

Close Reading and Text Dependent Questions in Science

Rachel Carson's Silent Spring: A Quiet Book Makes Noise (Ecosystems – Grade 5)

The text selection, *Rachel Carson's Silent Spring: A Quiet Book Makes Noise*, can be found in the STC Ecosystems student resource book, pgs. 60-61.



Look in the Student Learning Outcome (SLO) Documents for guidance on when this should be taught. These can be found on the BPS Science Department's website: <http://bpsscience.weebly.com/> You will find the Student Learning Outcomes documents organized there by grade level.

Rachel Carson's *Silent Spring*:

A Quiet Book Makes Noise



U.S. DEPT. OF THE INTERIOR, FWS-2348

**Rachel Carson
loved the ocean
and all of
nature.**

Today, most people in the United States know chemical pesticides can be dangerous to the environment. The Environmental Protection Agency (EPA), a government organization, regulates the use of these substances.

But 50 years ago, people were not aware of the risks of pesticides. They knew only that pesticides killed insects, and they thought that was good.

In 1962, a scientist named Rachel Carson published a book called, *Silent Spring*. That book changed the way people think about pesticides and the environment. Despite its quiet

title, the book had a powerful effect.

Two Loves

As a child, Rachel Carson had two loves: writing and nature. At age 10, she published a story in a children's magazine. Rachel was also fascinated by birds.

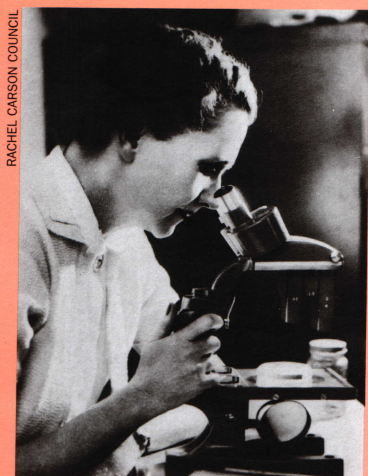
In college, she studied writing. But a course in biology reawakened her interest in the natural world. Carson earned a master's degree in zoology.

After graduation, she wrote science articles for a newspaper. She continued her studies at the Woods Hole Oceanographic Institute in Massachusetts. She became enchanted with the sea.

A Career in Science Begins

In the meantime, she needed to find a full-time job. In 1935, the U.S. Bureau of Fisheries needed a scientist to write scripts for radio. Carson got the job. A year later, she was promoted. She became a junior aquatic biologist. Few women worked for the government in those days. There were even fewer women scientists.

To add to her income, Carson continued to write newspaper articles. Her reputation was spreading. She got contracts to write books. The first two, *Under the Sea Wind* (1941) and *The Sea Around Us* (1951), were very successful. She eventually left her job to become a full-time writer.



RACHEL CARSON COUNCIL

**Rachel Carson was a writer
and a scientist.**



Taking a Stand

Carson's fame gave her a chance to speak out about issues that she cared about. One issue was the use of new, synthetic (humanmade) chemical pesticides. The government had been testing the pesticides in Maryland, not far from Carson's home. She wrote an article about the dangers of these chemicals and submitted it for publication. No one was interested.

But Carson was determined. "The more I learned about the use of pesticides," she said, "the more appalled I became. . . . I realized that here was the material for a book. What I discovered was that everything which meant most to me as a naturalist was being threatened, and that nothing I could do would be more important."

The Evidence Piles Up

The evidence she would need to fill that book began to accumulate. Then one day, Carson got a letter from a friend, Ilga Owens Huckins.

Huckins was in a bird sanctuary outside Boston when a low-flying airplane crossed overhead. It was spraying DDT, a pesticide used to kill mosquitoes. Soon after, Huckins saw eight dead birds in the sanctuary. The DDT was evidently killing more than mosquitoes!

Huckins wrote to Carson, who had always loved birds. Could she help stop the spraying?

By this time, reports about the dangers of pesticides were popping up in other places

throughout the country where these substances were being used. Carson knew that most magazines would not want to publish an article about DDT. It was too controversial. After all, most farmers thought DDT was wonderful. It killed pests and increased their harvests. Carson decided to put away her other assignments. She would write a book about pesticides.

She had many questions: What did DDT do besides kill mosquitoes? What happened when the chemicals washed into streams and lakes? What did DDT do to people who ate food sprayed with it? She asked the opinions of biologists, naturalists, and other scientists.

Silent Spring was published in 1962. It appeared first as a series of articles in *The New Yorker* magazine. The book had a grim conclusion: If people continued to use man-made pesticides, they would poison the planet.

The book drew a strong reaction. Carson was threatened with lawsuits. Some people questioned her research methods.

A year later, President John F. Kennedy set up a committee to study environmental hazards. Its report agreed with Carson's findings. Hearings on pesticides began in the U.S. Congress. The EPA was established.

Carson did not live to see all these changes. She died in 1964. But she would have been pleased. More than 40 years after its publication, *Silent Spring* is considered the foundation of environmental awareness in the 20th century. ■



RACHEL CARSON COUNCIL

Rachel Carson's Silent Spring: A Quiet Book Makes Noise (Ecosystems – Grade 5)

Student Questions

1. What is a pesticide? What was the attitude towards pesticides 50 years ago?
2. What were Rachel Carson's two loves, and how did she combine her two loves after she graduated from college?
3. Why was it unusual for Rachel Carson to work for the U.S. Bureau of Fisheries? What caused her to leave?
4. What was the reaction to her first article about synthetic pesticides? What was her reaction to what happened?

Science and Technology/Engineering

5. What is DDT? What effect did it have when sprayed?
6. The author stated, “most magazines would not want to publish an article about DDT” because “it was too controversial.” Why was criticizing DDT controversial?
7. What sentence in the article answers the question: “When Rachel Carson thought of new questions about DDT, what did she do to answer them?”
8. What was the reaction to the publication of Carson’s book?

Rachel Carson's Silent Spring: A Quiet Book Makes Noise (Ecosystems – Grade 5)

Sample Answers

1. **What is a pesticide? What was the attitude towards pesticides 50 years ago?**

A pesticide is a chemical that is designed to kill insects. People did not know that pesticides were harmful, and thought that they were helpful.

2. **What were Rachel Carson's two loves, and how did she combine her two loves after she graduated from college?**

Her two loves were writing and nature, and after graduation she wrote science articles and studied the ocean.

3. **Why was it unusual for Rachel Carson to work for the U.S. Bureau of Fisheries? What caused her to leave?**

Very few women worked for the government in 1935, and even fewer were scientists. She continued to write newspaper articles and even books, and eventually decided to become a full time writer.

4. **What was the reaction to her first article about synthetic pesticides? What was her reaction to what happened?**

No one was interested and it was not published. Carson continued to investigate pesticides and their use, and decided to write a book about it.

5. **What is DDT? What effect did it have when sprayed?**

It is a type of pesticide that kills mosquitoes. Farmers sprayed DDT to kill pests and increase their harvests, but it also appeared to kill birds as well when sprayed on a bird sanctuary in Boston.

6. **The author states that, "most magazines would not want to publish an article about DDT" because "it was too controversial." Why was criticizing DDT controversial?**

It was controversial because it was a very popular pesticide with farmers, who thought it was "wonderful."

7. **What sentence in the article answers the question: "When Rachel Carson thought of new questions about DDT, what did she do to answer them?"**

"She asked the opinions of biologists, naturalists, and other scientists."

8. **What was the reaction to the publication of Carson's book?**

There were negative reactions, and people threatened her with lawsuits and negative reviews of her research methods. However, it is implied that it influenced President Kennedy to set up a commission on environmental hazards, which led to hearings in Congress and the creation of the EPA.