

A Gift of Dust

How Saharan Plumes Feed the Planet

EDUCATORS' GUIDE

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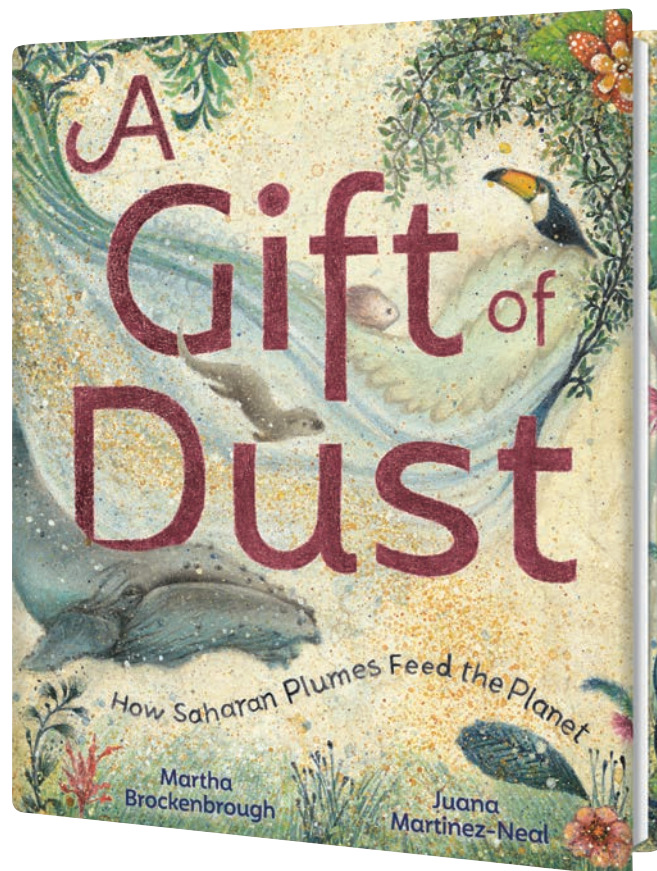


THEMES: Science & Nature, Geography, Animals, African Interest

About the Book

An ancient catfish becomes a fossil, and as the lake where it lived dries up, the fossil turns to dust—but this isn't ordinary dust. The story of this dust begins in Chad, West Africa, but winds carry it across the continent and over the Atlantic ocean to nourish and replenish the Amazon rain forest and beyond.

A Gift of Dust takes readers on a journey that shows just how interconnected our planet is, and how something so small can have such a huge impact. With lyrical, awe-inspiring verse based in fact and stunning art from a Caldecott honoree, this is a story for our time.



About the Author

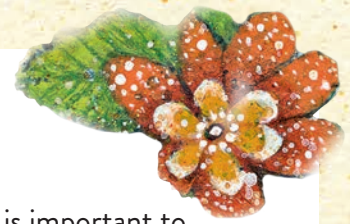
MARTHA BROCKENBROUGH is the author of more than twenty books for young readers, from picture books through YA. Some of her picture books include *I Am an American: The Wong Kim Ark Story* (an ALA Notable Book for Children), *This Old Dog*, *Cheerful Chick*, and more! Her books have made several Best of the Year lists. She lives in Seattle with her family.

About the Illustrator

JUANA MARTINEZ-NEAL is the winner of the Pura Belpré Illustrator Award for *La Princesa and the Pea* by Susan Middleton Elya and a Caldecott Honor for *Alma and How She Got Her Name*, which she also wrote. She is the recipient of a Robert E. Sibert Medal for *Fry Bread: A Native American Story*. Originally from Lima, Peru, she lives with her husband and three children in Connecticut.



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Pre-Reading

1. *A Gift of Dust: How Saharan Plumes Feed the Planet* is a nonfiction book providing information about a unique natural phenomenon. What do you know about dust? Why would it be considered a gift? Let's look at the book's front and back cover. Can you name the different plants and animals you see? What could be the connection between the images on the book cover and dust?
2. Before we begin reading, it is important to understand what a "Saharan plume" is. Have you heard either of these words before? The word *Saharan* refers to the Sahara Desert located on the continent of Africa. Let's find it on a map. A *plume* is a cloud of dust. Sometimes when we see smoke coming out of a chimney, we call it a plume of smoke. Here is a photo from NASA of the [Saharan plume](#). Does it look like anything you have seen previously?

Discussion Questions

1. Look at a map of the world to locate Africa, the Atlantic Ocean, South America, and the United States. Compare it to the illustration on the end pages showing the route of the dust. What color did the illustrator, Juana Martinez-Neal, use to depict the Saharan plume? As we read the book, look at how the plume of dust is illustrated on each page.
2. What images do you see on the title page? Do you see any of these same images on the first page with text? Why do you think the illustrator chose to use these images to begin the story?
3. As you view the pages with the trout and fossil, explain in your own words how a fish becomes a fossil.
4. The author, Martha Brockenbrough, tells us that dust provides nutrients. What are nutrients? The text says "The dust also feeds plankton." What is plankton? ([The National Ocean Service offers information about plankton.](#))
5. What is a capybara? Does it need the dust's nutrients to survive? Which other animals need nutrients from dust? What does the dust provide to plants?
6. Break apart the term "melon-maracujá swirl." Use the illustration and your own knowledge to determine what these words mean. Once you have guessed, look up the words up in a dictionary.
7. The illustrator has interpreted the lyrical language written by the author. She has created images that enhance and extend the text. Examine the illustrations on each page and discuss:
 - How did Juana Martinez-Neal create the artwork? (Look at the copyright page for clues). Are the illustrations realistic?
 - What colors are used in the book? Can you tell by the colors where the dust has traveled in each illustration?
 - As you look at the illustrations, talk about the way lines are used. How do they make your eyes move across the page?
 - Perspective is another visual element used in the illustrations. Which illustrations use a bird's-eye view? For those that don't, what is shown in the foreground and the background? How do these perspectives help you understand the different types of environments where the dust travels?

Discussion Questions (continued)

- Which page is the most eye-catching? Why?
 - Learn more about Juana Martinez-Neal by visiting her website at juanamartinezneal.com.
8. The author repeats the words *this dust* four times near the end of the book. The author is summarizing the different ways that dust impacts our lives. What are the images on this page? What do the hands represent?
 9. How does the final page in the story connect to the beginning? Why is there an illustration of a mother and child? What significance do they have to the dust we have read about?
 10. Let's plot on the world map where the dust traveled. How long do you think it takes for the dust to travel that far? Do some research and add a timeline to your map.
 11. The back matter reveals more information about dust. As we read each section, what do you find new and interesting? Create a chart labeled "Information About Dust" and write facts about Lake Mega-Chad, fossils, the size of the dust cloud, and the effect Saharan dust has on the earth.



Extension Activities

GET THE GIST

The gist of something is a short summary of its most important part or aspect. Respond to the following questions.

1. What is the book about?
2. What is the most important information to know about the Saharan plume?

The Gist: In ten words or less, what is the gist of the Saharan plume?

STOP & JOT

A Gift of Dust: How Saharan Plumes Feed the Planet is narrative nonfiction—true information that reads like a story. It also contains expository text in the back matter explaining various facts. Consider both the text and the back matter when highlighting what you have learned from the book.

Fold a piece of paper to create six squares. Label the squares and complete the sentence prompt or sketch your response.

New information I never knew . . .	Eye-catching image Sketch and label	Wonderings I am curious about . . .
New words I learned from the text that _____ means _____.	Summary This page (or pages) was/were about . . .	Connection or idea I thought about . . .

Extension Activities (continued)

DUSTING FOR WORDS

Write the word *dust* in the middle of a piece of paper and circle it. Find words or phrases contained in *A Gift of Dust* that relate to dust. These can be words such as “speck” or phrases like “turning sunrises and sunsets red.” Share your words and phrases with a partner or in a small group.

THE AIR WE BREATHE

The Saharan plume impacts air quality, as explained in the back matter of *A Gift of Dust*. Conduct the following experiment to learn about the air quality in your school, home, and neighborhood.

- Cut three, three-inch squares from heavy paper such as cardstock, a paper plate, or poster board.
- Punch a hole at the top of each square. Thread string through the hole and tie it so it forms a loop.
- Cover one side of the square with petroleum jelly, solid coconut oil, or two-sided tape.
- Identify a location within your school, at home, and in the neighborhood to hang your square (be sure those in the school and at home know you are conducting an experiment and not to disturb your card).

- Leave the squares for three to five days. Be careful not to allow the squares to touch each other or another surface when you collect them. Examine each square with a magnifying glass. (You can also take digital photos to record this information.)
- Create an observation sheet to write and draw what you see on each card. Label each drawing and include the location where it was hanging.
- Compare your findings with others. What conclusions can you make about the air quality in those locations?

Are there words, images, or ideas from *A Gift of Dust* that you continue to ponder? Author Ralph Fletcher, in *A Writer’s Notebook*, calls these “fierce wonderings,” which are:

- BIG questions that are open-ended, not easy to answer, and may require additional research
- Bottomless questions that prompt more questions—they can be serious or comical
- Lingering questions that keep you thinking

What are your fierce wonderings? Write them down and try to develop answers to them. Share your wonderings with others and ask for their opinion. Seek out other books or resources that might offer more information.





READERS WHO CODE

Read and reread *A Gift of Dust* and write or draw something from the text or illustrations that piques your interest. Then use one of the codes listed below or create your own code and write or draw a response. Compare your responses with others. What was their “ah ha” from the book?

What the text says	Code	My response
What the illustration shows	Code	My response

CODE

- L** I am *learning* that . . .
- W** I *wonder* about . . .
- D** I *discovered* a new fact . . .
- S** I *see* . . .
- ?** Why did/is . . . ?

Pattern Writing—*The Important Book*

The Important Book by Margaret Wise Brown (1949) is an excellent picture book to demonstrate pattern language. Each page begins with a fact about or trait of an object. Next, there are several descriptive sentences. Finally, the first line is repeated. Read *The Important Book* and discuss pattern language.

Use this same pattern to convey attributes about natural phenomena such as the Saharan plume, hurricanes, tornadoes, or earthquakes. Work in pairs or small groups using the following sentence frame to describe what is important about the natural phenomenon you have selected.

The important thing about _____ is _____.

It is also _____, and _____, and _____.

But the most important thing about _____ is _____.



This guide was written by Cyndi Giorgis, a professor of literacy education and children’s literature in the Division of Educational Leadership & Innovation in the Mary Lou Fulton Teachers College at Arizona State University. Cyndi has served on several ALA and NCTE Award Committees over the years.



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