



# Curriculum Connections

## *Moth and Wasp, Soil and Ocean:* *Remembering Chinese Scientist Pu Zhelong's* *Work for Sustainable Farming*

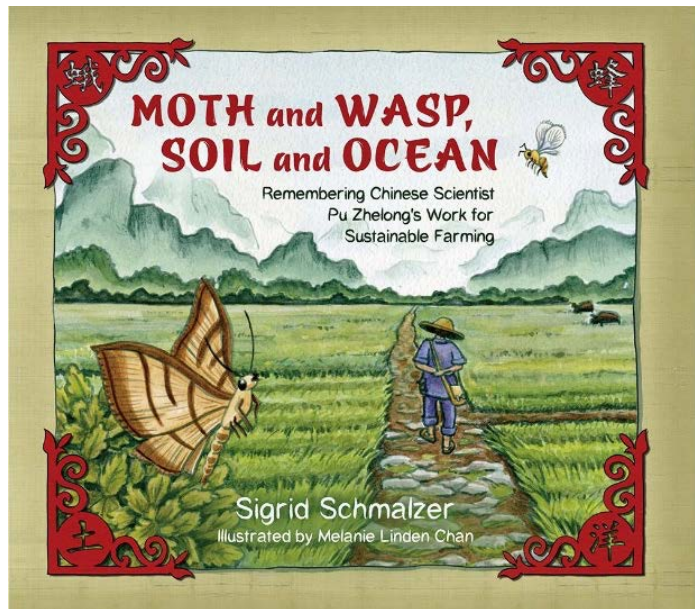
**By Sigrid Schmalzer**    **Illustrated by Melanie Linden Chan**  
**Tilbury House Publishers, 2018**                      **Non-fiction, Set in China**  
**2018 Winner, Freeman Book Award for Children's Literature**

**NOTE:** *Culture Notes are not part of this set of resources as the author, Sigrid Schmalzer, has provided an informational essay with background notes as part of the book itself.*

In her first children's book, author Sigrid Schmalzer successfully applies her expertise in modern Chinese history (where her research focuses on the social, cultural, and political aspects of science in modern China) to tell the story of environmental scientist Pu Zhelong (pronounced: "Pooh JUH-lung") in a manner that is very relatable to a young audience.

In ways reminiscent of Rachel Carson's *Silent Spring*, Schmalzer demonstrates the impact of pesticides on the environment at a level that is relatable to children, making connections to youth organizations similar to 4-H and to several environmental issues still facing our world today. In her epilogue "The History Behind the Story," Schmalzer summarizes these connections by describing more about the life and work of Professor Pu Zhelong. This strengthens her book's connections to the universal themes of the environment and education, along with the literary themes of courage, empowerment, humans against nature, perseverance, quest for discovery, and the circle of life.

In her acknowledgements, author Sigrid Schmalzer notes her appreciation for The Eric Carle Museum of Picture Book Art, and the influence of this museum on the rich imagery used throughout this children's book cannot be missed. From the design of the pages themselves--with a wide-page, horizontal orientation--to the watercolor techniques used by illustrator Melanie Linden Chan to create a stunningly beautiful world into which the reader steps, every element of this storybook is full of detail. *Moth and Wasp, Soil and Ocean* also goes far beyond the words and pictures on the page. Not only has this book received the Freeman Book Award, but it has also been





# Curriculum Connections

## *Moth and Wasp, Soil and Ocean: Remembering Chinese Scientist Pu Zhelong's Work for Sustainable Farming*

**By Sigrid Schmalzer    Illustrated by Melanie Linden Chan**  
**Tilbury House Publishers, 2018                      Non-fiction, Set in China**  
**2018 Winner, Freeman Book Award for Children's Literature**

---

recognized with the Sigurd F. Olson Nature Writing Award, selected as "A Notable Social Studies Book for Young People" by The National Council for the Social Studies and the Children's Book Council, and made the Green Earth Book Award shortlist.

While the story of Pu Zhelong takes us back in time to a period of great change in China, the manner in which this book presents a number of heavy topics at a level that is workable for younger students is commendable. Not only does the reader get a sense of what the countryside of Guangdong (pronounced: "GWANG-dong") was like fifty years ago and a glimpse at what it is known for today, but the playful, descriptive vocabulary used by the author to describe the environment of this region in southern China is something that will make an impression with students. In its examination of the big city scientist working in a small farming village, Schmalzer does an excellent job of sharing not only the traditions of those of working the land but also the issues of a **growing urban/rural divide**.

Because this story is set in the 1960s, it may be easier for students to discuss with hindsight the pros and cons of these topics while allowing teachers the opportunity to develop a discussion applying these ideas to hot-button current events. Several of the events described in *Moth and Wasp, Soil and Ocean* could easily be explored as modern-day case studies, from examining the benefits of study abroad programs and **cultural exchange**, to investigating the impact of the **use of chemicals** to improve crop production, and to exploring the economic differences between the urban and rural areas of China. Questions for further discussion and exploration may include: why were academics and scientists viewed as threats during the **Cultural Revolution**? what pesticides were being used on the fields in this story? and what specific health related problems occurred as a result? While there are many sources to help students learn more about these topics, high school students may want to use Schmalzer's 2016 history book, *Red Revolution, Green Revolution: Scientific Farming in Socialist China* (University of Chicago Press, 2016) for additional information.

Teachers and students would greatly benefit from using this book as a cross-curricular way of exploring environmental science, history, literature and art. While the book itself is targeted for elementary aged children, its message and artistry speaks to older



# Curriculum Connections

## *Moth and Wasp, Soil and Ocean: Remembering Chinese Scientist Pu Zhelong's Work for Sustainable Farming*

**By Sigrid Schmalzer    Illustrated by Melanie Linden Chan**  
**Tilbury House Publishers, 2018                      Non-fiction, Set in China**  
**2018 Winner, Freeman Book Award for Children's Literature**

---

students as well. For elementary school students, the story in and of itself may be enough to satisfy their curiosities, but for a middle school or high school student, this book could be used as a means for introducing a number of **environmental health** themes for further investigation. The collage-style of storybook illustration would also provide a nice example of visual note taking for a science class to follow. This book is also an opportunity for teachers to introduce China's **Cultural Revolution** to students who may be reading novels such as *Red Scarf Girl* (by Ji-Li Jiang) or *Bronze and Sunflower* (by Cao Wenxuan). Additionally, it could be used as a way of enhancing a lesson on poetry with an example from Professor Pu who uses a rhyme to share his message among those with whom he is working in the countryside. Art projects from **Chinese paper cutting**, examples of which are replicated on the side panels throughout this storybook, to watercolor paintings depicting the life cycle of insects are just two of many ways to use the rich imagery of this book to inspire further investigation. Students in a Chinese language class would also enjoy decoding the **Chinese writing characters** that the illustrator used in her page designs (or at least they would appreciate the glossary in the back that translates those characters with descriptions of how they fit into the story).

What may be most beneficial for students, however, is examining the ways in which this story can provide a means for us to learn from history in order to make a better future for our world. In this era when schools are beginning to focus more on **social and emotional learning**, *Moth and Wasp, Soil and Ocean* provides teachers with an opportunity to share a story that challenges us to set goals for improving our world through responsible decision making, while showing empathy and an understanding of the challenges we face. This is more than a children's book--it is an empowering story with a call to action that makes positive change seem possible.

### **Social Studies Standards (National Academic Standards Social Sciences):**

- NSS-G.K-12.5 ENVIRONMENT AND SOCIETY: As a result of activities in grades K-12, all students should understand how human actions modify the physical environment.



# Curriculum Connections

## *Moth and Wasp, Soil and Ocean: Remembering Chinese Scientist Pu Zhelong's Work for Sustainable Farming*

**By Sigrid Schmalzer    Illustrated by Melanie Linden Chan**  
**Tilbury House Publishers, 2018                      Non-fiction, Set in China**  
**2018 Winner, Freeman Book Award for Children's Literature**

---

- NSS-G.K-12.6 THE USES OF GEOGRAPHY: As a result of activities in grades K-12, all students should understand how to apply geography to interpret the present and plan for the future.

### **Science Standards (Next Generation Science Standards):**

- K-ESS3-3 Earth and Human Activity: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- 3-LS4-4 Biological Evolution, Unity and Diversity: Make a claim about the merit of a solution to a problem caused when the environment changes the types of plants and animals that live there may change.
- MS-LS2-4 Ecosystems, Interactions, Energy, and Dynamics: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

### **Visual Arts Standards (National Core Art Standards):**

- VA:Cr1.2.2a: Make art or design with various materials and tools to explore personal interests, questions, and curiosity.
- VA:Cr2.3.6a: Design or redesign objects, places, or systems that meet the identified needs of diverse users.

**Author:** Angie Stokes, 7-12 Studio Art and Art History Teacher, Wayne Trace Jr./Sr. High School

*December 2020*



# Curriculum Connections

## ***Moth and Wasp, Soil and Ocean: Remembering Chinese Scientist Pu Zhelong's Work for Sustainable Farming***

**By Sigrid Schmalzer    Illustrated by Melanie Linden Chan**  
**Tilbury House Publishers, 2018                      Non-fiction, Set in China**  
**2018 Winner, Freeman Book Award for Children's Literature**

---

### **Suggested Readings and Resources**

Jiang, Ji-Li. *Red Scarf Girl: A Memoir of the Cultural Revolution*. New York: HarperCollins, 1997.

Schmalzer, Sigrid. *Red Revolution, Green Revolution: Scientific Farming in Socialist China*. Chicago: University of Chicago Press, 2016.

Wenxuan, Cao. *Bronze and Sunflower*. Somerville, MA: Candlewick Press, 2016.