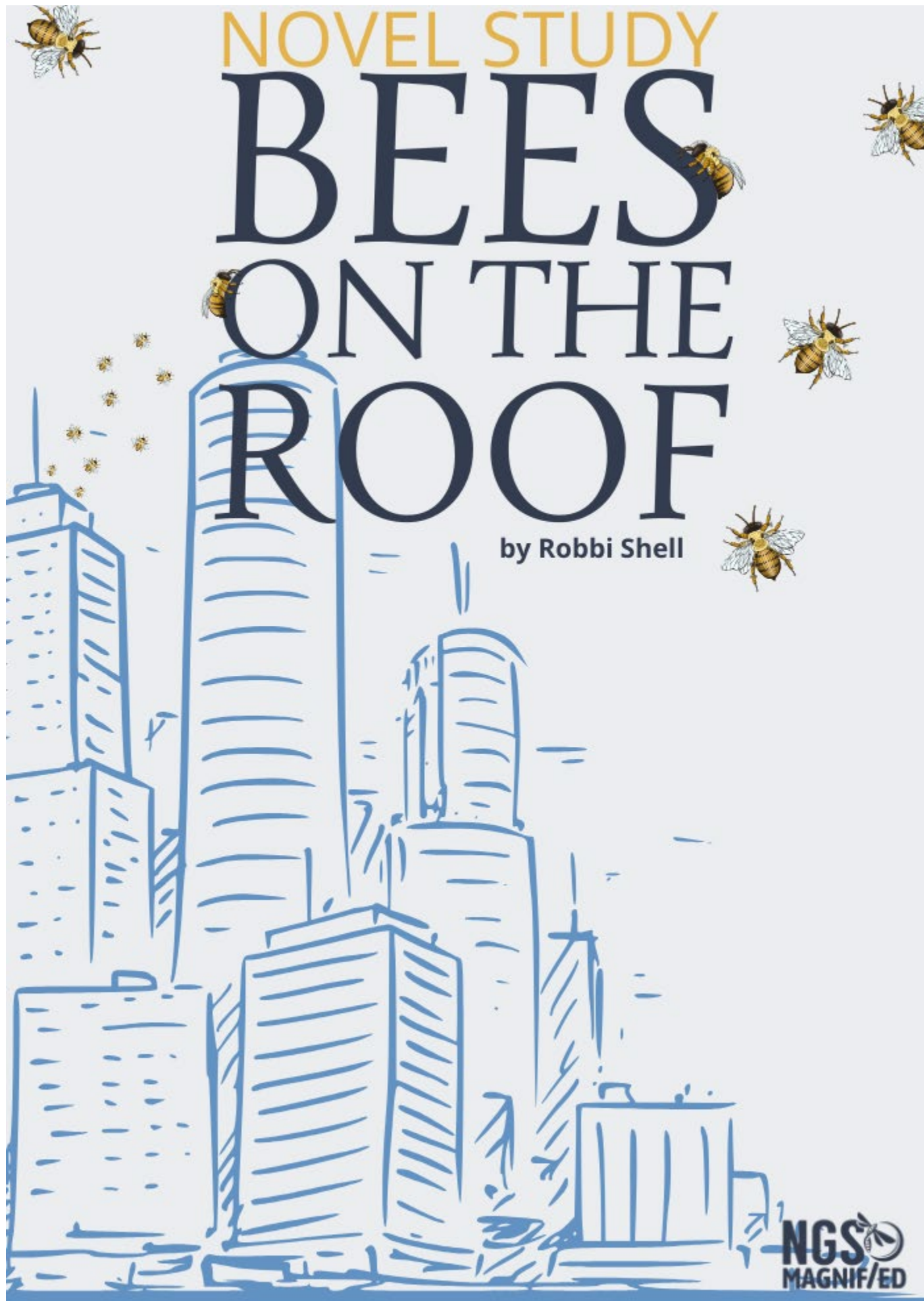


NOVEL STUDY

BEEES ON THE ROOF

by Robbi Shell



NGS
MAGNIF/ED

Novel Studies in the Science Classroom: Developing Science Literacy Skills

Today struggling readers face many long-term challenges and are more at risk of falling behind. However, science is a great way to engage students, no matter their background. NGS Magnified has created novel studies for teachers to use in the science classroom to help bridge that gap. Novel studies help build rapport with students while supporting and fostering independent learning. In addition, we believe that using novel studies in the science classroom will expose students to different perspectives and help them understand how science vocabulary applies to so many events in their lives.

Research shows that connecting content and skills from other subjects enhances students' learning and improves their comprehension.

- *The literacy from reading can easily come from non-fiction and fiction novels that surround a science-related topic and are far more of a high-interest read for the majority of students than reading a textbook (Anderson & Hite, 2010; Batchelor, 2017; Coiro, 2012; Freudenrich, 2000).*
- *Science fiction novels are an excellent way to engage students in science ideas while also helping students improve their literacy skills. (Creech and Hale, 2006)*
- *Teachers can add in other readings from the internet and news articles which brings the reading level down to a more manageable level, however students are more willing to learn and spend the time to learn new vocabulary when highly engaged in what they are reading (Weinbugh et al., 2014).*

NGS Magnified novel studies heavily focus on the following:

- vocabulary
- reading comprehension
- simple research
- cross-curricular connections
- culminating final project

Students will focus on inquiry skills such as comparing and contrasting, summarizing, making inferences, cause/effect relationships, fact and opinion, and critical thinking.

Happy reading,
Erica



The *Bees On The Roof* novel study follows the story of Sam, who needs to find a seventh-grade science fair project and a way to save the restaurant where his father works. When he enrolls three friends in an effort to raise bees on a hotel roof in New York City, the complications multiply.

Bee sting allergies, a great bee die-off, a rival team's cheating, a mysteriously reclusive science teacher, and Sam's romantic feelings for a classmate make the bee project anything but simple.

This story includes lots of facts about bees and Colony Collapse Disorder.

"Honey bees are endlessly fascinating creatures, with complex social organization, symbolic dance language, and altruistic behavior. Recent declines in honey bee populations worldwide have also raised our awareness of how important they are for pollinating our agricultural crops and maintaining a healthy and balanced environment. *Bees on the Roof* is a wonderful introduction into the world of bees, and the beekeepers who care for them. As anyone who has kept bees knows, caring for these complex creatures is both extremely challenging and rewarding. Indeed, what starts as a 'simple' science project for Sam and his friends turns into a life-changing journey, and their experiences with their colonies of honey bees help them learn about themselves, each other, their families, their community, and their world." —Christina

Grozingier, Distinguished Professor, Entomology; Director, Center for Pollinator Research, Pennsylvania State University

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**Check out the following sample pages
focusing on science vocabulary, reading
comprehension, and literacy-based projects!**

Teacher Guide included!

Find out what students already know.

BEES ON THE ROOF

Name: _____ Date: _____

BEFORE YOU READ

Directions: Research 5 facts you did not know about bees and write them in the boxes below.

1. _____

2. _____

3. _____

4. _____

5. _____

BEES ON THE ROOF

Initials: _____

Comprehension Questions: 1-5

Directions: Answer the following

1. Where does the winning team go to this year?

2. What is Sam worried will happen?

BEES ON THE ROOF

Initials: _____

WORD STUDY: Chapters 1-5

1. Feign

Identify two synonyms for the word *feign*.

2. Claustrophobic

If you're claustrophobic, you are afraid of what?

3. _____

4. _____

5. _____

BEES ON THE ROOF

Initials: _____

WORD STUDY: Chapters 1-5

5. Pesticide / Insecticide / Herbicide

Define each word.

Pesticide - _____

Insecticide - _____

Herbicide - _____

6. Toxic

If something is toxic, it is harmful.

TRUE

7. _____

8. Renewable Energy

Draw three different types of renewable energy.

9. Bacteria

Strep throat and pneumonia are examples of bacterial infections.

TRUE **FALSE**

10. _____

11. Virus

Definition: _____

12. _____

13. Cells

What are three characteristics of cells?

1. _____

2. _____

3. _____

14. Ecosystem

Definition: _____

15. Sustainable

Identify two synonyms for *sustainable*.

16. Cancer

Cancer is uncontrolled growth.

17. Remission

What does it mean if someone is in remission?

18. Amputation

If someone has cancer, what is the potential benefit of having a body part amputated?

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Vocabulary

Comprehension Questions: 6-12

Directions: Answer the following questions in complete sentences.

1. How many eggs does the Queen Bee lay in a day?

2. How much honey does a single honeybee produce in its lifetime? Why is that significant?

3. How do they react to Ella's locker?

4. On pages 52 and 53, how does the Queen Bee serve some social functions? Explain them briefly.

Types of Bees

Directions: List three characteristics for each type of bee.



Drone:

1. _____

2. _____

3. _____

Parts of a Bee

Directions: Correctly label the parts of the bee using the word bank below.

Word Bank: *Antennae* *Proboscis* *Thorax* *Abdomen* *Stinger*

Honeybee Life Cycle Project

Directions: After researching the stages of the honeybee life cycle, you will create a poster, mobile, OR diorama that shows and explains the process. Use the spaces below to begin composing your ideas.





Honeybee Life Cycle Project



Novel Project option

Each section has reading comprehension questions to track student progress and understanding.



Thank you for sharing NGS Magnified with your students!

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