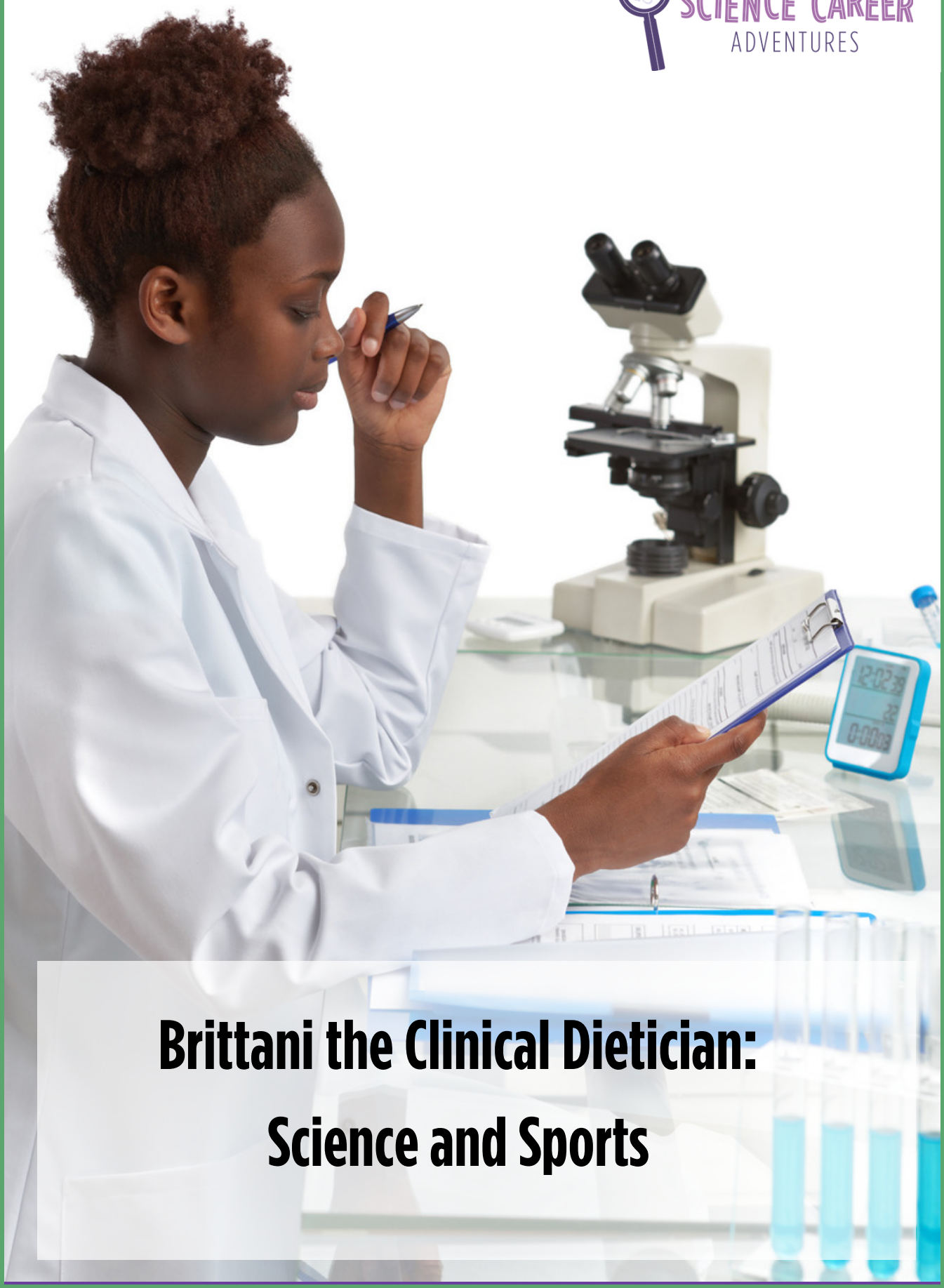
SCIENCE CAREER ADVENTURES



Brittani the Clinical Dietician: Science and Sports

Who is Brittani?

Hey guys. I am Brittani, and I am a clinical dietician. A clinician dietician helps people have healthy bodies and lifestyles. As a clinical dietician, I do a lot of different things!

Here are two important things that I focus on in my job:

Conducting Research

I conduct research to learn more about what foods are made of. I also research which foods provide people with the most amount of energy.

Working with Athletes

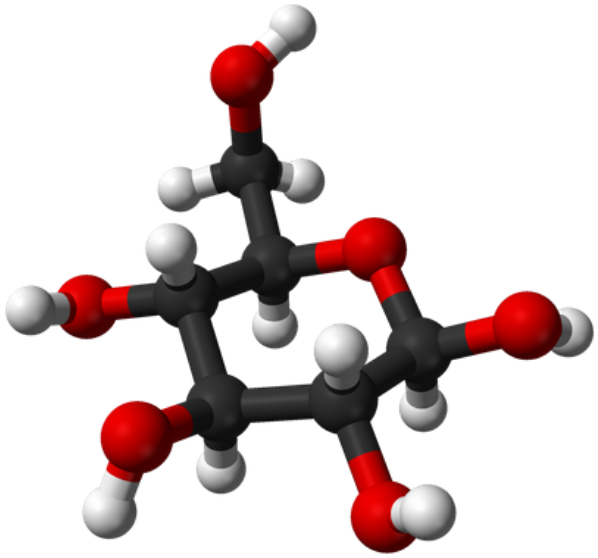
I meet with student athletes to discuss which foods they eat. Student athletes play sports at a university or college. I also host informational sessions 2 times a week. An informational session is like a class. For example, I might host a session on what to eat after a big game.

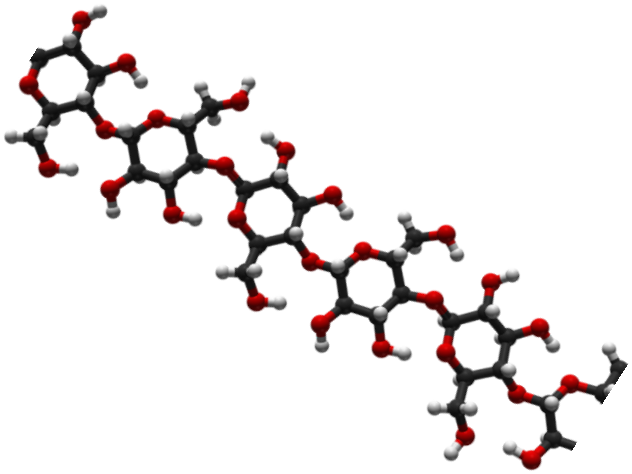
What I am Working On

I am working with a group of student athletes as a visiting professor. My job is to teach them about the basics of sugars. Right now, I am coming up with the different concepts I want to teach them. The first class is on the structure of monosaccharides and polysaccharides. Monosaccharides and polysaccharides are two kinds of sugars found in food.

Monosaccharides

Monosaccharides are the simplest type of sugar and cannot be broken down into a smaller sugar. They provide energy for cells as soon as you eat them. The structure to the right represents a glucose molecule.

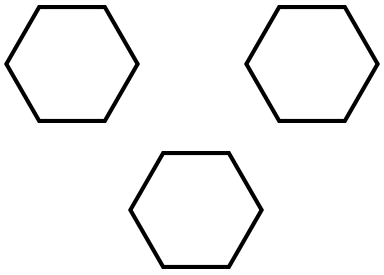




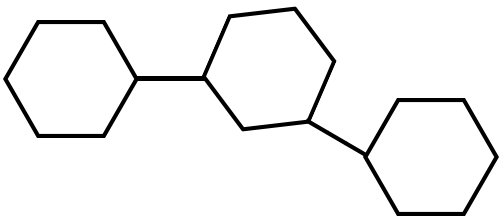
Polysaccharides

Polysaccharides are made up of many monosaccharides that are joined together. They have to be digested into simpler molecules before they can be absorbed by your body for energy. The structure to the left represents a cellulose molecule.

The above pictures are 3-dimensional (3D) representations of molecules. Scientists also show molecules represented by simple shapes. Check out the monosaccharides and polysaccharides below!



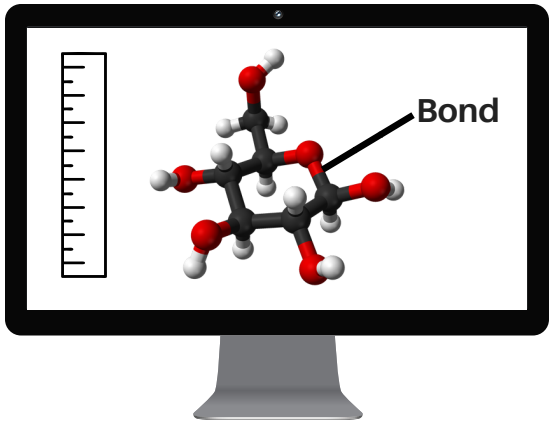
Monosaccharides



Polysaccharides

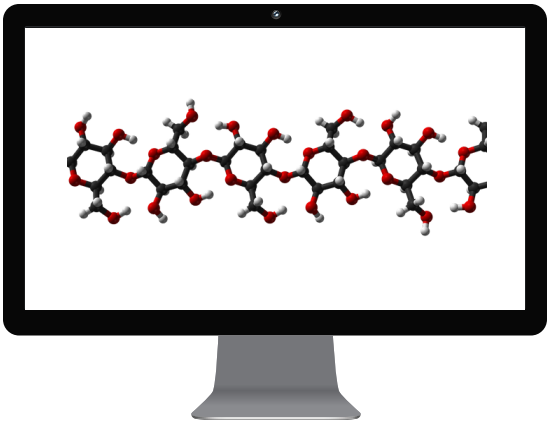
Building 3D Models

After I teach the students about the structure of sugar, I will show them 3D models on a computer. 3D models show the height, width, and depth of an object. You can rotate them around so you can see all of the sides of the molecule. These models will show the difference between simple molecules and extended structures.



Simple Molecule

A simple molecule has only one or a few bonds. A bond is what connects atoms together.



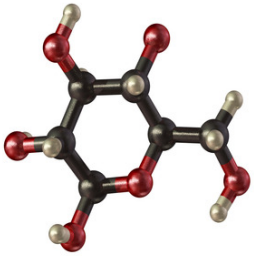
Extended Structure

Extended structures contain many bonds.

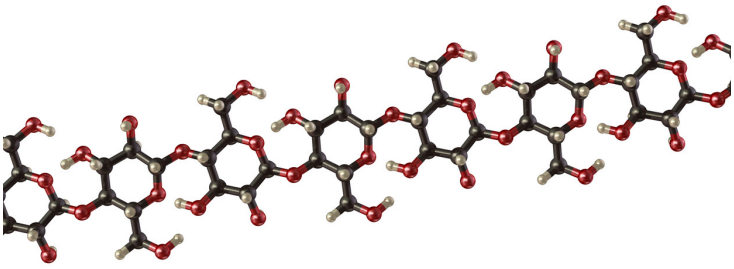
With 3D models of molecules, I can visualize how atoms in molecules are linked together since they can't actually be seen in real life.

These two pictures show that molecules vary in complexity. The first model shows a simple molecule and the second model shows an extended structure.

Glucose (a type of monosaccharide)



Cellulose (a polysaccharide made of repeating glucose molecules linked together)



Day in the Life

Curious what my life is like as a clinical dietician? Take a look at a day in my life!

8:00 A.M.

I arrive at my office in the lab at 8:00 A.M. I check to see if I have any important emails that I need to respond to. I have a meeting with my coworkers later this morning about my research on the structure of sugars in energy drinks. To prepare for the meeting, I open up one of my 3D models on my computer. I rotate the molecule of glucose around so I can see all of the sides. I resize my model to make it look bigger because some of the atoms are hard to see. When I'm happy with that one, I open up my other models to make sure they are ready to show my coworkers at the meeting.

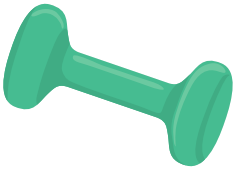
9:30 A.M.

I fill up my coffee cup right before our meeting at 10:45. Then I set up my computer and open up the files of my 3D sugar molecules to show on the projector screen. I am going to share my models with my colleagues to see what they think of them. We discuss any corrections that may need to be made on the models. For example, I may have accidentally put a carbon atom in the wrong place. It's always nice having someone look over my work to make sure everything is correct.

Day in the Life

12:00 P.M.

I stop by a sandwich shop on campus to have lunch. I bring my laptop with me to check my email as I eat. After lunch, I walk to the university's health center. I have a meeting with the girls' volleyball team to discuss their meal plans for the next month. They are exercising every day and need to eat the right foods to keep their energy up.



5:00 P.M.

At the end of my work day, I leave the health center to run to the grocery store. I need to pick up a few things to make for dinner tonight. It is important to practice what I teach so I am a good role model for my students!