

Tonicity and Osmosis Worksheet

Biology 101
Mary Severinghaus
10 Extra Credit Points

Name: _____

Section: _____

Date Due: _____

Using the key below and the information given, answer the questions.

key:
solute particle •
cell membrane - - - - -
cell wall = = = = =
in all solutions, the solvent is H₂O

Part I. Fill in the blanks:

A _____ is a fluid in which a substance is dissolved.

A _____ is a substance dissolved in a solvent.

A _____ is a combination of solute and solvent.

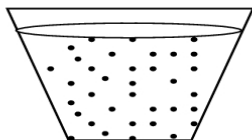
The process by which H₂O diffuses across a membrane is called _____.

Part II. Look at the solutions illustrated below and fill in the blanks.

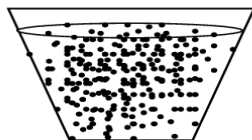
1. **Solution B** is _____ to **solution A**. This is because **solution B** has a greater concentration of _____ in it than does **solution A**. **Solution C** has no solutes dissolved in it, therefore it is _____ to both **Solutions A** and **B**.

2. As the relative concentration of **solutes** in two solutions increases, of necessity the relative concentration of **water** in the same two solutions _____. **Solution A** has a lower concentration of _____ than does **Solution C**; **Solution A** is also **hypertonic** to **Solution C**.

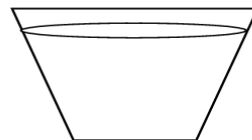
3. If you wanted to make **Solution A** isotonic to **Solution B**, you could add **water** to Solution ____ or you could add **solute** to Solution _____. If you took all three solutions, put them into a large container and mixed them thoroughly, then redistributed the solution among the three containers, **Solution A** would be _____ to **Solution B**. **Solution A** would also be _____ to **Solution C**, and **Solution C** would be _____ to **Solution B**.



A



B



C