

Teacher's Guide for *Odyssey: E. O. Wilson Ant Man*

April 2007

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Take the opportunity to introduce your class to the practice of observation in science. Go on a class "bio-blitz" in the school grounds or a nearby park, bring in an ant farm and create a science observation center encourage the school to set aside a grassy area to "grow wild" and have the students take daily or weekly observations of what happens to the flora and fauna, or engage students in the activity "See the World in Tree Trunk" on page 9. If you can contact a local college class to help classify what students find, so much the better!

Getting ready: Create a science or nature table/center, stock it with identification books for different species, collections of shells or skeletons, and invite students to bring in their own natural specimens to share, such as nests, unusual seed pods, captured bugs, etc.

E O Wilson, *Boy Naturalist*, p. 6 ff.

Questions for discussion:

- What triggered E. O. Wilson's interest in nature?
- Have you ever discovered a creature "that existed outside (your) previous imagination"? How did you react? What did you do?
- How did E.O. Wilson's interests develop and change during his life?
- According to the author, what were the guiding principles of Wilson's life?
- Do you think these are good principles? Why or why not?

HOMEWORK: Have students discuss with parents, adult mentors or friends, "What was a defining moment in your choice of career, hobby, or lifestyle?" You might want to have them share these discussions in writing or orally with the class.

Edward O. Wilson, *Friend and Fellow Ant Man*, p. 10 ff.

Have students work in groups to list out Wilson's qualities as a friend and as a scientist, as described by his colleague Bert Hölldobler.

Then ask them to present to their classmates their understanding of the "essence" of E.O. Wilson's character. Encourage them to be creative in their choice of medium: skit, cartoon, comic strip, shield, radio interview, etc.

Alabama Wilson and the Zombie Brain, p. 13 ff.

Vocabulary check: Challenge students to define these terms in their own words and/or use in a sentence appropriately –genus, stimulate, whiff, tantalizing, gland, pheromone, decipher, obsess, flotilla, respiration, ominous, decompose, zombie, encryption, prediction, boon, propaganda, cacophony,

superorganism, dominate, network. Students may enjoy creating a crossword puzzle of words and definitions to challenge their parents or other students.

Discuss: How does E. O. Wilson's view of the ant organization and that of Douglas Hofstadter differ?

Ants Rule, pp. 16 ff.

Have students organize the information in the article by charting ways in which ants support life and ways in which they destroy life. You might want to display the chart below as a sample graphic:

ANTS SUPPORT LIFE	ANTS DESTROY LIFE
Aerate soil	Cut down corn patches

Then have students debate the issue: Ants should be eradicated.

Ants in Action, p. 18 ff.

Have students compare the leaf-cutter society with human society by looking at these issues:

- Every member of society has a role to play.
- A leader is essential to society.
- Work defines the physical characteristics of the worker.
- A dying community can be revived by the introduction of members from outside the community.
- Societies must protect themselves by attacking outsiders.

Fly on the Wall, Wilson vs. Gould, p. 23 ff.

Work with students to outline the arguments presented in the article.

Discuss:

- Why was Wilson's theory of sociobiology so politically divisive?
- What were the scientific arguments against it?
- Do you think, as Wilson does, that the theory of sociobiology is now accepted by the mainstream?
- What current scientific ideas or theories create controversy, either political or scientific, today? Why?

The Best Engineering Has Bugs in It, p. 27 ff.

Have students try out the activities described and visit the websites cited.

Discuss:

- Can bots be more efficient than human beings?
- Why do they think "swarm intelligence" does or doesn't work?
- In what kinds of situations would "swarm intelligence" work best?

Paradise Lost, p. 30 ff. and Turn off the iPod...Tune in to Nature, p. 34 ff.

Discuss:

- How does the “Paradise Lost” article support the idea of the Sixth Extinction?
- Should people worry about the extinction of species? Why or why not?
- What can students do to preserve biological diversity and slow mass extinction of species?
- Do you see changing attitudes about the environment among your family and friends? In the newspaper? How would you characterize these changes?
- Wilson mentions his “most amazing ant behavior”. What is the most amazing animal behavior you have seen? Describe it and tell why it is amazing.

Honorary Mammal, p. 49

Write an essay using specific examples on one of these topics:

- Why kiwis are considered “honorary mammals”
- How kiwis illustrate the biological idea of ecological niches
- How kiwis illustrate the danger of introducing new species onto islands