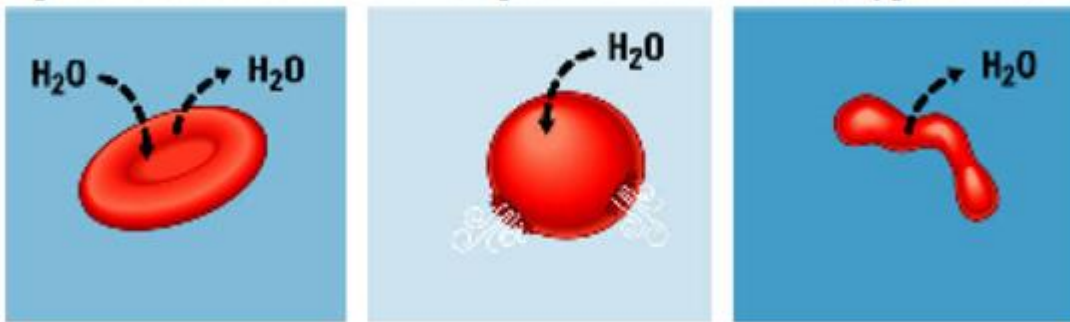


## Tonicity Practice Problems

1. If you soak your hands in dishwater, you may notice that your skin absorbs water and swells into distinct wrinkles. This is because your skin cells are \_\_\_\_\_ to the \_\_\_\_\_ dishwater.
- hypotonic, hypertonic
  - hypertonic, hypotonic
  - hypotonic, hypotonic
  - isotonic, hypotonic
  - hypertonic, isotonic

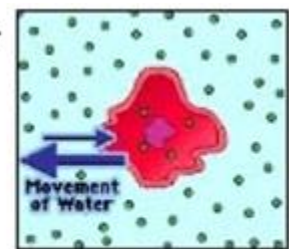
2. Under each picture state if the RBC was placed in an isotonic, hypertonic, or hypotonic solution.



3. In osmosis, water always moves toward the \_\_\_\_\_ solution: that is, toward the solution with the \_\_\_\_\_ solute concentration.
- isotonic, greater
  - hypertonic, greater
  - hypertonic, lesser
  - hypotonic, greater
  - hypotonic, lesser

4. You know that this cell is in a(n) \_\_\_\_\_ solution because it \_\_\_\_\_.

- hypotonic, is turgid
- hypotonic, lysed
- hypertonic, lysed
- hypertonic solution, lost water
- hypertonic, gained water



Animal Cell

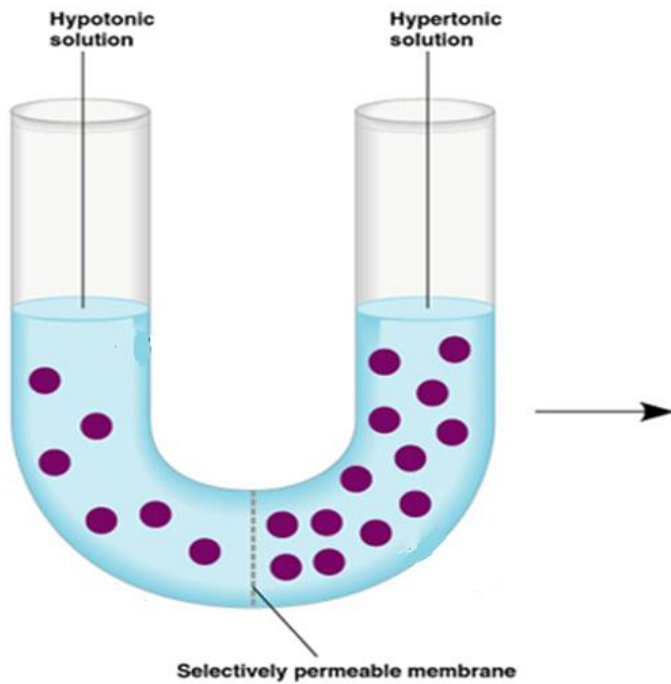
5. Sea water is dangerous to drink because
- one cup of sea water contains enough sodium to poison you
  - sea water is hypertonic to your body tissues and drinking it will cause you to lose water by osmosis
  - sea water is isotonic to your body fluids and you will absorb too much water, causing your cells to burst
  - the salt causes hypertension and you will promptly die of a stroke
  - it contains toxic levels of iodine

6. If the volume of a cell increases when it is placed in a solution, that solution is said to be \_\_\_\_\_ to the cell.

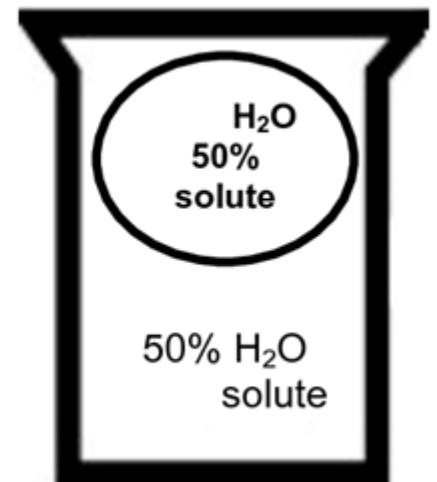
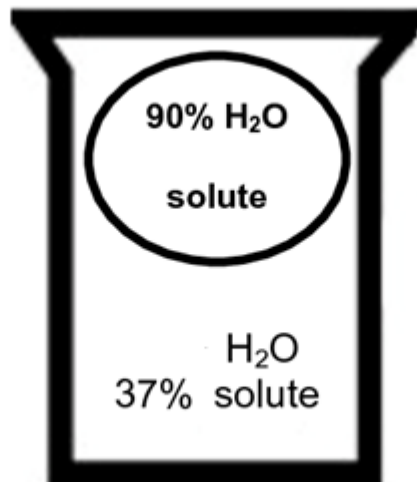
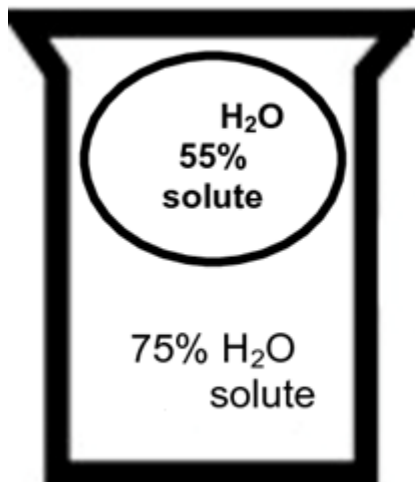
- a. hypertonic
- b. subatomic
- c. isotonic
- d. gin and tonic
- e. hypotonic

<p>solute molecule      free water molecule</p>	<p>Where is there more water? (inside or outside or equal)</p> <p>Label the outside solution as hypotonic, hypertonic, or isotonic.</p> <p>Which way will the water move?</p> <p>What will happen to the cell?</p>
<p>solute molecule      free water molecule</p>	<p>Where is there more water?</p> <p>Label the outside solution as hypotonic, hypertonic, or isotonic.</p> <p>Which way will the water move?</p> <p>What will happen to the cell?</p>
<p>solute molecule      free water molecule</p>	<p>Where is there more water?</p> <p>Label the outside solution as hypotonic, hypertonic, or isotonic.</p> <p>Which way will the water move?</p> <p>What will happen to the cell?</p>

7. In the picture below, which side has more solute? What type of solution is this?
8. Which side has more water? What type of solution is this?
9. Which way is the water going to move?
10. Next to the picture, draw what the FINAL u-tube would look like after the water moved.



11. For each beaker below:
  - Identify the concentration of water and solute BOTH inside and outside of the cell
  - Draw arrows to represent which way the water is going to move
  - Identify the type of solution BOTH on the inside and outside of the cell



12. Below is a picture of a plant cell.

- Draw arrows to represent which way the water is moving.
- Identify the pictures as turgid, flaccid, and normal.
- Identify the type of solution each plant cell was placed in.

