Wolf Adaptations

Introduction: Students will create a new wolf that can survive in a fictional habitat. This lesson will take one 80 minute class period plus 1 night of homework.

This can be done prior to or after playing *WolfQuest*.

Objectives:

At the end of this activity, the student will:

1. Identify the importance of adaptations.
2. Identify adaptations and the importance to the organism's survival.

Procedure:

1. Project an image of a gray wolf (full body) onto the wall/whiteboard.
2. Handout out a paper copy of image to students to write on.
3. Define adaptation to the class.
4. As a whole group get started by identifying one adaptation for wolves. Write the adaptation on the board immediately by the image.
5. Next in a different color marker, identify /write with the class WHY that adaptation helps the wolf survive. (i.e. Sharp teeth = to tear meat)
6. Next come up with a behavioral adaptation for the wolves, use the same method one color for the adaptation, another for the why.
7. Once started, have students by themselves identify three adaptations & why. (2 physical, 1 behavioral)
8. Then partner them up, they should point out their identified adaptations to each other, and add them to their own sheet.
9. Next, in table groups they need to share all of the adaptations that they have, students should add some of those to their own sheets, eliminating any that they feel are incorrect. Finished sheet should have 6-10 physical adaptations & 3-5 behavioral adaptations. Emphasis should be placed on the why these adaptations are beneficial.
10. Now come back together as a class to compile final list of adaptations on the board.
11. Assign an assignment to create an animal adapted to survive in a specified ecosystem. You can use the following examples or specify for your local area.

National Science Content Standards:

Life Science:
- Diversity and adaptation of organisms

Unifying Concepts and Processes:
- Form and function

Vocabulary:

Adaptation
Physical
Behavioral
Survival

Materials:

- Overhead of full body Gray Wolf image
- Handouts with the Wolf image

Links:

http://www.lessonplanspage.com/ScienceAnimalAdaptations58.htm

Procedure (continued):

Possible imaginary ecosystems to use: This allows the students to truly create a new animal. Require the students to utilize both physical and behavioral adaptations.

1: This planet is dark and cold most of the time. It is very mountainous. It rains almost all day. Because of the wet, dark conditions, the only plants that grow well are small mosses and funguses. Animals on this planet include a type of mouse, a nocturnal hunting large cat, fish, and a variety of insects.

2: This planet is dry and hot. Most of the planet is flat. Water is found in underground streams but there is little water on the surface of the planet. Most of the planet's surface is covered in sand, although there are patches of dry grass. When plants can get their roots down into the water table, they grow into tall trees with leaves at the top but not along the trunk. Plants which are not connected to the water table are small and dry, but they are edible. Animals on this planet include insects, a species of birds which roost in the high trees, a sand-colored lizard and a type of rat.

3. This planet is tropical: wet and hot. Most of the planet is covered by rainforest. The planet is very flat. Water collects in large pools and lakes which have water in them all year 'round. A species of poisonous plant grows thickly on the ground. The spines of this plant are poisonous, and any animal which steps on one is sure to die. The vegetation is plentiful, and includes leaves, fruits and nuts. Animals include carnivorous snakes, varieties of insects, monkeys, fish and birds.

4. This planet has a moderate climate. It never gets very hot or very cold, but stays mild all year 'round. It rains for part of the year and the water forms pools and lakes which dry up towards the end of the year and then the planet is very dry. The planet is partly mountainous and partly flat. Vegetation includes tall trees with high leaves and fruit, and a smaller plant which bears nuts. However, these nuts are inside hard shells which need to be removed before the nut can be eaten. Animals include rats and mice which live underground, insects, birds that nest in the tall trees, slow moving mammals which also live in the trees and a species of carnivorous nocturnal wolf.

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