Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Help, it’s too crowded in here! Where can I go?

After looking at the different beakers, you can visually see a color change from the 0 minute mark to the 20 minute mark. As you know now from discussion, these beakers contain starch and iodine. It is your job to figure out how the concentration of a substance affects its diffusion through a membrane. First note the color changes taking place in the beakers. Then you are to make a drawing to show the direction in which molecules diffused through the membrane in this experiment. Once you complete the table and drawing, answer the questions that follow.

**Table 1: Color Changes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Color at 0 min. |  | Color at 20 min. |  |
| Solution | Cornstarch solution | Iodine solution | Cornstarch solution | Iodine solution |
| A |  |  |  |  |
| B |  |  |  |  |
| C |  |  |  |  |

**Drawing: Direction of diffusion**

**Questions:**

1. Did the starch diffuse through the membrane into the iodine solution? How do you know?
2. Did iodine diffuse through the membrane into the starch solution? How do you know?
3. What factors affect the diffusion of different substances through a membrane?
4. From what you have observed, which solution contains larger molecules, cornstarch or iodine? Why weren’t the larger molecules able to diffuse through the membrane?
5. Which solution had the highest concentration of iodine, and how do you know?