t was the first day of October—not that Earth months mean much on Planet Doom—and I knew my life was going to change forever. What I didn’t know was that I was about to die.

"Maybe you can come visit," Nola said. Her breath bloomed in the cold air like white roses. Even inside the Perimeter, Planet Doom’s temperature never got far above freezing.

"Yeah," I said. "When my parents save up enough money, we can take a trip to Earth."

We both knew that was a lie, but it was easier to pretend than to admit the truth. Nola and her parents—and the entire Seager Mission—were leaving tomorrow. My family was staying behind, and I was never going to see my best friend again.

Nola sighed, kicking a chunk of ice with her antigrav boot. It went flying, striking the silvery bubble of the Perimeter. The Perimeter is a force field that keeps us safe, holding oxygen in and keeping the deadly cold out. But in that moment, the Perimeter didn’t feel like a shelter. It felt like a prison.

Like me, Nola was dressed in standard-issue outside wear: a compfiber jumpsuit, a mask covering the bottom half of her face to keep ice crystals from forming in her nose and throat, and a knit cap pulled tight over her puff of curly black hair.

Beyond the Perimeter, ice-particle storms whirled across the frozen landscape. Out there, you’d be dead in 30 seconds without a survival suit. Planet Doom’s single pale sun glittered like a piece of cheap jewelry. The sky was flushed red with hazy clouds of nitrogen. (Perimeter patrol took place during the one hour of what passed for daylight on Planet Doom—not that anybody besides me bothered to patrol anymore.)

"I wish you could just come with us," Nola said, interrupting my gloomy thoughts as we crunched across the ice. "If your parents’ store works out, they can just send for you. If it doesn’t, they can come back to Earth too."

I scanned the horizon with my infrared binocs for the signs of alien life that the Mission scientists had long ago given up on finding.

"I couldn’t leave my mom and dad," I said. "I mean, even if Mission Control would let me."

"I’m sick of the stupid Mission," Nola muttered. She stopped, staring out at the jagged slabs of red-lit ice. "Don’t say that."

"Why not? The Mission failed." For a long minute we stared at each other. I wanted to cry, but crying out here hurts too much. Your tears freeze to your cheeks before they fall.

"I’m sorry, Yuki," Nola said, breaking the silence. "I know..."
how much the Mission means—meant—to you. It's just—I'm going to miss you."

"Yeah," I said. "I'm going to miss you too."

Nola grabbed my hand and squeezed it. "Come on," she said. "I came out here to help you with one last patrol. So let's patrol."

Planet Doom's real name is Kepler-2099-Blg-395b. And the Seager Mission didn't start out as a failure. It started out as a way to bring people together in the face of impossible odds.

I was 5 years old when my parents and I left Earth. All I remember of Earth is color: the blue sky in summer, the pale green of my mom's favorite tea, the red and gold of the dahlias my dad grew. But at the Mission school, we'd all seen the pictures of the decaying planet we left behind. The overcrowded cities, the famines, the wars. People thought the world was ending.

Maybe it was.

Then scientists discovered the Mirzakhan Effect: a way to travel through space at speeds faster than light. For hundreds of years, astronomers had studied the stars, finding thousands of planets that might harbor life. Now we had a way to get to them.

The idea of traveling through space to look for other life-forms—beings who might even be like us—united people in a way that nothing else had.

Humans had messed up big-time. We'd wrecked our planet and spent centuries trying to wipe each other out. We hadn't solved poverty or hunger or hatred or cruelty. Somehow, though, we'd looked at the stars and found a way to get to them. We'd built rockets that would take us beyond anything anyone had ever known. The Seager Mission made things feel like maybe, just maybe, our species could still do something beautiful.

That's what we learned in history class at the Mission school. And that's really what it had felt like when the Mission started.

Now I'm not so sure.

We'd been to 5 planets in 10 years and hadn't even found one lousy bacterium, let alone another sentient life-form. Nola's parents were the lead Mission scientists, and they did their best to keep everyone's spirits up. But by the time we got to Planet Doom, people were not optimistic. Four planet-sized failures will do that to you.

We'd been on Planet Doom for a year, tunneling beneath the ice to the pitch-black oceans under the frozen crust. Nola's parents led teams hunting for something—anything—that suggested we weren't alone in the universe. And just like they had on every other planet we'd landed on so far, they'd come up with nothing at all.

Which is why Mission Control decided it was time to give up, pack up, and go home. Except that not everyone was leaving. Some of us were being left behind.

Still don't understand why your parents want to stay here," Nola said. My parents aren't scientists like Nola's. They run the Mission's main trading post, exchanging precious commodities like 10-year-old flimseys that still flicker with the ghosts of long-outdated comic book heroes, jars of peanut butter, and the stubby ends of pencils that haven't yet been sharpened into dust. Basically, they run the loneliest convenience store in the universe.

"The mining teams are staying behind," I said. "Plus, ag team thinks they can set up farms in another few months. My parents think they'll be needed here."

Nola jerked her mask up higher on her face. She would never in a million light-years admit it, but she was trying not to cry too.

"I'll be fine," I said with a confidence I didn't feel. "This is my favorite planet out of all the ones we've been to."

"You would pick the coldest, most miserable place we've been," Nola snorted. "Weirdo," she added affectionately.

"Don't you think it's beautiful?"

"Maybe in the rearview mirror," Nola said.

Okay, so Planet Doom might not have been the watery world of OGLE-LPG-463b, where massive rivers tumbled thousands of feet into jagged canyons and two red-gold suns hung low in the pulsing crimson sky. It wasn't Kepler-RRB-231, nicknamed "Foxfire," where the science team had thought the blue glow of the soil might have been a sign of bacterial life, or CoKu Tau 4b, where night never came and a salty cerulean

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The sun's warm rays lit up the antarctic landscape. We were on the edge of a massive ice field, and the wind howled through the crevasses. Nola, my partner, and I were on a mission to explore the planet. The day had been long and cold, but our spirits were high as we approached the camp site.

"Let me see," Nola said, holding out her binoculars. She scanned the horizon, her eyes scanning the vast expanse of ice and snow. She quickly spotted something in the distance and pointed it out to me.

"There's something there," she said, "but I can't see it clearly." I squinted through my own binoculars, trying to make out what she was seeing.

"It looks like a bird," I said, "but I can't be sure." Nola nodded in agreement.

We decided to head towards the object and investigate. As we got closer, we could see that it was a group of small animals, possibly a herd of reindeer. Nola and I were both excited to see such a unique species.

"This is amazing," she said, "I've never seen anything like this before." I nodded in agreement.

We continued our exploration, hoping to discover more about this fascinating planet. The experience was a reminder of the beauty and diversity of our universe, and we couldn't wait to share our findings with the rest of the world.
"I saw something," I repeated. I knew my voice sounded pleading and desperate, but they had to know. "A flashing blue light. I think it was a signal."

"Did you see it too?" Nola’s mom asked her.

Nola shook her head, not meeting my eyes.

"Yuki," her dad said gently. "We would’ve intercepted anything that was a signal. It was just—"

"It wasn’t an ice mirage!" I yelled. "I saw something! I know you don’t believe me, but it’s true!"

A long, awkward silence followed. My parents exchanged glances. I knew what was coming next.

"We know how badly you want Nola to stay, honey," my mom said. "But the Mission is over."

"I’m not making it up to keep the Mission here."

I could see it in their faces. They didn’t believe me.

"I’m not lying," I whispered.

"Nobody thinks you’re lying. Yuki," Nola’s mom said. "Now how about dessert?" She was looking at me with the same pity Nola had out on the ice. I wanted to crawl under the table. Or scream. Or run away. But this was the last meal I’d ever have with Nola. So I sat up straight and smiled.

"You’re probably right," I said. "Dessert sounds great."

That night, I tossed and turned on my narrow cot in my tiny room. Overhead the glow-in-the-dark constellations my dad had painted for me shined. My dad had copied the summer night sky over Tokyo, the city where I was born. Sometimes I thought the stars were more for him than for me.

"I saw something," I whispered to the darkness. It felt as though the darkness had gone still. As if it were listening. "I know you’re out there."

I thought about how much my parents had given up to come here. How hard they’d worked to make their dream into something real. I thought about how my name written one way in Japanese means “happiness.” Written another way, it means “snow.” I thought about Nola’s dad, telling us stories of the city Nola had been named after. It had carnivals that felt like magic, he’d said. People wore feathers and sequins and colorful beads.

Nola’s great-grandfather had played the saxophone in the streets, where people danced like tomorrow would never come.

When Nola left in the morning, the empty place in my heart would be the size and shape of her.

I sat up. The pod was silent. I pulled on my warmest clothes, grabbed my binocs, and tiptoed out of our pod, slipping my antigray boots on in the hallway. What I was about to do was dangerous, against the rules, and extremely stupid.

I didn’t care.

As I made my way through the long, empty hallways to the science wing, the thud of my boots echoed the thumping of my heart. Finally, I reached the pod that held the survival suits. Without hesitation, I opened the locker.

The survival suit didn’t fit me well. It clearly wasn’t made for someone my age. But it would have to do. I checked the oxygen levels. I’d have 20 minutes, maybe half an hour if I breathed slowly. I took a last deep breath before I put on the helmet and opened the oxygen lines. The air tasted like metal and plastic. I opened the hatch and stepped into the airlock chamber. Now there was only one door between me and the outside. I hit the release button and took my first step beyond the Perimeter.

The wind knocked me sideways like a giant fist. If it weren’t for Planet Doom’s intense gravity, I’d have gone flying. I struggled back to my feet. When the next gust hit me, I was better prepared. Despite the force of the wind, I couldn’t hear anything except the noisy hiss of my own breath. The silver bubble of the Perimeter shimmered behind me, protecting everything and everyone I knew.

I looked around and gasped. I’d never known there could be so many kinds and colors of ice. Huge slabs erupted from the ground at crazy angles, as if giants had been playing dominoes. Tiny crystals glittered on the frozen earth like a spill of diamonds.

The sky was nearly white with stars, their blazing light reflected in prisms of red and gold and green. Planet Doom’s three moons hung low and heavy in the night sky.

It was so beautiful I could barely breathe. I took a step forward and then another, reaching my hands toward the stars as if I could pluck them from the sky.

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My heart pounded in my chest. I could hear the blood moving in my ears. And I could hear the ice singing in the dark as it shifted, moving with glacial slowness under the relentless wind. I'd spent so much of the Mission behind one wall or another—the Perimeter, the rocket ships, the reinforced plastic of our pods. Now only the thin membrane of the survival suit separated me from the rest of the universe.

Just then, the oxygen warning in my suit beeped—an angry, high-pitched bleat. Just a few more minutes, I thought.

How could I go back when there was so much to see?

It beeped more insistently.

At last, I turned to go back. Then I realized how far I'd walked. The Perimeter was a tiny silver dot in the distance. I'd been out for nearly 20 minutes. There was no way I had enough oxygen to get back.

I took a deep breath to calm myself—and then I realized how stupid that was. You're wasting oxygen, I reminded myself.

But fear had grabbed my heart with icy fingers. Now my breath was coming in panicked gasps. The oxygen warning screamed in my ears. I sank to my knees. I was running out of air. Planet Doom's beauty was going to kill me. I wished my dad could've seen the stars out here. I wished I'd said goodbye.

Ahead of me, the Perimeter blurred. I'm already hallucinating, I thought. It looked like the Perimeter was getting bigger.

But I wasn't hallucinating.

A silver ball was zipping toward me, skimming over the ice. A rover.

Nola, I thought. Hurry. My vision was darkening. I knew I'd be dead in minutes.

But the rover was there in seconds. Three figures leaped out before it had even come to a complete stop. The comm link crackled in my suit.

"Yuki, you idiot! What were you thinking?"

"I missed you too, Nola," I wheezed.

And then I passed out.

When I came to, I was flat on my back on the ice. Nola's mom hovered over me, her expression worried. When she saw me open my eyes, relief flooded her features.

"You're okay," she said. "Thank goodness, Yuki. If Nola hadn't realized . . ." She didn't finish. Nola's dad was checking the connection on an emergency oxygen tank they'd attached to my suit.

"If you ever do anything like that again, I'll kill you!" Nola yelled. "I had to—wait, what is that?"

Nola's mom looked up, and her eyes widened. A blue light fell across her face. She climbed to her feet and reached for Nola's dad.

"Henry, look," she whispered.

I pushed myself up to a sitting position.

"I told you it was beautiful." A pale snow began to fall from the dark velvet sky. And all around us was the sound of wings.
Are We Alone?

Scientists are closer than ever to finding life among the stars.

By Mackenzie Carro
hen was the last time you gazed up at the night sky? What did you see? Twinkling stars? The bright, frothy cloud of our galaxy, the Milky Way?

Now consider this: What if someone—or something—were out there looking back at you?

Right now, top scientists all over the world are asking that same question. And soon, they might have an answer.

Until recently, aliens were pretty much the stuff of Hollywood movies. Many scientists who searched for life beyond Earth weren’t taken seriously. Their work was overshadowed by fake UFO sightings and over-the-top stories of alien abductions.

Today this has changed.

You are living in a world where the search for life among the stars is a respected scientific field fueled by data and facts. The scientists who work in this field are called astrobiologists, and many believe that the question is no longer if we will find extraterrestrial life, but when and where we will find it.

One of the most promising leads in the search for extraterrestrial life is the discovery of exoplanets. Exoplanets are planets outside our solar system that orbit a star. More than 3,500 exoplanets have been discovered so far, and it is likely that more than 160 billion more exist in our galaxy alone.

Some of these planets may be similar to Earth—and that means they could support life as we know it.

To determine if a planet is Earthlike, scientists generally look for several key features. For example, the exoplanet must have water. It also must be located in the “habitable zone,” neither too close to nor too far from the star it orbits. (If it is too close, the planet will be blazing hot. If it is too far, it will be deathly cold.)

Several such planets have already been found. Earlier this year, seven planets were discovered orbiting the same star. At least three of them are located in the habitable zone. (Scientists say that planets outside the habitable zone may also support life in ways we don’t yet understand.)

Unfortunately, scientists can’t just rocket over to an exoplanet and find out what’s on it. The closest one is 4.2 light-years away. With our current technology, such a journey would take 70,000 years. Scientists must make do with exploring these planets from afar, using powerful telescopes, high-tech computers, and advanced physics and mathematics.

So what kind of life might we one day find on exoplanets?

Astrobiologists aren’t sure. They are using their knowledge of life on Earth to predict what kinds of life could exist on other planets, but those predictions require “a great deal of creativity,” according to Dr. Penelope Boston, director of NASA’s Astrobiology Institute.

Scientists do say it’s unlikely that we’ll discover anything resembling Star Trek’s Spock or the alien superhero Superman—that it’s far more likely that we will find tiny organisms that are invisible to the naked eye, such as bacteria.

But no one is certain what’s out there. What most astrobiologists are certain of is one, world-altering fact: We will find something.

“The chances of [life] not being out there somewhere are virtually zero,” says Boston. “I think it’s going to be somewhere, and we’re going to find it.”

Maybe one day, you will help in the search.

Consider Dr. Penelope Boston’s quote about the chances of finding life among the stars. Then choose one character from “What We Saw.” Does that character share Dr. Boston’s point of view? Answer this question in a short essay. Use text evidence to support your ideas. Send your essay to What We Saw Contest. Five winners will each get Randoms by David Liss.