analysis Questions:**

1. What factor determined who got eaten?
2. What color is dominating in the new population? What influenced this change in the population?
3. In this environment, what will eventually happen to the population of “wooly worms”?
4. In a desert environment, would the same result occur?

5. Compare this lab to real life. Explain how natural selection occurs, using one specific animal as an example.

**Teacher Notes:**

When you spread the yarn “wooly worms” outside, preferably on a grassy area the more natural colored ones (brown/tan, pale yellow, green) tend to blend in and the kids don't see them as easily.  They get the brighter ones right away.  Time the students, just giving them a minute or 2 or 3, depending on the size of the plot you used to spread the worms, and then go back inside the classroom to count up the worms.  The kids see that the ones that blended into the environment got picked up "eaten" at a lower rate because of the camouflage effect.

1. Sperling, Jill (2008). Wooly Worms. *Kingsburg High School Agriculture Department* [↑](#endnote-ref-1)