

| Name |
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Diffusion Student Worksheet

Data Table

| | Inside Dialysis Tubing Bag | Beaker A | Beaker B |
|--|----------------------------|----------|----------|
| Initial color of the solution | | | |
| Color after adding the dialysis tubing bag to Beaker A | | | |
| Color after adding the dialysis tubing bag to Beaker B | | | |

Discussion Questions

1. Explain how this demonstration illustrated diffusion.

2. Concentration and temperature are two factors that affect diffusion. Explain how aquatic organisms that inhabit estuaries contend with the large daily variation in saline concentration of the water.

Buffers Student Worksheet

Data Table

| | Beaker #1 | Beaker #2 | Beaker #3 | Beaker #4 |
|---------------------------------------|-----------|-----------|-----------|-----------|
| Initial color of the solution | | | | |
| Color after adding 5 drops of HCl | | | | |
| Final color after adding HCl | | | | |
| Color after adding 5 drops of NaOH | | | | |
| Final color after adding NaOH | | | | |

Discussion Questions

| 1. | How much acid was added to beaker 2 compared to beaker 1 to obtain the same color change? Explain the different |
|----|---|
| | color changes in beaker 1 versus beaker 2. |

2. How much base was added to beaker 2 compared to beaker 1 to obtain the same color change? Explain the different color changes in beaker 3 versus beaker 4.

3. Buffers resist changes in pH. How would a protein react to a change in pH? In your answer include information about the functional groups on the amino acids as well as structural changes to the protein.