

DISCUSSION GUIDE

THE SPIDER LADY Nan Songer and her Arachnid World War II Army

Written by Penny Parker Klostermann
Illustrated by Anne Lambelet

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Grades: 2 - 5
Ages: 7 - 10



ABOUT THE BOOK

Perfect for kids who are fascinated by insects and American history, here is the story of Nan Songer, a little-known hero of World War II, who collected and bred spiders in her home and found new ways to use their silk to help the United States win the war.

Venomous spiders, delicate silk, and science experiments filled Nan Songer's days and nights—her home in California overflowed with many-legged critters. With inspiration from a friend, Nan began to study how spider silk could be harvested. The finely woven material spiders used to create webs was much stronger than it looked, and Nan was eager to unlock its potential and hopefully help her country at the same time. At the height of WWII, she studied different spiders before landing on the poisonous black widow as the perfect spider to experiment with. Their strong silk could be used for crosshairs on rifles, which Nan used to fill massive orders for the US military. Despite the danger posed by black widows, Nan wasn't deterred—she wanted to play her part. Using a device she built for extracting silk, Nan humanely used it on the deadly spiders to get both extra fine and super heavy silk.

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PRAISE FOR *THE SPIDER LADY*

“A self-taught scientist rose to the challenge when World War II increased demand for spider silk. Klostermann’s brief, engrossing text eschews typical biographical information (Nan’s birthplace, education), focusing instead on her subject’s fascinating work. Lambelet’s meticulously detailed sepia and teal art vividly depicts Nan in pursuit of her passionate vocation. Weaves an impressive story of arachnid accomplishment.”—**Kirkus Reviews**

“With a palette plucked from nature, this educational picture book spins the tale of an unsung hero of WWII.”—**Foreword Reviews**

“The prospect of using spider silk for anything but weaving webs will fascinate young readers, and Songer’s creative efforts to collect the silk with homemade contraptions will easily hold their attention... An intriguing snapshot of the intersection of human invention and the natural world, perfect for STEM collections.”—**Booklist**

DISCUSSION QUESTIONS AND RESEARCH

- Look closely at the front cover. What details do you see in the illustrations?
- Read the title and subtitle. What do you think “arachnid army” means? What do you think the story is about? Make predictions. What questions do you have?
- Why do you think the illustrator Anne Lambelet chose her color palette for the book? In the book, Lambelet drew several species of spiders. Did any of them look familiar to you? Which ones?
- What is arachnophobia? Do you know anyone that has arachnophobia? How do you feel about spiders? What do you do when you see a spider in your house? What do you do when you see a spider outdoors?
- Both Nan Songer and Marie Meislahn loved to be outdoors and observe nature, but their interests were different. What was Nan most interested in? What was Marie most interested in? Do you observe nature when you’re outdoors? If so, what are you most interested in?
- Nan used collecting jars to capture insects and spiders. Why do you think Nan used jars to capture the specimens? Holes can be poked in a jar lid to make sure the creature gets plenty of air. What was another method Nan used to allow air in the jars? Have you ever captured a bug or spider in a jar? What did you do to allow air in the jar?
- What did Nan do with the specimens she collected? What was it about bugs and spiders that interested Nan the most?

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- Nan remained interested in bugs and spiders as an adult and kept them about her house. Are you interested in bugs or spiders? What kind? Have you ever taken a bug or a spider in your house? Why?
- How did Nan get the idea to harvest spider silk and sell it for crosshairs in scopes?
- Nan's friend had told her that he'd dropped a spider from an object and gathered the silk it spun as it fell. Why do you think that method was okay for her friend's purpose but not for hers?
- Nan wrote to a spider expert and a government laboratory for advice about raising spiders in captivity. They wrote back saying that raising spiders in captivity was unlikely since spiders eat other spiders. Nan worried when they didn't have advice for her. But something else was happening that was more worrisome. What was it? How did Nan respond when an SOS was sent out for LOTS of spider silk?
- Nan made sure the spiders had food to eat and water to drink. What did she feed the spiders? How did she keep a supply of food? How did she make sure they had water to drink? Why do you think Nan took such good care of her spiders?
- Nan tested over fifty species of spiders and sent samples to crosshairs manufacturers. Why weren't they able to use all the samples she sent them? What system did Nan use to learn which spider species spun the best silk to use in crosshairs?
- Nan brushed a coat of shellac on a metal frame and then carefully wound strands of silk onto the frame. Why was the shellac important?
- Nan made important discoveries as she worked. What might a spider do if a door slammed? How does a spider sense a slamming door? What did she learn about female spiders versus male spiders? What did she learn about younger spiders versus older spiders?
- During World War II many Americans were needed on the home front. What does "home front" mean? Why was Nan's home front work so important? Have you heard of other Americans that worked on the home front? What did they do?
- Read the Author's Note.
 - Why did Nan decide to put her spiders on a two-day fast before harvesting their silk? How did Nan feel about black widow spiders before working with them? What did she learn after working with them?
 - How did other Americans help when Nan's supply of black widows ran low?
 - The Author's Note ends with a quote from Nan. How does the quote let you know that Nan is relieved that the war is over?

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