Animal Evolution Project

For this project you will research the evolutionary history of a modern organism. You may work in groups of two. You will be expected to find the modern organism’s earliest ancestors and describe in general terms how your organism has evolved. Since Darwin argued that each organism met the test for survival you should be able to describe some of the adaptations which define your organism. You should also provide a timeline for your organism’s evolution. You will also determine what adaptations your animal would have to make if your animal was placed in a different environment.

Step One: Animal Profile –

- **FIRST:** You must define an adaptation. What is it? What are some examples in nature?
- Identify your organism physical & behavioral adaptations and explain their functions (i.e. how does each adaptation promote the organism’s success in its environment?) size, weight, identifying characteristics. Explain how your animal has evolved over time.
  1. Where in the world is your organism found? Does it migrate?
  2. Describe the animal’s habitat.
  3. It’s adaptations to the habitat: What aspects of this organism’s anatomy, physiology, and behavior allow it to survive and thrive in its habitat? What is it about where it lives that makes it need the adaptations?
  4. Interactions with other species:
     - What are its primary prey species? Is your organism a generalist feeder or a specialist feeder? A carnivore, herbivore, or omnivore?
     - What are its primary predators?
     - With what other species does your organism compete for resources?
     - Is there any information about other species that coexist with yours (e.g. cooperative or parasitic relationships)?
  5. Adaptations to interactions: What aspects of this organism’s anatomy, physiology, and behavior help it obtain prey? How about defending itself and/or eluding predators? Out-competing other species for a resource?

Step Two: Changes to Environment

- Select a new environment for your organism to live in.
- Explain the environmental changes (climate, biomes, predators, prey, other species) that you placed your animal in.
  1. What are the changes to your organism diet?
  2. Determine what impact the changes will have on organisms with which your animal interacts, e.g. predators, prey, competing species etc.
  3. Will the above changes cause the population of these other organisms to increase or decrease?
  4. Explain the changes in your organism in terms of their adaptations so that they can survive in their new environment.

Final Product:

- You may present your finished project as a poster, as a power point presentation (to create a powerpoint on the chromebooks, you may use google slides), or another creative way approved by the teacher.

Must contain:

- Baseline descriptions of environment and organism.
- At least four evolutionary changes in your organism resulting directly from environmental changes.
- Examples of both physical AND behavioral adaptations.
- A detailed explanation, in terms of natural selection and other forms of evolution, of how each adaptation arose and was maintained in the population.
- A detailed timeline of the stages of evolution of your organism.
- Images for three stages in the evolution of the organisms.
- Images of the animal’s habitat, as well as pictures of the adaptations that the animal has developed over time.

Due Date: Thursday, October 15th 2015

*This project is worth ~15% of your 1st Quarter grade. A missing project may result in a failing grade for the quarter.*