

To Tell the Truth: Science, Society and Controversy

An Easy Prep Lesson for Life Science Teachers
to follow viewing of *The Witness*

Lesson prepared by:
Tribe of Heart, Ltd., PO Box 149, Ithaca, NY 14851
www.tribeofheart.org
Version 1.0, 2002

Summary of Activities

After viewing *The Witness*, students break into groups to read and summarize for their group their assigned part of the jigsaw reading, which explores the historical interrelationship of society and science, using the ongoing debate about animal consciousness as an illustrative example. For the lesson evaluation, students pick a present day scientific controversy concerning animals, noting specifically how their opinion has been influenced by their scientific understandings and also by society.

National Standards Addressed

Content Standard G: The history and nature of science

As a result of activities in grades 9-12, all students should develop understanding of science as a human endeavor, the nature of scientific knowledge, and historical perspectives.

Fundamental concepts and principles that underlie this standard include:

- Scientists are influenced by societal, cultural, and personal beliefs and ways of viewing the world. Science is not separate from society but rather science is a part of society.
- Occasionally, there are advances in science and technology that have important and long-lasting effects on science and society.

Student Objectives

Students will:

1. Gain insights into society's current perceptions and controversies about animals by viewing *The Witness*.
2. Summarize readings and share knowledge with other students, regarding the 2000-year-old debate on animal consciousness. They will see how scientists have been impacted by society and how science impacts society.
3. Demonstrate their ability to identify examples of science and society impacting their own views on a modern day scientific controversy concerning animals.

Activity — Day One

Students view *The Witness*. To allow time for the entire film to be introduced and shown, you may need to arrange for students to come a little early to class or stay a little late. Introduce the film very briefly by telling students to pay special attention to the different attitudes towards animals expressed by people in the film. Explain to the students that the film tells the story of one person's journey to awareness about animal issues, and that while ultimately hopeful, the story does include some images of animal cruelty. They will be able to tell when these images are coming, and if a particular image is too much, they can close their eyes for a moment.

Activity — Day Two

After students have viewed *The Witness*, they may want to spend a little time at first just processing what they saw in a general discussion, as most are quite moved by it.

When you feel students are ready to move on, divide the class into groups of 5. Give each member of each group one of the parts of the jigsaw reading assignment.

Explain that they are to read their part silently and prepare to summarize it to the group. They may not read it aloud to the group, except that they may read aloud quotes, which are in italics. Give students about five to ten minutes to read silently and think about their presentation, and then about 20 to 25 minutes for the members of the groups to share what they read with each other. Through this exercise, students learn that scientific debates, such as the heliocentric vs. geocentric theory have lasted nearly 2,000 years, and that the debate about animal consciousness is more than 2,000 years old. They will learn about the views of past and present prominent scientists regarding animal consciousness and the interplay between science and society on this topic. They will also learn of the relatively new fields of ethology and cognitive ethology.

Note: In order to aid comprehension, depending upon the level of your students, you may want to have all the students who have Part 1 to meet together to discuss it, and all the students with Part 2 to meet together, and so on. The students can then go back into their original groups of five for the sharing of their part. For more information on how to facilitate jigsaw readings, please see <http://www.jigsaw.org/>, especially the section on implementation tips at <http://www.jigsaw.org/tips.htm>.

Evaluation

For the evaluation, students are to find an article or editorial about a modern day controversy in the science field concerning non-human animals. You may want to help your students brainstorm topics: antibiotics as growth promoters in farmed animals; growth hormones in farmed animals; genetic engineering of farmed animals; cloning of animals; the role of moral obligations in agricultural practices; the physical, mental and emotional needs of farmed animals and captive wildlife; use of animals in product testing; use of animals in biomedical research; predator control techniques of wildlife

biologists; animal organ transplants for humans; modern day research on the emotional lives of animals and/or animal consciousness/intelligence; need for biodiversity; endangered species protection; captive breeding of endangered species; animal control methods in the urban environment; reintroduction of native species, such as wolves.

Students then write an explanation of their own stance on the controversy highlighted in their chosen article and detail how their opinion has been influenced by their scientific understandings, and also by society. Students will need to complete this assignment at home, or be given additional class time for completion.

Depending upon the level of your students, you may prefer that students search for articles, then as a whole-class activity, choose one article to discuss. Then students can do their individual writing.

Please share some of your students' writing with Tribe of Heart! We will be publishing selected student writings on our web site. After some examples are posted, they will help inspire other students doing this assignment, so please share! You can email material to James La Veck: james@tribeofheart.org.

Student Assignment

Bring in a newspaper or magazine article or editorial (can be online, printed out) which reflects a present day controversy in science concerning animals.

Explain your position on the controversy. Be sure to indicate in your essay:

1. how your point of view has been influenced by science (from your study of science, scientists' statements or writings, or your own scientific observation), and
2. how it has been influenced by society (what your parents/teachers have taught you, religious/spiritual beliefs, movies you have seen, books you have read, opinions of friends and other members of your community).

Evaluation Rubric

Exceeds Standard: Student articulated opinion on an appropriate controversy and correctly identified and differentiated between societal influences and scientific influences. Writing showed great insight and careful thought.

Meets Standard: Student articulated opinion on an appropriate controversy and primarily correctly identified and differentiated between societal influences and scientific influences.

Does Not Meet Standard: Student did not articulate opinion on an appropriate controversy or primarily did not correctly identify and differentiate between societal influences and scientific influences.

Learning More – Additional Resources

Scientists and Their Findings

ABC News - What is it that elevates human beings above the rest of the animal kingdom? It's getting complicated.

http://abcnews.go.com/onair/CloserLook/wnt_000303_CL_parrot_feature.html

Bird Brains by Gareth Huw Davies

<http://www.pbs.org/lifeofbirds/brain/index.html>

Tool-making (in crows)

<http://www.ascaronline.org/corvi02.html>

Gavin Hunt: Researches Toolmaking by Crows

<http://www.psych.auckland.ac.nz/psych/research/Evolution/Gavin.htm>

Chimpanzee Communication in the Wild

<http://www.janegoodall.org/chimps/communication.html>

Jane Goodall by Adrian G. Weiss

<http://www.webster.edu/~woolfm/janegoodall.html>

National Geographic Explorer in Residence: Jane Goodall

http://www.nationalgeographic.com/eir/bio_goodall.html

Below are links to information provided by advocacy groups concerning the problems faced by the animals portrayed in *The Witness*:

Animals Trapped or Ranched for Fur

Animal Protection Institute - Fur Facts

<http://www.api4animals.org/doc.asp?ID=466>

Fund for Animals - Fur Facts <http://fundforanimals.ctsg.com/library/documentViewer.asp?ID=77&table=documents>

The Fur Bearers - Fur Trapping Info

http://www.banlegholdtraps.com/home_parent.htm

Humane Society of the US - Fur Free 2000 Campaign

<http://www.hsus.org/current/fur.html>

Friends of Animals - Anti-Fur Campaign

<http://www.friendsofanimals.org/fur/f1.shtml>

World Animal Net - Fur Statistics <http://worldanimal.net/fur-stats.html>

Farmed Animals

[Farm Sanctuary - All About Farm Animals](http://www.farmsanctuary.org)

<http://www.farmsanctuary.org>

[Mad Cowboy - Cattle Rancher Turned Vegan](http://www.madcowboy.com)

<http://www.madcowboy.com>

[Slaughterhouse - Meat Industry Exposé](http://www.friendsofanimals.org/farm/slaugtr.htm)

<http://www.friendsofanimals.org/farm/slaugtr.htm>

Feral Cats and Companion Animals

[The Feral Cat Coalition: Describes the Problem](http://www.feralcat.com)

<http://www.feralcat.com>

[Feral Cats: Alley Cat Allies Info Center](http://alleycat.org/ic.html)

<http://alleycat.org/ic.html>

[Best Friends Animal Sanctuary](http://www.bestfriends.org/nmhp/resourcesfrm.htm) makes available the following booklets in downloadable PDF format. When you get to the site, look for "downloadables" in the menu on the left.

<http://www.bestfriends.org/nmhp/resourcesfrm.htm>

How to Find Homes for Homeless Pets

The Adoption Option

How to Start Your Own Sanctuary

How to Care for Feral Cats

How to Start a Spay/Neuter Program