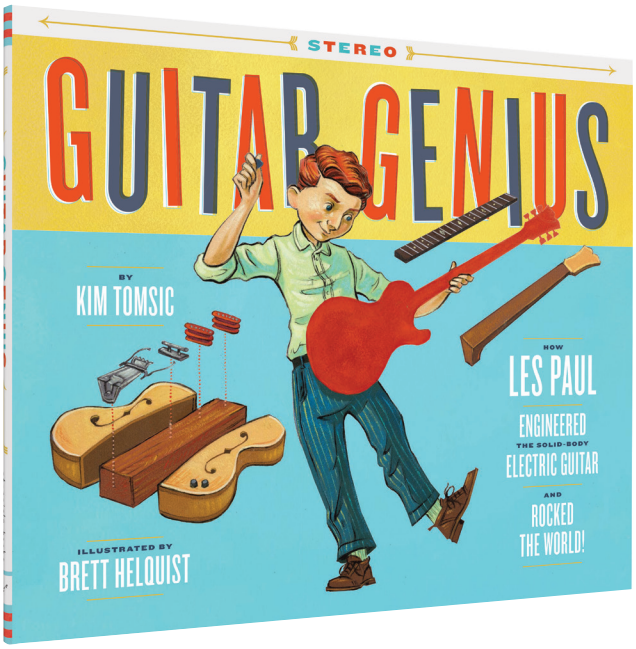


978-1-4521-5919-5 • $17.99 HC
978-1-4521-7603-1 • $11.99 E-book
Ages 5 to 8 • F&P Text Level Gradient: S
Lexile® Measure: 720L

GUITAR GENIUS

HOW LES PAUL ENGINEERED THE SOLID-BODY ELECTRIC GUITAR AND ROCKED THE WORLD

BY KIM TOMSIC

ILLUSTRATED BY BRETT HELQUIST

ABOUT THE BOOK

This is the story of how Les Paul created the world's first solid-body electric guitar, countless other inventions that changed modern music, and one truly epic career in rock and roll. How to make a microphone? A broomstick, a cinderblock, a telephone, a radio. How to make an electric guitar? A record player's arm, a speaker, some tape. How to make a legendary inventor? A few tools, a lot of curiosity, and an endless faith in what is possible. Featuring richly detailed, dynamic illustrations by Brett Helquist, this unforgettable biography will resonate with inventive readers young and old.

ABOUT THE AUTHOR

Kim Tomsic was "made" in France, born on an American military base in Italy, and has lived in various parts of the United States. She has been the new girl at many schools, which is probably why she grew up to be an avowed extrovert. She enjoys helping others connect and serves as Co-RA for the Rocky Mountain Chapter of the SCBWI.

ABOUT THE ILLUSTRATOR

Brett Helquist's celebrated art has graced numerous books, from *Bedtime for Bear* and the *New York Times* bestselling A Series of Unfortunate Events to the picture book adaptation of Charles Dickens' *A Christmas Carol*. He lives with his family in Brooklyn, New York.

ABOUT THIS GUIDE

Guitar Genius is a picture book biography that will be enjoyed by readers in elementary and middle school. This guide provides learning opportunities that reach across the curriculum in a variety of grade levels. Activities are designed to meet Common Core State Standards and Next Generation Science Standards. Discussion questions and activities that support Social Emotional Learning curriculum as well as the English Language Arts and Science are suggested. Classroom teachers or media specialists can also utilize the makerspace ideas for STEAM practice.

The Common Core Standards addressed in this guide are:

CCSS.ELA-LITERACY.CCRA.R.1
Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCSS.ELA-LITERACY.CCRA.R.2
Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCSS.ELA-LITERACY.CCRA.R.3
Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

CCSS.ELA-LITERACY.CCRA.R.4
Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

CCSS.ELA-LITERACY.CCRA.R.5
Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

CCSS.ELA-LITERACY.CCRA.W.1
Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.

CCSS.ELA-LITERACY.CCRA.W.9
Draw evidence from literary or informational texts to support analysis, reflection, and research.

The Next Generation Science Standards addressed in this guide are:

ENGINEERING DESIGN, K-2

Students who demonstrate understanding can:

K-2-ETS1-1.

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2.

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

K-2-ETS1-3.

Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

ENGINEERING DESIGN, 3-5

Students who demonstrate understanding can:

3-5-ETS1-1.

Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2.

Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3.

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

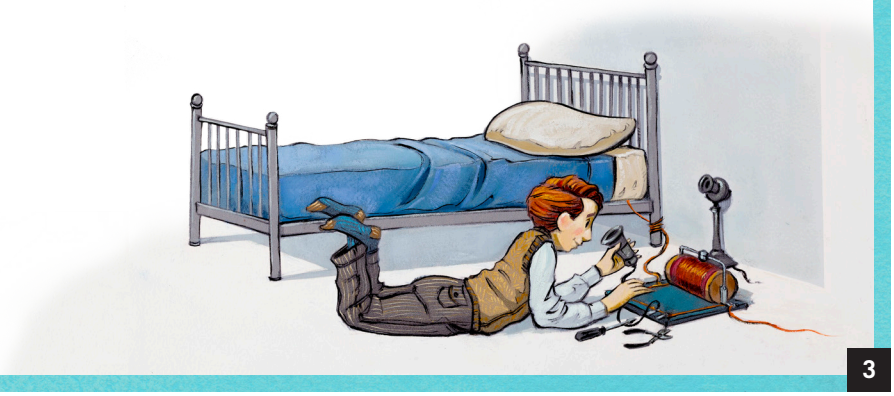
BEFORE/AFTER READING

VIDEOS

You may consider screening these videos for your class before or after reading *Guitar Genius*.

To learn more about the difference between acoustic and electric guitars, watch the video "The Difference Between Acoustic and Electric Guitars" by Guitar Hangar. Search the video title and creator name on YouTube or go to this link: **http://bit.ly/2Uw4H9g**

To watch Les Paul play a song on his electric guitar, watch the video "Les Paul / Somewhere Over the Rainbow" by knuckletc. Search the video title on YouTube or go to this link: **http://bit.ly/2HYn5By**



VOCABULARY SORT

Guitar Genius follows Les Paul in his younger years as he tinkers and toys with many different sound inventions. Throughout the book, readers encounter words that have to do with sound or Lester's musical inventions. Have students think about some of these words:

shimmied	chords	bamboozled
fret board	boomed	amplified
clanged	strumming	phonograph
recording lathe	gizmos	humming

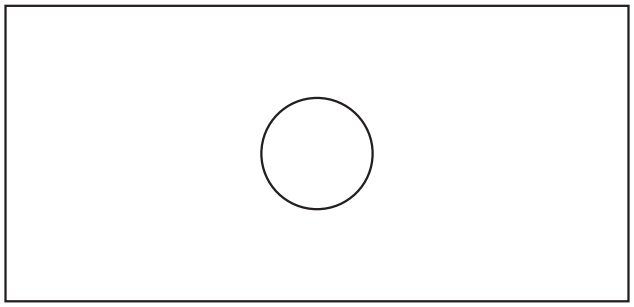
Have students do a vocabulary sort and ask them to identify words that describe sounds, and/or words that describe musical devices or instruments.

Ask students to take a look at some of the vocabulary describing musical devices and research to see what these devices look like. Have them draw an illustration of what they find.

ACTIVITIES

EXPLORE THEME

Guitar Genius explores a number of themes. Some examples include: determination, growth mindset, overcoming obstacles, problem solving, and perseverance. Before naming any, have students brainstorm a list of themes or messages that are seen throughout the story. After creating the class list, choose 3-5 themes to explore deeper. Use a circle map to organize students' thinking.



Write each theme on a separate piece of paper. On each paper, write the theme in the center and draw a circle around it.

Put students together in small group partnerships and have them travel to the different circle maps. Students should write evidence from the text supporting the theme around the rest of the page. To avoid multiple ideas written on the map, if a group agrees with something that has already been written, have them write a check mark by the idea.

Once all the groups have had an opportunity to visit each circle map, display them next to each other. Is there a theme that has more evidence than others? Which theme stands out the most?

Extension activity: Using a circle map as a starting point, students can write an in-depth paragraph or paper about the theme that stands out most.

TAKE A LOOK AT TEXT STRUCTURE

Throughout the book, Lester faced numerous problems. Instead of stopping when faced with an obstacle, Lester continued to tinker until a solution came to him.

Discuss how authors structure their texts so that when they lay information out in the story, it makes sense to the reader. Ask students to notice how Kim Tomsic uses a problem/solution text structure. Tomsic details a problem Lester faced and then gives the reader his solution. Have students take a look at some of the problems Lester encountered, and the way he solved those problems. Track the problems and solutions identified by students on a 2-column chart. Label the left side "problem" and list the problems Lester tackled on this side. Label the right side "solution" and write the corresponding solution to the problem.

Extension activity: Ask students to identify which problem and solution they think is the most important, and to write an opinion piece to convince their classmates. Have students present their arguments and see if they can sway a classmate's opinion.

SOCIAL EMOTIONAL LEARNING

There were a few times when Lester heard comments that weren't positive—from a teacher, his brother, and even from his mom. Try a compliment circle with your class, and turn Lester's negative comments into positive ones.

Have students sit in small groups, forming circles. Ask them to think of a situation in the book when Lester received some negative feedback. For example, Lester's mom criticized the way his new electric guitar looked. How could that negative comment be turned around into a compliment? Go around the circle changing the negativity into positivity!

MAKERSPACE IDEAS

TINKER AND CREATE!

Ask students to think like Lester and consider what materials they might use to make their own instrument. Gather these materials and encourage students to get creative.

Possible additional challenges:

- Assign a number of materials that must be used (e.g., each instrument must consist of 4 different materials.
- Assign students to create multiple instruments, each making a different sound

Material ideas: differently sized paper rolls, string, boxes, plates, ribbon, brads, beans, empty water bottles, metal cans, wax paper, duct tape, different sized cardboard

For a more structured activity, share the following instructions with the class to create harmonicas and guitars.

MAKE A HARMONICA

1. Gather materials: two jumbo craft sticks, straw, scissors, one wide rubber band, two smaller rubber bands
2. Cut the straw into two pieces and make sure each piece is longer than the width of the craft stick, but shorter than two inches. You can experiment with different sizes!
3. Place the wide rubber band around one craft stick, going end to end.
4. Place one straw piece under the rubber band, about an inch and a half away from the end of the stick.
5. Put the other craft stick on top of the first and rubber band the ends that are closest to the straw with a smaller rubber band.
6. Place the second straw piece between the craft sticks on the opposite side from the first straw, but leave the second straw piece on top of the rubber band.
7. Secure the ends of the craft sticks together with a short rubber band.
8. Your harmonica is ready to be played! Blow between the sticks and check out your new tunes!
9. Experiment with sound by moving the straws further apart or closer together. What happens?

MAKE A GUITAR

1. Gather materials: differently sized boxes (shoe box, tissues box, jewelry box, etc.) and differently sized rubber bands (large, small, thick, thin, etc.)
2. Cut an opening somewhere on the box.
3. Stretch rubber bands that vary in thickness across the opening. Be sure to put them in size order!
4. Pluck the rubber bands. What do you notice about the sounds each one makes? What type of sound wave does the rubber band make? (For example, thin, short rubber bands will produce a higher pitch because they produce shorter sound waves.)

DISCUSSION QUESTIONS

Use these questions as whole class discussions, reading check-ins, or as writing prompts with *Guitar Genius*:

- What were some of Lester's character traits that helped him be successful?
- The book details some of Lester's early inventions. Which one do you think was his most important invention, and why?
- Lester's goal was to make music, but in doing so, he taught us a lesson. What lesson did you take away after reading *Guitar Genius*?
- Author Kim Tomsic uses old-fashioned words that were prevalent when Lester was growing up. What does this add to the experience of reading of the book?
- Lester had a lot of materials in his house that he was able to tinker with to create new inventions. How did that help him find success as a guitar creator?
- Why do you think Lester's first electrical guitar design wasn't well liked?
- How did the music teacher and his mom's point of view make a difference in Lester's life?
- Consider the theme of perseverance. How did the author carry this theme throughout the story?
- How did Lester first get the idea of an electric guitar? How did his invention change over time?

This teaching guide was written by Michele Knott, a literacy specialist and coach in Grayslake, Illionois. When she is not binge reading, you'll find her blogging at Mrs. Knott's Book Nook. Michele is a member of the 2017–2019 Illionois Bluestem Award committee.