Mrs. Clelland – 9th Grade Biology

**Study Guide Notes Standard 5, Objective 1 Evolution and Classification**

**Environmental Factors**

* Examples – *Predation, Catastrophe, Climate Change, Competition, Disease, Separation, Geographic Isolation*
* Environment does not cause mutations or genetic variability to happen.
* Environment takes advantage of mutations or genetic variability already there.
* Video Clip – *Selection for Tuskless Elephants*

**Selective Breeding**

* Examples – *livestock, pigeons, dogs, cats, pets, zoos*
* Artificial selection
* Humans use animal breeding and plant breeding to selectively develop particular phenotypic traits (characteristics).
* Humans choose which males and females will sexually reproduce and have offspring together.
* *FFA Projects – sheep*
* *Current Science Event – Selective Breeding*

**Natural Selection**

* Process where organisms better adapted to their environment tend to survive and produce more offspring.
* First expounded by Charles Darwin.
* Main process that brings about evolution.
* Examples – Darwin’s finches (beaks), peppered moths (black/white), Birds of Paradise (songs, mating rituals, bright colors)
* *Teddy Grahams Activity*
* *Survival of the Flattest Activity*
* *Evolution of Canis pedatus Worksheet*
* *Birds of Paradise Project (Cornell Ornithology Lab) – Computer Lab Interactives* [*http://www.birdsofparadiseproject.org/*](http://www.birdsofparadiseproject.org/)
* *Natural Selection Worksheet – Evolution by Natural Selection (Peppered Moth)*

