

IN PRACTICE

Rachael Carson, *Silent Spring* (1962)

In 1962, the environmental movement was introduced to the public via this book that documented the effects of pesticides on the environment. The book claimed that the use of DDT to kill mosquitoes was also killing birds, harming humans, and affecting the larger ecosystem. The book generated much controversy and criticism, some of which endures today.

Subject/Class: <i>English, Science, Social Studies, Interdisciplinary</i>	Teacher:
Unit: <i>Protecting Our Environment</i>	Grade: 8
Topic: <i>Solving Environmental Problems</i>	

Common Core State Standards

- Determine central ideas of a text and analyze their development; summarize the key supporting details and ideas
- Acquire and use a range of content-specific words and phrases
- Evaluate the argument and claims in a text including the validity of the reasoning as well as the sufficiency of the evidence; Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric
- Write informative/explanatory texts to convey complex ideas
- Write arguments supporting claims, using valid reasoning
- Participate effectively in a range of conversations and collaborations with diverse partners, building on other's ideas and expressing their own clearly and persuasively
- Use digital media strategically to present information and evidence
- Add as relevant to your state, district, school, and content area

Enduring Understandings/Essential Questions

- Recognize the impact that one dedicated person can have on our environment
- Make connections between the environment and personal/community quality of life
- Evaluate the interdisciplinary connections of current issues

Learning Objectives; Students will (include 20th and 21st c. outcomes)

- Describe primary concerns of scientists in protecting the environment using topical vocabulary
- Explain and analyze the challenges and controversies involved (past and present) in being a good steward of our environment
- Research and produce a digital/web2.0 product that informs and persuades others

<p>INITIATION Expectancy Connections to prior learning</p>	<ul style="list-style-type: none"> Based on the chapter titles, write or illustrate what you think will be the main idea of one chapter and the challenges that Rachael Carson will describe in her book <i>Silent Spring</i>. Make connections to prior learning in science and social studies. Post chapter titles around the classroom. Students stand at one chapter and discuss it with others who picked the same chapter. Report out on learning expectations <p>Alternative Initiation</p> <ul style="list-style-type: none"> Quotes: Display these quotes and have students predict the main idea of the text based on these quotes. This can be done individually or collaboratively with an entrance slip. "Man has lost the capacity to foresee and to forestall. He will end by destroying the earth." – Albert Schweitzer "I am pessimistic about the human race because it is too ingenious for its own good. Our approach to nature is to beat it into submission." – E.B. White
<p>PREASSESSMENT</p>	<p>Five Selected choice questions and three response questions about main ideas and connections between literature, science, and social studies</p>
<p>Instructional Strategy Acquisition of Content</p> <ul style="list-style-type: none"> Direct Instruction Modeling/ Coaching Digital/Electronic 	<ul style="list-style-type: none"> Watch selected videos of Rachel Carson: Complete an empty outline form. Compare/contrast Rachel Carson's research methods to the scientific method. Produce an electronic/web 2.0 product for promoting environmental awareness. Distribute written assignment/grading rubric. Show exemplars of electronic projects.
<p>LEARNING PROCESS and ARRANGEMENTS</p> <ul style="list-style-type: none"> Engagement Structure Making Meaning Collaboration 	<p>Teams prepare, through reading, viewing, and collaborative planning, for a Socratic Seminar or debate on the use of pesticides.</p>
<p>21ST CENTURY SKILLS</p>	<ul style="list-style-type: none"> Global Connections: Skype with a school in Brazil on the current status of deforestation and agricultural development in relation to the environment.

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	<ul style="list-style-type: none"> • Chapter 17 proposes alternatives to pesticides that were being used at the time. Research current methods and create a blog to inform and persuade the community to use gardening techniques that protect the environment. • 21st C. Skills: Analysis, problem solving, communication, collaboration, technology literacy, work ethic.
FORMATIVE ASSESSMENT <ul style="list-style-type: none"> • Response to FA 	<p>Throughout the learning process strategies such as</p> <ul style="list-style-type: none"> • Preassessment as noted • During Instruction: Empty outlines, exit slips • Post assessment: ABC review. Students write test questions and use in a Q and A mix-up • In response, content is differentiated, groups are formed/reformed, assessments are adjusted
RESOURCES and MATERIALS	<i>Silent Spring</i> (online reading of selected chapters, videos)

ASSESSMENT	
CONTENT	<ul style="list-style-type: none"> • Summative data analysis of the use of pesticides then and now • Vocabulary—Accurate use of selected terms in the context of writing a press release or letter to a legislator about the environment
PROCESS OF LEARNING	<i>Skills and knowledge developed: Student journals</i>
PRODUCTS OF LEARNING	<i>Demonstrations of authenticity: Electronic and print products/presentations</i>