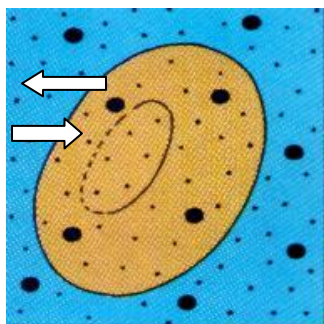
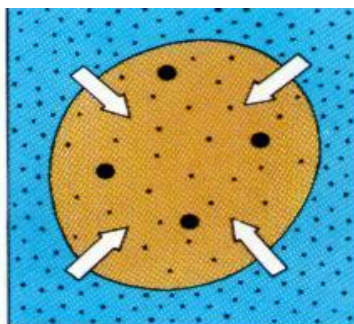


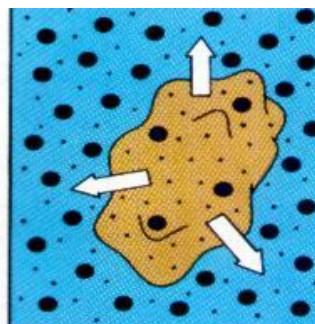
## CELLS & TONICITY



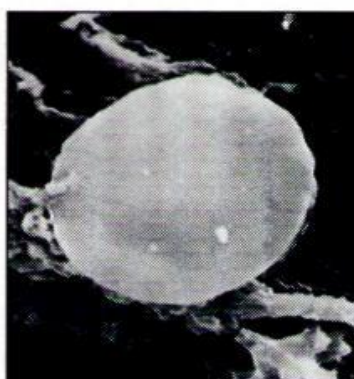
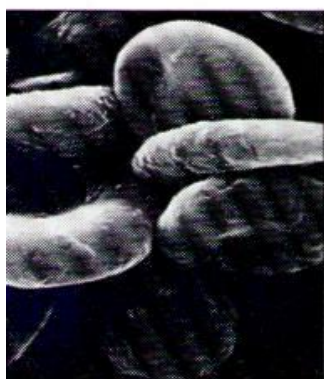
Isotonic



Hypotonic



Hypertonic



Instructions For a 3-Tab Foldable	Diagrams:
<ol style="list-style-type: none"> <li>1. Fold a sheet of paper like a <i>hot dog</i>.</li> <li>2. With the paper horizontal, and the fold of the <i>hot dog</i> up, fold the right side toward the center, trying to cover one half of the paper.</li> <li>3. <b>NOTE:</b> <i>If you fold the right edge over first, the final graphic organizer will open and close like a book.</i></li> <li>4. Fold the left side over the right side to make a book with three folds.</li> <li>5. Open the folded book. Place your hands between the two thicknesses of paper and cut up the two <i>valleys</i> on one side only. This will form three tabs.</li> </ol>	

### FRONT SIDE OF TABS (left to right):

1. Use Capital letters and label the top of each tab as follows ---  
Tab 1 - HYPERTONIC, Tab 2 - ISOTONIC, and Tab 3 - HYPOTONIC.

2. SKETCH a CELL in the center of each tab and label it CELL. *Be sure to draw it large enough to write the percent salt and percent water it contains.*
3. On the BOTTOM OF EACH TAB, print the word **environment**.
4. **TAB 1**
  - DRAW A CELL that has a 10% NaCl (salt) solution in an ENVIRONMENT with a 15% salt solution.
  - COLOR the cell yellow and the environment light blue.
  - In RED INK, write the percent of water inside and outside the cell.
  - Use RED INK, and draw arrows showing the direction of movement of water into or out of the cell.
5. **TAB 2**
  - DRAW A CELL that has a 10% NaCl (salt) solution in an ENVIRONMENT with a 10% salt solution.
  - COLOR the cell yellow and the environment light blue.
  - In RED INK, write the percent of water inside and outside the cell.
  - Use RED INK, and draw arrows showing the direction of movement of water into or out of the cell.
6. **TAB 3**
  - DRAW A CELL that has a 6% NaCl (salt) solution in an ENVIRONMENT with a 3% salt solution.
  - COLOR the cell yellow and the environment light blue.
  - In RED INK, write the percent of water inside and outside the cell.
  - Use RED INK, and draw arrows showing the direction of movement of water into or out of the cell.

### INSIDE OF FOLDABLE (NOT THE BACK OF THE TAB)

7. Use a ruler and draw two lines that divide the inside of your foldable into 3 sections.
8. BE SURE TO UNDERLINE THE MISSING TERM(S).
9. In SECTION 1, bullet and answer each of the following questions about HYPERTONIC solutions:
  - In HYPERTONIC solutions, water moves \_\_\_\_\_ the cell.
  - Hypertonicity causes cells to \_\_\_\_\_.
  - Plants cells \_\_\_\_\_ water and start to W \_\_\_\_\_.
  - The process of water moving out of a cell is called P\_\_\_\_\_.
9. In SECTION 2, bullet and answer each of the following questions about ISOTONIC solutions:
  - \_\_\_\_\_ cells need isotonic solutions to be at homeostasis.
  - Water DOES or DOES NOT stop moving.
  - Cells reach a point called Dynamic \_\_\_\_\_ in isotonic solutions.
  - Equal amounts of water are \_\_\_\_\_ and \_\_\_\_\_ the cell.
10. In SECTION 3, bullet and answer each of the following questions about HYPOTONIC solutions:
  - In HYPOTONIC solutions, water moves \_\_\_\_\_ a cell.
  - Animal cells \_\_\_\_\_ in size and \_\_\_\_\_ or lyse in these solutions
  - Bursting of cells is called C\_\_\_\_\_.
  - \_\_\_\_\_ cells need this tonicity to be at homeostasis.
  - \_\_\_\_\_ results from water inside a plant cell pushing the cell membrane out against the plant's cell wall.