

Pieces of Another World



By Mara Rockliff
Illustrated by Salima Alikhan

Pieces of Another World

This touching story of a father and child's nighttime excursion to watch a meteor shower is told through the eyes of a child in awe of the night world. Rockliff's vivid descriptions make readers feel as though they too are watching the tiny bits of other, distant worlds blazing into our own.

It's so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. Whether read at home or in a classroom, we encourage adults to do the activities with the young children in their lives. Free online resources and support at www.ArbordalePublishing.com include:

- For Creative Minds as seen in the book (in English & Spanish):
 - Meteor, Meteoroid, Meteorite: What's the Difference?
 - A Comet's Orbit
 - Comet Cookies
 - Meteor Math
 - Five Steps to a Fantastic Meteor Watching Party
 - Look! Up in the Sky!
- Teaching Activities (to do at home or school):
 - Reading Questions
 - Language Arts
 - Science
 - Math
 - Geography
 - Coloring Pages
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State Standards (searchable database)
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

eBooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio available for purchase online.

Thanks to George Gilba, Senior Technical Specialist at NASA's Goddard Space Flight Center, and Professor Joseph Patterson of the Columbia University Department of Astronomy for reviewing the accuracy of this book.

Mara Rockliff's favorite meteor shower was one she watched with a group of friends on a bitterly cold night. They threw a pile of old blankets on the ground and huddled close together, telling jokes and singing songs as they stared up into the clear night sky, afraid to blink and miss one of these tiny bits of other, distant worlds as they blazed into our own. While she has written many beginning readers, textbooks, essays, and magazine articles, *Pieces of Another World* is her first picture book.

Salima Alikhan decided to pursue a career in children's book illustration when she realized her lifelong passion for art would never leave her alone. Salima studied at the Corcoran Institute of Art in Washington, DC. Her favorite medium is watercolor. She begins most of her illustrations by drawing on cold-pressed watercolor paper, going over the drawing with ink, painting the picture, and then adding the final detail with watercolor pencil. To create the effect of snow, gravel, sand, stars, or coral, she often sprinkles salt on top of watercolor while it's still wet. When the paint dries, she shakes the salt off. The mineral compositions of different types of salts create different effects. Table salt leaves smaller spots, which are good for snow, gravel and stars; and sea salt or canning salt leave large circles, which are better for coral or sand. In addition to illustrating *Pieces of Another World*, Salima has also illustrated *Rocky Mountain Night Before Christmas* and the *Pied Piper of Austin*. Salima lives in Austin, TX.



Mara Rockliff



Salima Alikhan

Pieces of Another World

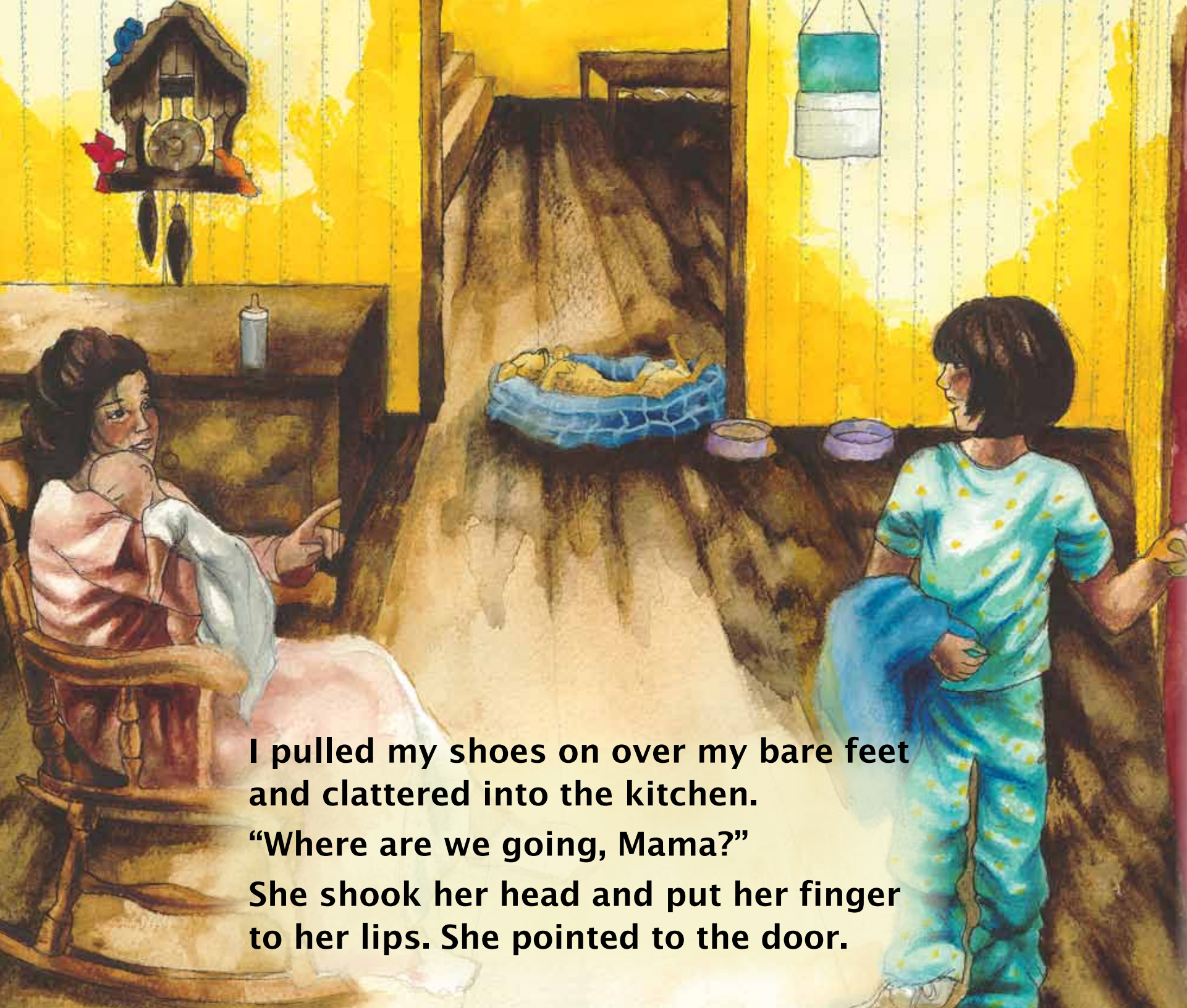


By Mara Rockliff

Illustrated by Salima Alikhan

My ears woke up before the rest of me.
“Jody,” whispered Daddy. “Wake up, Jody-bird.”
My eyes woke up. But when they opened, it was still dark.
“Is it morning?”
I could hear the smile in Daddy’s voice. “Guess it’s morning somewhere, but ’round here it’s still Saturday night.” He tapped me on the head. “Get your shoes on. We’re going out.”
Now I was awake all over. “Going out? Out where?”
But he was gone.





I pulled my shoes on over my bare feet and clattered into the kitchen.

“Where are we going, Mama?”

She shook her head and put her finger to her lips. She pointed to the door.



I pushed the screen door open. Outside, Daddy sat behind the wheel of our old blue pickup. I climbed in.

“Where are we going, Daddy?”

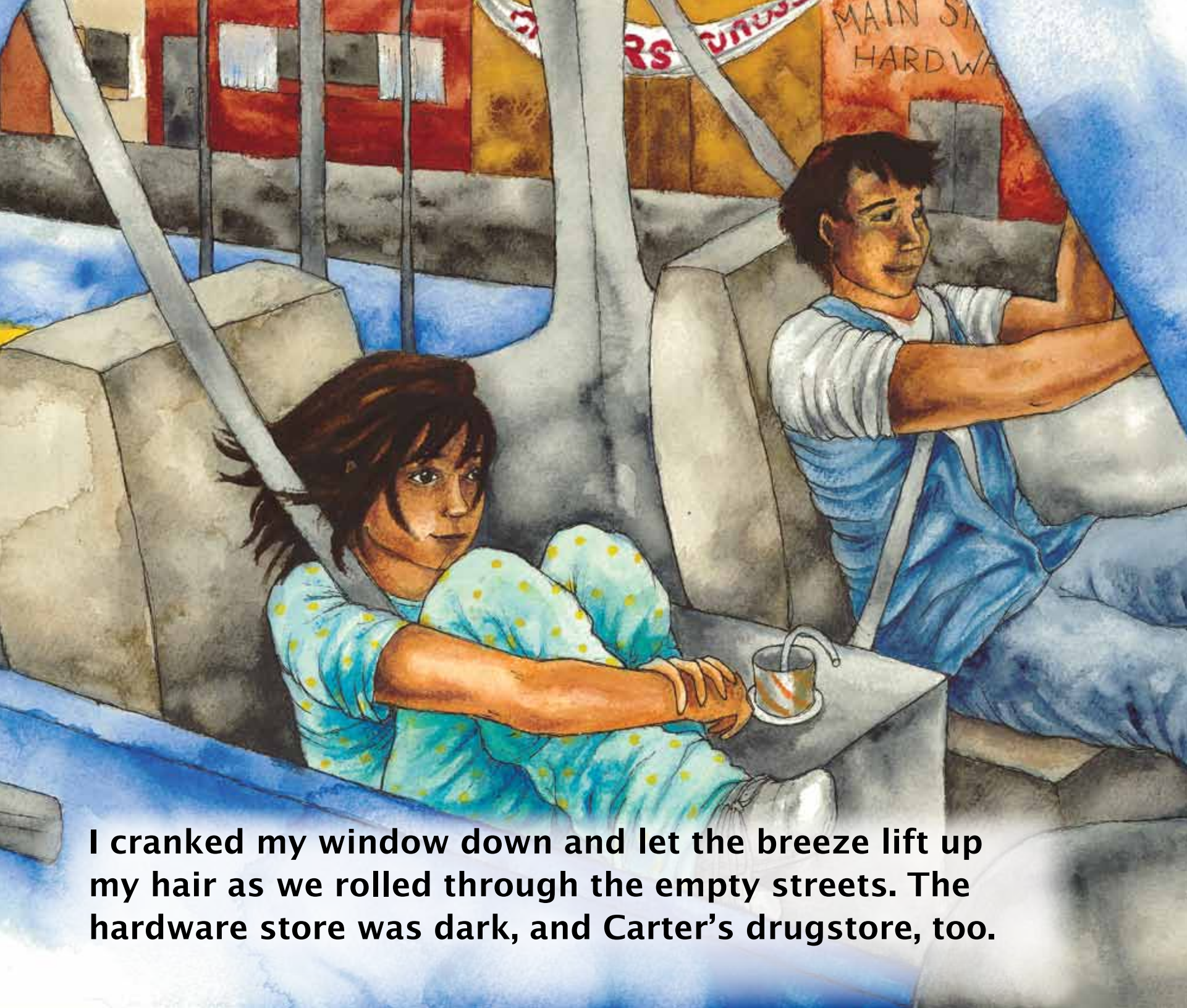
He flipped on the radio.

“Jody-bird, I’ve got a sight for you to see.”

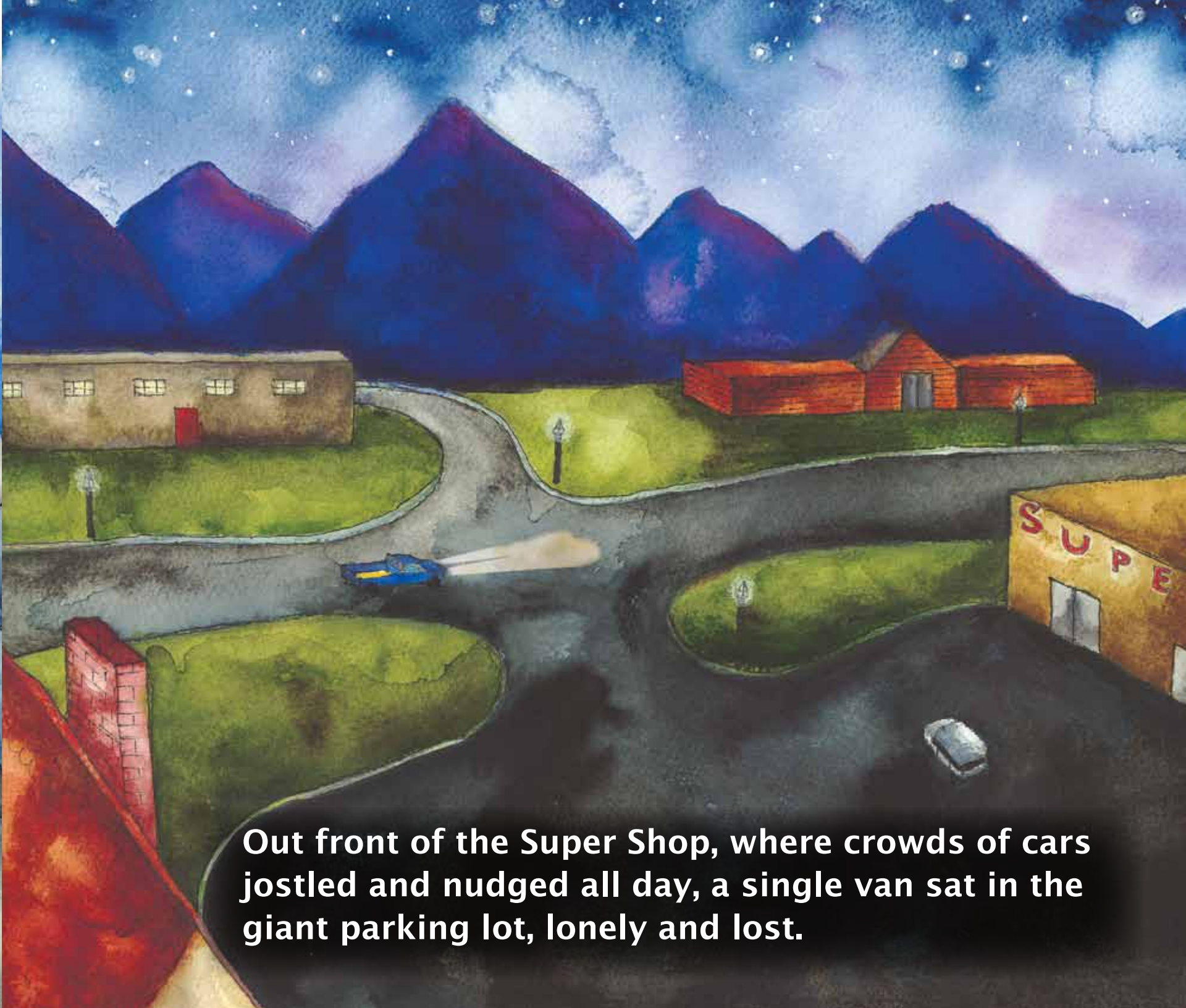
I bounced in my seat. “What kind of sight?”

“Oh . . .” He smiled. “Just some pieces of another world.”

Then he wouldn’t say anything more, just sang along to the music swirling from the radio. *Scoodly oodly bop bop do wada wada . . .*



I cranked my window down and let the breeze lift up my hair as we rolled through the empty streets. The hardware store was dark, and Carter's drugstore, too.

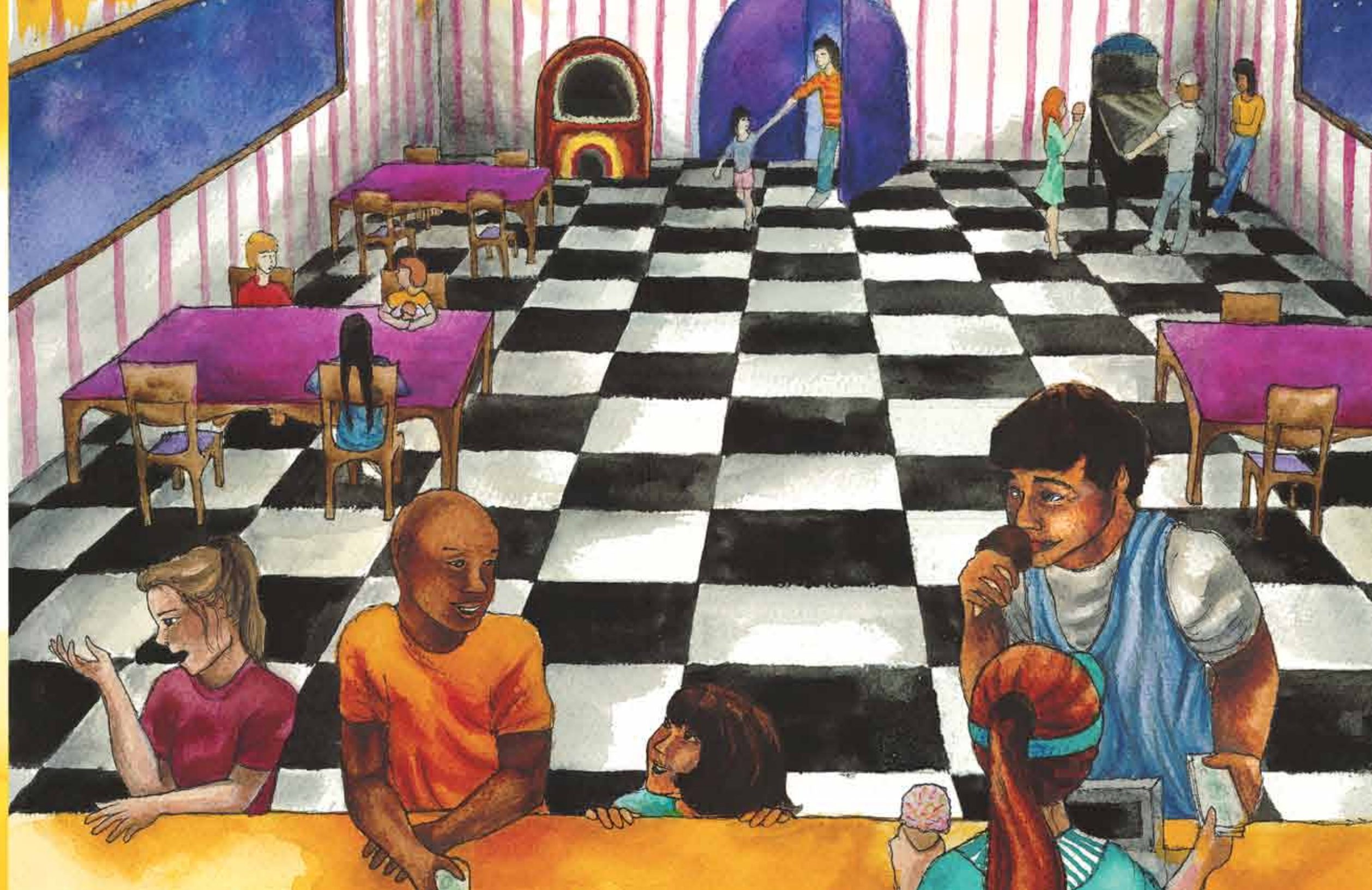


Out front of the Super Shop, where crowds of cars jostled and nudged all day, a single van sat in the giant parking lot, lonely and lost.

But further on, the Kree-Mee Freeze was lit up like a carnival. Daddy pulled in.

This wasn't the same old daytime Kree-Mee Freeze I knew. No little kids squeezing their cones too hard with ice cream dripping down their hands. No mamas saying "*No you can't have jimmies, now you tell the lady chocolate or vanilla.*"

Inside I saw teenagers out on their Saturday night, eating hamburgers and playing pinball. I felt a little funny in my PJs and my shoes. One boy grinned at me and said, "Hey, sleepwalker," but he didn't say it mean so I grinned back.



For Creative Minds

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Meteor, Meteoroid, Meteorite: What's the Difference?

A **meteoroid** is a chunk of rock or metal moving through space. Most are tiny, like a pebble or a grain of sand. But some are as much as a mile wide.

When a meteoroid enters the Earth's atmosphere, it burns up, making a streak of light called a **meteor**.

Sometimes, a large meteoroid does not burn up completely, and it falls to Earth. When it lands, it's called a **meteorite**.

Why do meteors shoot by so suddenly?

Meteoroids move fast! They hit the Earth's atmosphere at up to 150,000 miles per hour. At that speed, it doesn't take long for a speck of space dust to burn up. To catch sight of a meteor before it's gone, leave your telescope or binoculars at home. The best meteor spotting tool is a sharp pair of eyes.

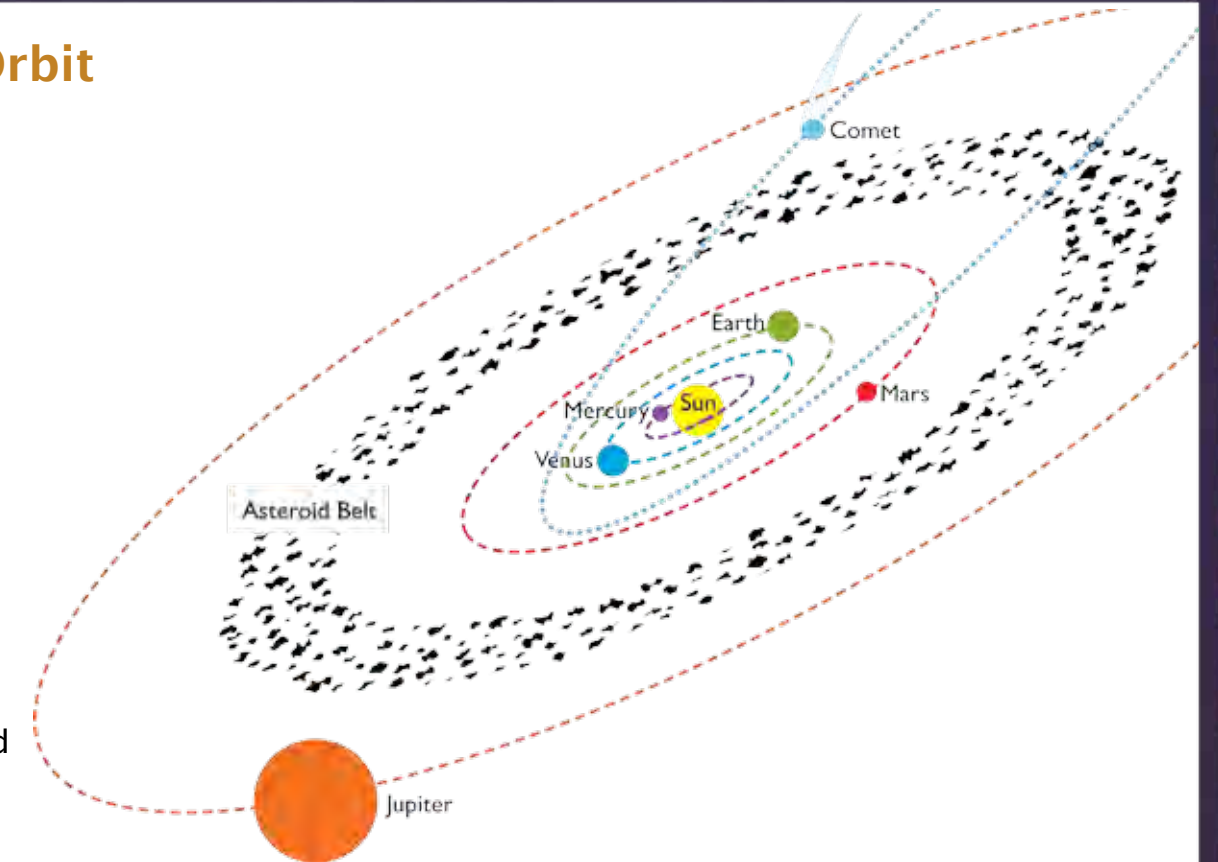
What is a meteor shower?

Gazing up into the sky on a typical night, you might see one or two meteors in an hour. But during an average meteor shower, you might see a meteor a minute!

Why all the extra meteors?

The Earth is passing through a trail of space debris left behind by a comet. A comet is a giant "dirty snowball" orbiting (going around) the sun. As the comet nears the sun, it starts to thaw, letting off a bright tail of gas and bits of dust and rock, which leaves behind a trail. When the Earth's own orbit takes us where the comet has been, we get a meteor shower.

A Comet's Orbit



Note: Distances and sizes of the planets are not drawn to scale.

Meteor Math

One of the greatest meteor showers ever was the Leonid storm in 1966, when meteors rained down at a rate of 40 per second.

- If you had been watching, how many would you have seen in 10 seconds?
- How high can you count in 10 seconds? Is that more or less than how many meteors you would have seen during the storm?
- How many meteors would you have seen in one minute?
- How many meteors would you have seen in one hour?

Comet Cookies

Note for classroom teachers: Store-bought chocolate chip cookies will work for this, but try to put some of the “space dust” on top of the cookies.



12-oz. package semi-sweet chocolate chips
12-oz. package miniature chocolate chips
12-oz. package miniature candies, such as M&Ms Mini Baking Bits
18-oz. roll of chocolate chip cookie dough

Mix the chocolate chips and candies in a bowl.

Follow the package directions to prepare the cookies for baking.

Press one tablespoon of candy/chip mix into the top of each cookie.

Bake and cool.

Lay one cookie on a paper plate. The cookie is the comet’s head—think of the dough as ice and the candies and chips as bits of “space dust.” So what’s missing? The tail! You can make a tail with leftover candy/chip mix—about three tablespoons for each comet.

To model a meteor shower, set a lamp in the middle of a table to be the sun. Carefully, “orbit” your comet cookie in an ellipse—long, flat oval—around the lamp. (Watch out for the cord!) As you orbit, shake off bits of candy/chip mix, so that you leave a trail.

Now, set down the plate, then take an orange or small ball—the “Earth”—and roll it slowly around the lamp. A meteor shower results when the Earth passes through the comet’s trail.

If you scatter a spoonful of candy/chip mix around the table, you’ll see how the Earth crosses paths with a smaller number of meteorites on ordinary nights.

And now, for the final step: eat your comet!

Five Steps to a Fantastic Meteor Watching Party

- 1 Plan ahead.** You can see meteors any night, but you’ll see most during one of the big yearly meteor showers, such as the Perseids (August) or Leonids (November).
- 2 Set your alarm.** The ideal time to spot meteors is in the very early morning—around 4 a.m. If you have a choice, pick a night close to a new moon or when the moon sets before 4 a.m. That will give you better visibility.
- 3 Keep it dark.** Get away from street and house lights if you can. If you must use a flashlight, cover the light with red cellophane to keep from spoiling your night vision.
- 4 Pack smart.** Bring a blanket, sleeping bag, or folding lawn chair. Dress warmly, even in summer. And don’t forget the hot chocolate and Comet Cookies.
- 5 Invite your friends.** Telling jokes and singing songs helps to pass the time between meteors. Or, just lie back quietly and listen to the sounds of the night.



Look! Up in the Sky!

Not every moving object or bright light in the sky is a meteor. Check this list of common night sights:

- **Meteors** are bright streaks that shoot by in an instant. Meteors come in many colors: mostly white, but you may also see streaks of yellow, orange-yellow, red, green, blue-green or violet.
- **Airplanes** move fast across the sky and have red blinking lights.
- **Satellites** move more slowly than meteors and can be seen for several minutes.
- **Stars** stay in one place and twinkle.
- **Planets** appear to stay in one place, unless you watch for weeks!

Thanks to George Gilba, Senior Technical Specialist at NASA's Goddard Space Flight Center, and Professor Joseph Patterson of the Columbia University Department of Astronomy for reviewing the text for accuracy.

For my parents, who once took us out for ice cream in the middle of the night -- MR

For Mama, Papa, Gobsche, and Shirley -- SA

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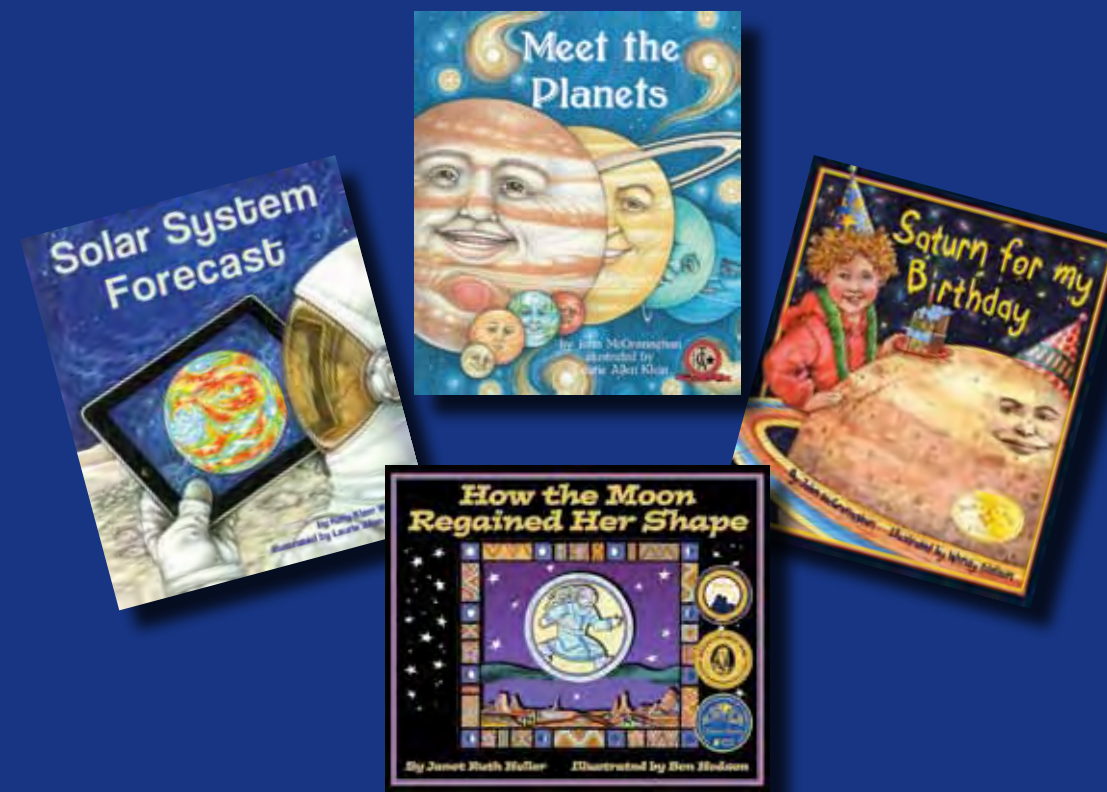
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