It 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.”

Nola muttered. She stopped, staring out at the jagged slabs of red-lit ice. “I’m sick of the stupid Mission,” 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.”

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“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...
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 had made people 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.

"I 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 flimsies 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 family's habit pod. And as long as I shared Planet Doom safe in my family's habitat pod. And that's really what it had felt like when the Mission started."

"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.

"Sorry," Nola said. Okay, so Planet Doom might not have been the watery world of OGLE-LP–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-23, 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 sea lapped at continents of white sand under a crystalline sky.

Nola was right: Planet Doom was cold and dark and small and mean. But I loved the way it had looked from space, a radiant rose-gold sphere suspended in a sea of darkness. I loved the way the long, cold nights made me feel cozy and safe in my family's habitat pod. And as long as I shared Planet Doom with my family and with Nola, I loved the way it had become home.

"I like the ice," I said.

Nola shrugged. "It's better than the one with all the volcanoes," she said. "That place stank. Come on. Let's go back. My parents invited you and your parents to dinner."

She turned away from the Perimeter.

And that's when I saw it: a series of bright flashes in the distance. The light pulsed with an eerie brilliance.

"Look!" I shouted. Nola whipped around. But the light was gone.

"I saw a flash," I said, pointing. "Something out there was moving—or sending a signal."

"Just an ice mirage," Nola said. "I know what an ice mirage looks like. This was something else."

"Let me see," she said, holding out her hand. I gave her my binocs. She looked in the direction I'd pointed, holding the binocs still for a long time before lowering them.

"There's nothing there."

"I saw something," I said. "I did. Nola. It was beautiful."

"Okay, Yuki," she said quietly. She looked at me with an expression I recognized—only I'd never seen it on her face before.

It was pity. I felt my face flushing with anger. "We have to tell the Mission."

"Sure," she said. "But I'm freezing. Let's go back inside, okay?"

Reluctantly, I followed her back to the habitat pods. But I couldn't stop looking over my shoulder, waiting for whatever had chosen to show itself to me to appear again.

Nora, Nola's parents. Her parents would tell stories about all the ways people used to search for exoplanets. They explained the Drake equation—the likelihood of making contact with other intelligent life. They told us about rogue planets floating alone and starless and about what kinds of biomarkers we could use to find life that isn't carbon-based, like all the living creatures from Earth are.

Plus, they got better rations. My family ate the same bland protein-and-vitamin paste three times a day. Scientists got protein paste that tasted like actual food.

Tonight, though, dinner felt like a condemned prisoner's last meal. Our parents were painfully polite. "Please pass the salt, Miriam," my mom said. Nola's mom in a forced, cheerful voice.

I couldn't hold it in anymore. "I saw something on patrol," I blurted out.

Nola stopped chewing. Her mom froze, clutching the salt pack. Nola's dad cleared his throat. "What's that, Yuki?"
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 said. “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 Yuki, Nola’s dad, telling us stories of the city Nola had been named after. It was named after snow. 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. How they’d worked to make their dream into something real.

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 antigrvav 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 to be the size and shape of her. I knew the darkness, I felt as though the darkness had gone still. As if we were listening. “I know you’re out there.”

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 the bright beauty of the sun. 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 clutch them from the sky.

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 beep. 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 and 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.