

To see a World in a Grain of Sand

By Mohammad Khan

Science class. Filled with interesting students pretending to be interested in science just to pass the class.

Mr. Brian, my teacher, lectures with the most dull tone that would make Ferris Buller's teacher sound exciting.

"Now when we look here", said my teacher pointing at an image on the board. "We can see that the paramecium is a very simple creature. It's movements are simple....."

I'm zoning in and out as he explains something about earth science. Or was it biology? Maybe physics? Anyway, I just need to know what'll be on the exam. It's not that I don't find it interesting, just when will I use it?

When my mom was with me, she encouraged me to explore and I did. Sometimes my father joined in on my explorations. I spent more time outside in the grass and running than I did inside the house.

I miss her. I miss the excitement of exploring as a kid. My father lost it when mom left. I think he blamed himself for her leaving.

"Can anyone tell me what these things have in common?" Mr. Brian was referring to an image of a kid on a bicycle, a rhino, and a fish.

No one responded.

Mr. Brian continues. "Remember this. It's important. It's energy. Energy is required for all of these things to exist and live."

The room becomes slightly alive from the sound of scribbling pencils.

With my head on the desk and one free hand, I scribble 'energy' into my notebook.

My friend, Nakia, on the other hand excitedly scribbles away notes. How is she so interested in this? It's boring.

I look up at the clock. Class ends soon. Thank god. I can go home.

Nakia raises her hand.

The bell rings.

"Sorry Nakia. If you can stay after I can try to answer it", says Mr. Brian "Alright, have good day everyone. And I have a paramecium up here that you can view through a microscope if anyone's interested."

The class hurriedly leaves. I was going to ask Nakia what she was taking notes on, but she rushes to see the paramecium and ask the teacher her questions.

I'm slow to gather my things, hoping Nakia wouldn't take long. But she's still there talking with the teacher and looking at paramecium.

I go closer and hear more of their conversation.

"You said it's a simple organism", said Nakia. "It bumps into the boundary and flexes."

"Let me see", Mr. Brian says. He looks through the microscope. "You're right, Nakia. It does flex and defect off the

boundary. Good observation. What do you think the body of the paramecium is made of?”

“It can’t have bones or else it won’t be flexible. So is it made of some liquid?”

“Possibly. But why a liquid body? Why did some organisms develop non-liquid bodies like ours? The answers are beyond this class and more for higher-level courses. Anything else?”

“No. Thank you Mr. Brian.”

Nakia leaves and I walk with her.

“What were you taking notes on? The-the-the worm thing?” I ask Nakia.

Nakia laughed at my nickname for paramecium.

“Come by my house after school, I’ll show you.”

Nakia’s house is like any suburban home, but her family’s unlike any suburban family. Mom’s an engineer. Father’s a biology professor. In other words, I’m way out of my league.

Her mother let me in and told me Nakia was in the basement. We usually worked on homework in her living room, never been in the basement. She was sitting at desk with a microscope and a textbook. There was other scientific equipment near her.

“Didn’t know you have a science classroom down here.” I said.

“Check it out.” Nakia ushered me to the microscope. “I put paramecium into a very small water droplet a few minutes ago. The water is evaporating. Watch the paramecium.”

I walk over to the microscope and peak in. The paramecium is swimming around in the disappearing water droplet. It’s bending whenever it hits the boundary.

“Put something else underneath the microscope”, said Nakia excitedly.

“Like what?”

“Anything. Explore.”

“What do you mean?”

“Pick anything. Do what a child would do.”

Nakia find a small piece of Velcro and puts it underneath the microscope.

“Here. Do you know how Velcro works? ”, asked Nakia.

I shook my head no and peered into the microscope. And saw a whole new world.

Tiny hooks gripping onto small fibers for dear life. Like a new couple refusing to let go of each other. One side of hooks and one side of strands.

“Why don’t they teach like this in class?” I said. “This is way more interesting than how they teach now.”

“They can. You just need to ask.” Nakia spoke kindly.

“I don’t want to waste time in class...or you know...look stupid.”

“You might ask a bad question. But you’ll still learn and be more interested in science. Didn’t you bring bugs home as a kid to keep? I remember seeing jars contains ants or earwigs or beetles. What happened to that?”

“I grew up.”

“Oh come on. You began to worry what other people thought of you.”

“yeah. Yeah. Of course I did. People found it annoying that I was right. So I stayed quiet and kept my hand down.” My mom left my dad for that reason. Too much bickering from my dad’s constant questioning and journey for knowledge.

Nakia opens a drawer. She takes out a vial filled with a liquid..

“I went to a pond after school ended. Check out the pond water. It’s one of my favorite things to look at beneath a microscope.” She hands the pond water to me. “Check it out.”

I pour a small amount of the water onto a slide. And looked through the microscope.

A whole world. A new world. Thousands of tiny organisms living in a tiny water droplet that can fit on a pin head. Tiny animals gliding through their aquatic environment. This was their world and they have no knowledge of anything larger than their world or the fact that I was looking at them.

My eyes glued to the microscope, I couldn’t help but ask. “How are they alive? What food do they eat? Is there anything smaller in the pond? I know atoms are, but I mean smaller animals. This is so cool that we’re observing them and they don’t even know that there’s something larger than their world. ”

The questions flowed easily in my mind. The childhood curiosity was returning.

Nakia didn’t answer my question, but replied with her own.

“Better yet, is there anything observing us? Is there a larger world than ours?”

The following day in science class, I am more awake in class today.

Nakia’s lab brought my childhood wide-eyedness back.

Mr. Brian continued his energy lecture from yesterday.

“I mentioned yesterday that energy makes things go. From a kid on a bicycle to a car engine to animals”, started Mr. Brian. “Energy comes in many forms and it makes everything move. Any questions before we get started?”

Nakia’s hand rose up.

“Yes, Nakia?”

“What types of energy are there?”

“We’ll cover in today’s class. Other questions?”

I felt an urge to raise my hand. Slowly my arm went up surreptitiously, and the alarm bells in my head went off.
What are you doing? Stop that. What if they laugh? What if it’s a stupid question? What if you’re wrong and the teacher already answered that?

Mr. Brain looks around for other questions. He sees my raised hand barely above my head. He points at me.

“What’s your question?”