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Hands on biochemistry carbohydrates questions answer key

** Recently updated to include deeper questions about polysaccharides and teacher installation images added!** Chemical structures, monomers, and polymers are so abstract! This activity is designed to teach your students about monosaccharides, polysaccharides, and energy storage in organisms. My students love the activity of my carbohydrate structure and performing this task really helps them understand the concepts required for basic biochemistry taught in high school biology classes. This product is part of my hands-on biochemistry package! The bundle includes carbohydrates, lipids and proteins! Before completing this activity, students will need a basic background with the following conditions: monomer, polymer, dehydration synthesis reaction, and hydrolysis reaction. Students in groups will read a package of careful instructions and form simple carbohydrates using beads and tube cleaners. Each bead represents a monomer and beads in a cleaning tube represent a polymer. The questions were designed to basically start and push students to think and understand. This activity should last about 45-60 minutes. There is an additional page of questions that could be completed in class or for work. There is a complete answer key included and a teacher preparation guide! The teacher will need white, beige, yellow beads, and white, green, and red pipe cleaners, which are easily found in a local craft shop. Small paper plates and Ziploc bags are also needed. If you like this activity, please check out my Protein Activity Beads structure! Hands-On Biochemistry: Protein Structure with Beads! Subscribe to my store email list update and receive a free subscriber exclusive resource! Click here to subscribe! If you have any questions, suggestions, or corrections, please leave a question about the question and answer section of my store and I will return to you quickly! How to get TPT credit for use in future purchases: **Please go to my shopping page (you may need to login). In addition to each purchase you will see a Provide Feedback button. Just click on it and you'll be taken to a page where you can give a quick score and leave a short comment on the product.** How to be the first to know about my discounts, freebies, and new products: ** Look for the green star near the top of any page inside my store and click on it to become a fan. You will then receive custom e-mail updates about this A few years ago, I looked at my biochemistry unit and tried to figure out some way to get it up. Monomers, polymers, carbohydrates, phospholipids, amino acids... For my students, these are not specific things. I might as well speak Chinese. I decided that they needed a practical activity to understand that these are things, real molecules, substances that make up everything that is alive on earth. [convertkit form=5053021] My mentor teacher used beads on tube cleaners to teach protein structure. I think this is a great way to teach them because you can bend the tube cleaner to alpha helices, beta strands, and other structures. The various beads are great for the presentation of variety in amino acids. So when I was thinking about my unit a few years ago, I thought, why not use beads and tube cleaners for carbohydrates and lipids too?! But carbohydrates are just boring. Sugars look almost the same. Polymers are just... glucose strands. They're like amino acids, in that they're like beads-on-a-string, but they all look the same. So I chose to represent the unilateral unilateral unilateral with white, yellow, and orange pony style beads. I do my carbohydrate activity with my students first, before my protein activity, because students can get a simple, basic understanding of monomers and polymers without getting into the protein structure level details. The activity of carbohydrates is fun for them anyway, even if the beads are boring. They don't know how cool protein structures can be, so carbohydrates are fun at that point. And a few days later, I introduce protein activity and the students are in heaven. I changed the traditional protein structure activity by adding to alphabet letters! By introducing alphabet letters and having students create a word somewhere in their amino acid sequence, I introduce the idea that certain amino acids are more important than others in protein function. The word is the most important part of their protein bracelet as many students call them. Later, when we talk about missense, silent, and nonsense mutations, we re-introduce these! With my lipid activity, I use tube cleaning pieces for fatty acids to contrast them with bead-like monosaccharides and amino acids. I think it's important for students to see the difference between long hydrophobic chains and other macromolecule building blocks. Hi! 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