

HOW TO BECOME AN ECO DETECTIVE

An ecological mystery is a scientific investigation and a mystery combined into an exciting story. In an eco mystery the role of villain is played by an unknown ecological problem that is harming a species. The characters are affected by the problem, and like good detectives they must carry out an investigation that will identify the problem and then help solve it.

1. Warming Up:

Discuss the meaning of the term Endangered Species with your students. How does a species get selected to be included on the list of Threatened, Vulnerable, or Endangered Species? How do scientists find out if a species is in some way endangered? Note: I suggest that students select a species that lives in their state to facilitate research.

2. Select a Species

Next students select the species to investigate—plant or animal. Narrow the selection by starting with your own county, or state. For a complete list of US endangered species see these links:

<http://www.fws.gov/endangered/?s8fid=112761032793&s8fid=112762573903&countyName=Jefferson> (interactive web site!)

Give students time to look over the possibilities before making their final selections.

3. Research the Species:

Now students begin researching the species they have chosen.

—Observations: Where possible, take field trips to nature centers to observe the species in their natural habitats. If possible, visit the habit that serves as the setting of their story—forests, lakes, or streams. Make notes and observations on the animals, plants, sights and sounds, and on how they are related to the mystery.

—Interview local experts, or email them. Invite them to do a presentation in your classroom. Contact local organizations that promote wildlife and nature conservation, such as the Audubon Society, Water Watch, Nature Centers, and Wildlife Refuges.

—Read books, both fiction and nonfiction. Find articles on the Internet. Watch documentary movies about their species.

(Set a deadline of about one-six weeks for the students to complete their research, depending on the depth of the investigation.)

4. Experiment:

If possible, carry out your own experiments to test the air, water, soil that the species lives in. As you make discoveries, you may begin to find the solution to your eco mystery, and a possible way to save the species. Invite or consult local agencies to explain, or demonstrate how to test for air, water, and soil pollution.

—Investigate the Problem. Perhaps there is a landfill upriver from your site, a dam, a factory, a shopping mall, or housing development—this may be a possible ‘villain’ that is harming their species. At the completion of their research students should complete a worksheet that includes: Species Name, Appearance, Habitat, Behavior, Life Cycle, and Reasons why they have become threatened or endangered. See Example:

<http://myfwc.com/wildlifehabitats/profiles/birds/woodpeckers/red-cockaded-woodpecker/>

5. Explain and Draw Conclusions:

—Solving the Mystery: Review your problem and the results of your observations, research, experiments, and investigations. Can you suggest a cause for the ecological problem that is damaging the species? Once you understand the cause of the problem, and a possible solution you are ready to tell your story. You will take the reader through everything you did, while developing the characters, place, time, setting and a plot.

6. Write The Eco Mystery:

Have students read a least one of eco mystery of *The Adventures of The Sizzling Six*. Go over the major elements of writing a story, adjusting it to the level of the students: Plot, Protagonist, Antagonist, Setting, Character, Point of View, Dialogue, Theme. Create a main character who has a reason to care about your ecological problem. Perhaps it is a daughter of a zoo specialist, the son of a forest ranger, or a field biologist who spends time working in the woods, at a lake, or a river, behind the scenes of the local zoo, wildlife rehabilitation center, or in a research laboratory.

—Develop a few supporting characters who can play key roles in your plot—perhaps the manager of a wildlife refuge who would know something about each of the creatures in the refuge. As your character works through the mystery, these experts can be a source of information.

—Provide some background on the main character as the story goes along to draw the reader into ‘knowing’ your character.

—Include ‘red herrings’. Every good mystery has some distractions, which misdirect the main character’s investigation. This keeps the readers guessing until you are ready to tell all in the conclusion to your eco mystery.

—End the story where the **actions** of the main character(s) help to solve the problem that is harming the species.

7.Publish and Share.

Suggests ways in which the book can be published for distribution in the classroom, the school, with environmental organizations, or for wider audiences.