



Introduction:

Evolution is a never-ending process of biological adaptation.

What if sudden climate change were to occur? Would animals around the world be able to adapt? Consider the Ostrich; What evolutionary changes would be necessary for the ostrich to survive in a new habitat:

- a winter arctic-like habitat;
- a marshy habitat;
- a tropical forest habitat...

Task:

The loss of natural habitat usually results in the extinction of a species. You will be bioengineering a new version of the ostrich that will be able to adapt to severe changes to the animal's native habitat. In a sense, you will be giving the ostrich an Extreme Makeover.

Process:

Part A

1. Does the ostrich fly? Why does it have wings?
2. Why does the ostrich have a long neck? How is this trait advantageous to the ostrich?
3. What impact might your animal have on the food chain within this new habitat?

Part B

Where is man's footprint on the natural habitat of the ostrich?

1. Download the habitat worksheet, and review the questions.
2. Proceed to the "Home on the Range" an interactive map to learn more about the African habitat of the ostrich.
3. Do more exploration of satellite images and maps by Exploring Google Maps.

Part C

Use the Task Tips Guide to decide on the roles that each person will play (lead investigator, habitat expert, forensic artist, audio-visual expert) in the completion of this task.

Extreme Ostrich Makeover : Role Cards

Each group member will be assigned one of the following roles:

Lead Investigator

- restate the task to ensure the team's understanding of expectations
- coordinate the team's attempts to apply their knowledge of adaptations, habitat, food chains, classification of organisms
- encourage participation by all team members in selecting of an appropriate 'Makeover Model'
- ensure that assigned tasks are in line with the interests and abilities individuals in your group

Habitat Expert

- become familiar with the assigned or chosen habitat for your new ostrich
- research the interrelationships among plants and animals in the selected habitat
- collaborate with teammates in deciding which adaptations would be necessary for your ostrich to fit into the natural 'community'
- work with the Forensic Artist to ensure that mock-ups of the new ostrich are suitable

Forensic Artist

- Gather opinions of your teammates regarding the real characteristics and habits of your and brainstorm potential adaptations for your ostrich
- prepare mock-ups (drawings) of what you expect the new ostrich to look like
- prepare electronic drawings using a paint program, Flash, KidPix, Photoshop Elements
- with help from your teammates, prepare a model, puppet, cartoon, or diorama (use papier mache, paint and paper, digital art tools,

Audio-Visual Expert

- become familiar with presentation software (PowerPoint, HyperStudio, Corel Presentations, Star Office...)
- effectively layout the slides with titles, images and words
- use a camera to include images of your new ostrich (model, drawings...)
- communicate with team members to ensure each person understands their role in the presentation of your ostrich
- select appropriate background music, and sound effects for the presentation

Resources:

Student page

Parent page