

SCIENTISTS IN THE FIELD

WHERE SCIENCE
MEETS ADVENTURE

DISCUSSION AND ACTIVITY GUIDE

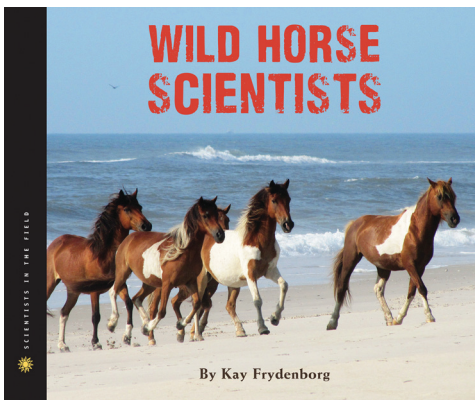
Wild Horse Scientists

by Kay Frydenborg



About the Series

Wild Horse Scientists is part of the award-winning Scientists in the Field series, which began in 1999. This distinguished and innovative series examines the work of real-life scientists doing actual research. Young readers discover what it is like to be a working scientist, investigate an intriguing research project in action, and gain a wealth of knowledge about fascinating scientific topics. Outstanding writing and stellar photography are features of every book in the series. Reading levels vary, but the books will interest a wide range of readers.



The Wild Horse Scientists
by Kay Frydenborg

About the Book

What do wind swept barrier islands on the Atlantic coast have in common with rugged Pryor Mountain ranges of Wyoming? The surprising answer is wild horses and the efforts of the extremely dedicated scientists helping to preserve and protect them and their habitats. *Wild Horse Scientists* explores the work of Dr. Ron Keiper, an ethologist, and the work of wildlife reproductive physiologist Dr. Jay Kirkpatrick. Their work began in 1971 and continues today. Information about wild horses, their origins, and variations, and the complicated issues affecting them are included, along with a fascinating inside look at the life and work of these dedicated scientists, complete with amazing photography of these stunning wild horses.

About the Author

Kay Frydenborg fell in love with horses when she was a girl and read every book on horses she could find, including Marguerite Henry's *Misty of Chincoteague*. Now she has her own horse, Remy, and rides him every day in Pennsylvania, where she lives with her husband and three dogs. Kay writes both fiction and nonfiction, and, not surprisingly, her books are often about animals.

Pre-Reading Activity

Have students form groups of about five each. For a week (or longer) have the groups pick five (one for each group member) different animals to observe regularly on a daily basis. Encourage students to pick a wide variety of creatures that are common to your area. Have a regular class time for observing these animals (of at least ten to fifteen minutes) and encourage some extended observations at other times of the day and on weekends. Show samples of various types of scientific diaries, field books, or journals. Have students record (and draw) their observations, complete with name and date for each observational period. Explain and stress the importance of name, date, labels, and careful,

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accurate descriptions. After this observation period, have the group read each of the members' field book or journal. Have students compare and contrast the different organisms selected by their group members.

Discussion Questions

Unfortunately, many people in this country adopt or purchase a puppy or other baby animal without understanding what is involved in its care. When the animal moves beyond the baby stage, the owners often release it into the wild. Is a pet that is abandoned a wild animal? Does it make a difference if the pet is abandoned in an area that has few if any humans?

What is the difference between pigs running loose in a field and wild boars that people hunt? What about wild animals that are injured and taken in by an organization that does rehabilitation? Are these animals still wild?

What about an animal that is injured too badly to be released and is kept by the organization? Does it become a pet or is it still wild?

When does a pet cat become a feral cat? Is a feral cat that lives outside the same thing as a wild cat? What happens if people leave food outside for the cat? Is it still wild? Does putting bird feeders in your yard change the birds from wild birds to birds that are less wild?

Applying and Extending Our Knowledge

On page 13 we read, "*Allison scribbles a quick note on the mare's page in The Book—a tool as indispensable for this work as the rifles and binoculars both scientists carry. The vaccinated horse's page is tagged with her individual ID—a combination of letters and numbers Allison can rattle off as easily as the names of her own horses.*"

- Have students create a code based on the students in the classroom or in several classrooms or even the whole school. Have them pick characteristics to track, such as gender, shoe color, type of clothing, whether they ride the bus or walk or come to school by car, play sports, etc. Have them create a poster of their observations such as the Horse Color Chart on page 18.
- Create your own code of the students in your class. Each day provide the students with a clue about the particular letter or number. Have the students figure out what all the letters and numbers in your code signify. Then show them a picture of a person not in your class and have them assign the numbers and letters to best sort that person.

Common Core Connections

CCSS.ELA-Literacy.RI.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

CCSS.ELA-Literacy.RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

The PZP injection allows mares to live more than twelve years longer than when they were giving birth every year. The author uses this information as a way of explaining that reducing the population via birth control is a very slow way of controlling overall population.

- If we assume that mares now live to the age of twenty instead of the age of seven, and if we assume that each mare gives birth to one horse each year, and if we assume that mares are two-thirds of the population with ages spread out in a bell curve from colts to twenty-year-olds, and if we assume the yearly vaccination is 100% effective, and if we assume that the whole herd numbers 300; in groups chart the number of horses each year until the herd size is 120. Compare charts and discuss differences among the groups. [Note: Teachers should prepare a chart in advance and may wish to distribute a key showing how many male and female horses of each age there might be].
- What happens if the vaccination is only 90% effective? What happens if we decide that each mare over four years old needs to have one baby every five years?
- The author also makes the point that controlling population numbers in this way is the only ethical way of allowing these horses to remain wild. Is this assertion reasonable? Discuss and debate this option with others ideas such as methods to control wolf populations, for example.

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CCSS.ELA-Literacy.RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

CCSS.ELA-Literacy.SL.6.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

CCSS.ELA-Literacy.RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.

Guide created by:

Ed Spicer, Curriculum Consultant, and Lynn Rutan, retired middle school librarian, now reviewer and blogger at Bookends: the Booklist Youth Blog

Further Reading

Harris, Moira C. *Wild Horses of the World*. Octopus Books, 2009.

Momatiuk and John Eastcott. *Face to Face with Wild Horses*. National Geographic, 2009.

Other Websites to Explore

Assateague Island
www.nps.gov/asis/naturescience/horses.htm

National Park Service site that provides information on Assateague Island, the wild horses and other plants and animals that live there.

Kay Frydenborg site and weblog
www.kayfrydenborg.com/

Kay Frydenborg's website which includes a link to her weblog with more information on wild horses and the ongoing research.

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