

Results and Discussion: Sucrose & Dextran-permeable Membrane

Description of the Contents of the Individual Beaker Set-ups

Beaker 1 had 4 pipettes of sucrose and 4 pipettes of sucrose in dialysis bag, which was placed in a surrounding liquid containing 20% sucrose and 4 full droppers of Lugol's solution. The color of the dialysis bag was clear and the surrounding liquid was amber in color. Beaker 2 had 4 pipettes of sucrose in dialysis bag, which was placed in a surrounding liquid containing 20% sucrose and 4 full droppers of Lugol's solution. The color of the dialysis bag was clear and the surrounding liquid was amber in color.

Description of the Contents of the Individual 2-Liter

The dialysis bag in beaker 1 had an amber color in 2 and the surrounding liquid was still amber. The dialysis bag in beaker 2 was a clear (white) color and the surrounding liquid was amber.

Results

| Beaker ID | Initial Color | 2 Hours color | 2 Hours glucose amt |
|------------------------|---------------|---------------|----------------------|
| Sucrose (dialysis bag) | Clear | Amber | 100% (100% original) |
| Surrounding 2 liter | Amber | Amber | 20% (10% initial) |
| Control (sucrose bag) | Clear | Amber | 0% |
| Surrounding 2 liter | Amber | Amber | 0% |

Clearer was found in the dialysis bag in beaker 1 because the amylose that was in the bag/beaker shows the sucrose into smaller units of glucose. The smaller glucose molecules present in the surrounding fluid in beaker 1 is because glucose is small enough to pass through the semi-permeable membrane (dialysis bag).

I found that the presence of glucose by using 2 beakers 1.

I found that the presence of sucrose by using Lugol's solution. A positive result for sucrose is a blue-black or black color and a negative result for sucrose is an amber color.

In this experiment water moved from the dialysis bag to outside from an area of high concentration (surrounding liquid) into an area of low concentration (dialysis bag). This movement occurred in both beaker 1 and 2. In beaker 1 glucose moved out of the dialysis bag by diffusion from an area of high concentration into an area of low concentration in the surrounding fluid. In both beakers Lugol's solution moved into the dialysis bag from an area of low concentration from the surrounding fluid into an area of high concentration by diffusion. Sucrose did not move in either beaker because it is a molecule that is too big to pass through the semi-permeable membrane (dialysis bag).