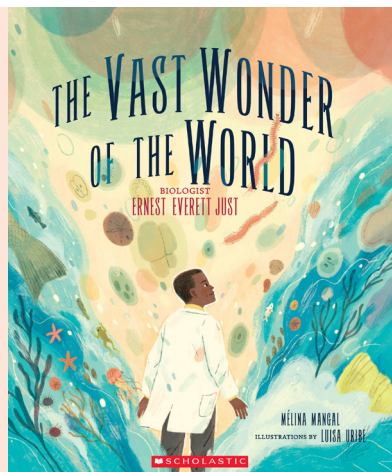


The Vast Wonder of the World: Biologist Ernest Everett Just

written by Mélina Mangal; illustrated by Luisa Uribe



Rising Voices Theme

Heroes and Role Models

Note to the Teacher

- **Read-Aloud Tip** After introducing students to Just as an adult in 1911, the book takes students back in time to learn about his childhood. Pause to be sure that students understand the shifts in time.
- **Language Support** *Building block* is used on page 17 to describe the cell. Explain that this does not refer to a literal block, but to a basic unit used to create something larger. Just realized that studying a small detail would help him understand the whole.
- **Background** Before reading aloud, preview pages 22–23 to determine if students are ready to explore this scientific concept during a read-aloud. If not, the flow of the read-aloud will not be disrupted if you skip these pages.

Vocabulary

- authority** (p. 6) knowledgeable and respected person
- controversial** (p. 23) something people disagree with
- marine** (p. 6) something found in or related to the sea

AT A GLANCE

Ernest Everett Just (1883–1941) changed the way scientists study living things and made significant discoveries about cell behavior. Despite hardships in his childhood and unfair racial discrimination throughout his life, his love of learning, nature, and science propelled him to study hard and go on to become a highly regarded and accomplished scientist. Author Mélina Mangal's *The Vast Wonder of the World* brings to life this remarkable man and will inspire readers to value what can be learned from observing nature, sharing knowledge, and pursuing one's personal goals.

Genre/Text Type: Biography/Picture Book

Social-Emotional Focus: Self-Management

Strategy Focus: Connect Events

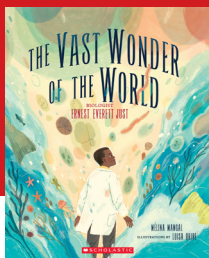
INTRODUCE THE BOOK

What qualities do you think a scientist needs to succeed in his or her chosen field? Jot down your ideas. Circulate and call on one student at a time, encouraging that student to quickly share. Record students' ideas on chart paper. Display the cover of the book, read the title, and explain that this book is a biography of a scientist who made important discoveries. In fact, scientists today still use his discoveries. *Let's read to find out more about Ernest Everett Just and his amazing career.*

DURING READING

As you read the book, pause to discuss the questions below. Encourage students to turn and talk with partners or share their thinking with the whole group.

- pp. 2–7** The author tells us that Ernest saw the whole where others saw parts. What impact do you think this ability might have had on how Ernest Everett Just studied science? (**make inferences**)
- pp. 8–11** As a child, Ernest loved observing, or carefully watching, things in the world around him. How might this love of observing have led to Ernest's eventual career choice? (**connect events**)
- pp. 12–15** Ernest's mother was hardworking and accomplished. She started a school and founded a town. How did his mother's example help Ernest keep going, even in difficult times? (**connect events**)
- pp. 16–21** The author says that a biology class at Dartmouth changed Ernest's life. How did it change his life? How did Ernest differ from other scientists in his scientific methods? (**key ideas and details**)
- pp. 25–27** The author says that Ernest "didn't have the freedom white scientists had," so he moved to France to become an independent researcher. How might he have felt making this decision? What does this tell you about him? (**make inferences**)
- pp. 28–29** The author says that Ernest Everett Just opened up the wonder of the universe to all of us. For him, the detailed study of single cells was as interesting as looking at the universe all around us. How does his story inspire you? What might you learn by more carefully observing the world around you? (**make connections**)



The Vast Wonder of the World

AFTER READING

Strategy Focus: Connect Events

Remind students that when you connect events in a biography, you come to understand more about the person and his or her life. *Ask yourself:*

- Does one event remind me of another event that I read about earlier in the book?
- How are these two events related? How did one event lead to another?

In *The Vast Wonder of the World*, Ernest Everett Just does not let obstacles keep him from learning.

How is Ernest's decision to go to Dartmouth related to events in his childhood?
How is becoming a biology professor related to Ernest's decision to move up north?
Have students turn and talk with a partner. Select some students to share their thinking. Then as a class, discuss: *What do all of these events tell you about his passion for biology and learning?*

Extend Literacy

Write an Introduction Tell students that at an awards ceremony, the person who is being honored is usually introduced first. This short speech highlights why this person is special and why they deserve an award. Have students work alone or with a partner to write a short introduction for Ernest Everett Just. Have students return to the qualities of a successful scientist they jotted down earlier for inspiration. Have students share their introductions. **(opinion)**

Book Club Discussion Have students meet in small groups to discuss the questions below. You may wish to provide the questions on cards for students to use in their groups.

- **A Hero and Role Model:** *What qualities make Ernest Everett Just a hero and role model? What lessons can you learn from Just's determination and creativity?*
- **Sharing His Observations:** *Ernest Everett Just is known for his scientific work. But in the text we learned that he also wrote poetry. What do poets and scientists have in common?*

Build Social-Emotional Awareness

Ernest Everett Just's research was respected around the world. Yet he was unfairly discriminated against in the United States. Just faced many hardships in his life, but he remained motivated in his pursuit of learning and his scientific studies. For example, when he failed a class at Dartmouth, he remembered how his family depended on him and how hard his mother worked throughout her life. He motivated himself to study harder for his other classes. Why is it important to stay motivated if you want to achieve a goal? Have students turn and talk with a partner. Then select a few students to share their thinking with the class. **CASEL (self-management) Competency**

Conduct an Interview Have students work with partners to role-play an interview between Ernest Everett Just and a science student. What questions might the student have for Just? What advice might Just have for the student? Select a few students to perform their interviews with the class.

Connect to the Internet

Meet African American Scientists Visit the following site for information and photos to share with students about African American scientists, including Garrett Morgan, Benjamin Banneker, Mae Jemison, and Professor Samuel Massie, Jr.: www.famousscientists.org/15-famous-black-scientists-in-history.