



Assignment Discovery Lesson Plan Adapting to the World

Subject

Animals

Grade level:

6-8

Duration:

Three class periods

Objectives:

Students will

- discuss reasons that humans domesticated wolves;
- review examples of how dogs have been bred and trained to help humans; and
- write about how dogs perform a particular task.

Materials:

- Computer with Internet access
- Print resources about the history of dogs, service dogs, police dogs, and other dogs that help people

Procedures:

1. Review with the class how dogs evolved from wolves. What were some reasons that humans domesticated wolves? Discuss examples from the video of early ways that dogs were domesticated. (*Maremmas were domesticated as herders. Basset hounds were trained to be hunters.*) Ask students to think of other ways that dogs have helped humans throughout history.
2. Ask students to brainstorm how dogs are trained to help people today. Make a list on the board; see examples below:
 - Guide dogs for the blind
 - Hearing dogs for the deaf
 - Service dogs for the physically disabled
 - Police dogs that detect drugs or bombs

- Dogs that help sniff out termites in buildings
 - Dogs that detect fire accelerants
 - Help cheer up hospital patients
 - Locate humans at disaster scenes
 - Dogs that herd sheep and cattle
 - Detect certain cancers in humans
 - Sled dogs in Arctic regions
 - Guard dogs for homes and businesses
 - Army Scout dogs that warn of danger
3. Have students choose one way that dogs help humans. Challenge them to learn more about how dogs perform this task. Have them consider these questions: How do the dogs help humans? How are dogs trained to perform this task? What kinds of dog breeds are often used for this task? What qualities make this breed (or dogs in general) well suited for this task?
 4. Have students conduct research using print and online resources. Students may find many sites related to their research, but the following sites are a good starting point:

Extraordinary Dogs: Stories

<http://www.thirteen.org/extraordinarydogs/stories.html>

Guide Dogs of America: Training

<http://www.guidedogsofamerica.org/training.html>

Guide Dogs for the Blind, Inc. (see "Guide Dog Training")

<http://www.guidedogs.com/>

Dogs for the Deaf, Inc. (see "Our Dogs")

<http://www.dogsforthe deaf.org/>

Assistance Dogs International Inc. (see links about guide dogs, hearing dogs, and service dogs)

<http://www.adionline.org/>

Sled Dogs: An Alaskan Epic

<http://www.pbs.org/wnet/nature/sleddogs/>

International Association of Assistance Dog Partners (see "Educate")

<http://www.iaadp.org/>

Yahooligans: Service Dog Links

http://www.yahooligans.com/science_and_nature/living_things/animals/mammals/dogs/Service_Dogs/

5. Once students have completed their initial research, ask them to summarize their findings in a report that's no more than one page.

6. Have students share their reports with another student and answer questions their partner may have. Then have each student summarize their partner's report for the class, sharing at least three interesting facts.

Extensions for other video segments:

Oceans: Cradle of Life: Some animals living in the deep sea may resemble the earliest animals on Earth. They survive in a habitat without sunlight and without oxygen, using surrounding chemicals for energy. Have students explore unusual deep-sea animals, such as tubeworms, fangtooth fish, sea spiders, giant clams, jellyfish, tunicates, giant squid, and gulper eels. Ask students to explain how each animal has adapted to living in the harsh environment of the deep sea.

The Bloom of Plants: Review with students the definition of tropism: the tendency of a plant to move or grow towards a sunlight, water, or another stimulus. How does tropism help a plant survive? (*It helps a plant get more sunlight and water and helps it spread its seeds to reproduce.*) Have students design a class experiment to answer this question: Are some plants more likely than others to exhibit tropism towards sunlight? Their experiment should begin with a hypothesis and include specific steps for testing their prediction and reaching a conclusion.

Insects: Master Adapters: Have students brainstorm ten characteristics of insects. Examples might include have an exoskeleton, small size, camouflage, and large compound eyes; use antennae to recognize sound vibrations; and able to fly and make sounds by rubbing their bodies. Hold a class discussion about how each characteristic is a survival adaptation. Ask if any other kinds of animals share this characteristic. (*For example, lobsters have exoskeletons, birds fly, cheetahs have camouflage.*) Explain how each characteristic helps that animal survive.

Evaluation

Use the following three-point rubric to evaluate students' work during this lesson.

3 points: Students were highly engaged in class discussions, created a complete report including all of the requested information, accurately summarized their partner's report and included three interesting, relevant points.

2 points: Students participated in class discussions, created an adequate report including most of the requested information, gave a satisfactory summary their partner's report, including two relevant points.

1 point: Students participated minimally in class discussions, created an incomplete report with little or none of the requested information, were not able to summarize their partner's report or recall any interesting, relevant points.

**Vocabulary
breed**

Definition: A group of animals or plants presumably related by descent from common ancestors

Context: Some dog breeds are well suited for specialized tasks.

domesticate

Definition: To adapt to living with humans and serving their needs; to train an animal to live with and serve humans

Context: Humans have domesticated dogs to serve in many ways, including hunting, herding, protecting, and assisting the disabled.

guide dog

Definition: a dog that helps the blind and the visually impaired

Context: One important role for a guide dog is to help his blind partner walk safely, avoiding obstacles and oncoming traffic.

hearing dog

Definition: a dog that assists the deaf and hard of hearing

Context: Hearing dogs are trained to alert people to a ringing telephone, fire alarm, or other household sounds.

police dog

Definition: a dog trained to help police

Context: Some police dogs are trained to sniff out illegal drugs, while others are trained to detect bombs.

service dog

Definition: a dog that helps people with physical disabilities

Context: Service dogs can help their disabled partners with many everyday tasks, such as opening doors and turning on lights.

sled dog

Definition: a dog trained to pull a sled

Context: Sled dogs pull mushers in the annual Iditarod Race in Alaska.

Academic Standards

The National Science Education Standards provide guidelines for teaching science as well as a coherent vision of what it means to be scientifically literate for students in grades K–12. To view the standards, visit <http://books.nap.edu>.

This lesson plan addresses the following national standards:

Life Science

- Regulation and behavior
- Diversity and adaptations of organisms

Credit

Joy Brewster, curriculum writer, editor, and consultant