

Natural Selection and Evolution Essay Prompt #1



Coral snakes are brightly colored snakes that are extremely venomous. Their bright colors warn off potential predators. The predators avoid the bright colors (and the venom). In the Sandhills of North Carolina, there is a Coral snake imposter. The non-venomous Scarlet King snake has similar red, yellow, and black rings but does not have the same venomous bite. Evolutionary biologists have found evidence that the Coral snake has looked this way at least a million years, but the Scarlet King snake has only had its brightly colored and striped appearance for a few thousand years. Before that, the King snakes were brown and black striped.

PROMPT: Describe how the original population of brown/black King snakes evolved over time into the Scarlet King snakes.

Criteria for Success:

Criteria	Points available (Honors)	Points available (On Level)
The variation in the population and the cause of that variation is identified.	2	3
The selective pressure is clearly identified.	2	2
The fitness of the different variations is compared, with a clear description of why one variation is more fit.	2	3
There is a clear description of how the selective pressure lead to the change in the population over time.	3	4
Academic language and accurate scientific principles are used.	1	1
Total points	10	13 (but maximum of 10 in the gradebook)

Natural Selection and Evolution Essay Prompt #2



Recreational fishermen have frequently had success off the coast of Key West, Florida. In the 1960s (first picture), recreational fishermen routinely pulled in Groupers (a type of fish) that were 4 to 5 feet long! Because of the amazing fish that were being caught, recreational (and commercial) fishermen flocked to the Key West area. By the 1980s (second picture), the Groupers that were being pulled out of the water at the same spot were still large, but only reach 2.5 feet at their longest. In 2012 (third picture), the Groupers that recreational fishermen were catching were a small 1 to 1.5 feet long.

PROMPT: Describe how the original population of 5 ft long Groupers evolved over time into the 1.5 ft long population.

Criteria for Success:

Criteria	Points available (Honors)	Points available (On Level)
The variation in the population and the cause of that variation is identified.	2	3
The selective pressure is clearly identified.	2	2
The fitness of the different variations is compared, with a clear description of why one variation is more fit.	2	3
There is a clear description of how the selective pressure lead to the change in the population over time.	3	4
Academic language and accurate scientific principles are used.	1	1
Total points	10	13 (but maximum of 10 in the gradebook)