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Cornstarch iodine lab answer key

Gabby Rosario Diffusion Lab Introduction: In this lab you will observe the diffusion of substances in semi-permeable membranes. Iodine is a known indicator for starch. An indicator is a substance that is likely to color in the presence of the substance it shows. Procedure: 1. Fill a plastic bag with a teaspoon of corn starch and half a cup of water. Close the bag. (This may have been done for you) 2. Fill the beer glass in the middle with water and add 1ml iodine. 3. Place the baggie in a cup so that the cornstarch mixture is submerged in iodine water mixture. 4. Wait fifteen minutes and record your observations in the data table. 5. While you wait, answer the question. Hypothesis: H0: Iodine will spread into the bag. H1: Iodine will not spread into the bag. Make Some Predictions 1. If the baggie seeps into the starch, which way will the starch move, into the bag or out of the bag? Get out of the bag. If the baggie seeps into iodine, which way will iodine move, to or out of the bag? Move to starch. 3. If the baggie seeps into iodine, what color would you expect the solution in the baggie to change? Chocolate. What about the solution in a beer glass? Clean up. 4. If the baggie seeps into the starch, what color would you expect the solution in the baggie to change? Obviously. What about the solution in a beer glass? Light brown. 5. Make predictions about what you think will happen! I think iodine will enter the bag and change the color of the starch. What's in the bag? We're going to think about concentration now. Which substances are more or less concentrated depend on which has the most goods in them. 1. Are baggies or glasses more concentrated in starch? Baggies. Are baggies or beer glasses more concentrated in iodine? Breaker. 3. Iodine solution: is it a baggie or a hypertonic glass? Breaker. 4. Starch solution: is it a baggie or a hypertonic glass? Baggie. 5. Which is hypothetical in relation to starch, baggie or beer glass? Breaker. Data Table Starting Color Color after 15 minutes Solution in Breaker Golden Golden Solution in Bag White Color at the bottom is more concentration than the top. The bottom is purple and the top remains white Post Lab Analysis 1. Based on your observations, which substances are moving, iodine or starch? Iodine moves from breaker to baggie. 2. How do you determine this? I determine this because iodine is a to know indicator for starch. An indicator is a substance that has a chance of color in front of the substance it shows. 3. Which plastic bag seeped into the substance? The plastic baggie seeped into iodine. 4. Is plastic baggie selectively pervasive? Plastic is selectively permeable. 5. Sketch the cups and baggies in the space below. Use arrows to describe how diffusion occurs in this laboratory. 6. What will happen if you conduct an experiment in which the iodine solution is placed in the baggie, and the starch solution is in the beer glass? Detailed in your description. If we do experiments in which iodine solution is placed in the baggie and the starch solution is in the iodine breaker will move the baggie. Once iodine makes its way out baggie starch will change color. Why isn't it a good idea to store iodine in a plastic bag? Iodine has the ability to seep into the bag so it is not a good idea to store it in a plastic bag. This slideshow requires JavaScript. Materials and Settings - this is very easy and inexpensive to do and has the same effect as using a dialysis tube. Great demo/lab as part of our unit on osmosis and diffusion! For every two students: paper from Biology Corner cheap sandwich glasses large glasses - non sealing (I use Wegmans 150 ct) 1 tbsp corn starch 50 mL rubber clothing water bracelet pin pass cylinder 100 mL iodine dilution iodine Preparation 20 ml iodine added to 500 mL water size out 100 mL Diluted iodine for each Prelab Preparation group: Place one bag on top of each beer glass Add 1 tbsp cornstarch to each bag Add 50 mL of water to each bag Check for leaks Use rubber bands on each to keep the Clip bag covered for observation glasses Students will add iodine and make observations - changes will occur in a few minutes and the longer it sits, the darker it will become. Iodine is able to pass through plastic bags, starch has no students lifting bags out to see the changes that are happening Discuss Renewal - I let the settings sit over the weekend, and when I come today, the water is almost completely clear - looks like almost all iodine moved into the bag: Shannan Muskopf September 16, 2009 Most chapters follow the topic of cell structure with one in cell membrane and diffusion and osmosis. These concepts can be very difficult for students to understand. To give them a view of how diffusion works with semipermeable membranes, I like to do laboratories that use plastic bags to model cells (membranes). This is a simple laboratory where students do very little except watch the process and record data and information. To set it up, you will need plastic bags, iodine, water, and corn starch. All but iodine are already available in supermarkets. Next, grab a plastic bag and add a spoonful of cornstarch and about 100 ml of water. You don't even have to be precise. I want to do at least one of these while students watch, or you can have students make them (but be prepared to fall apart). Tie the baggie and explain to students that the bag represents a cell, with the cytoplasm is a mixture of cornstarch and plastic is a cell membrane. Explain that solid objects are not really solid at the molecular level and that the bag is more like a small screen door. If the molecules are small enough, they can pass through the bag. With a baggie in place, you should enough beak for your entire class. Fill about half full and add a few drops of iodine, you want the water to be very orange. More and more mix, the faster the reaction. It's also a good time to point out that iodine is an INDICATOR because it will change color every time it meets starch. You can show this with a glass of starch solution and a drop of iodine. Students will carefully place the baggie into the iodine mixture. Their worksheet will ask them to make some predictions about what will happen and to define diffusion and osmosis. The process should take about 15 minutes and students should see the discoloration of corn starch in the bag. After 15 minutes,.... Students will then be asked on the worksheet to explain what happened. A common misconception is that iodine eats through the bag. Remind students that the bag is like a screen door and iodine is a very small molecule. Despite the fact that the lab is not very interactive, students seem to understand the semi-permeable cell and membrane models after completing them. Many will ask to see what will happen if you put starch in a beer glass and iodine in a bag. I'm going to set this up and they can see the results the next day. Day.

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