Osmosis lab report assignment

If the solution has a higher water potential than he potato cores, there will be net movement of water into the potato pieces. Therefore, potato cores in less concentrated solutions will gain more weight than the potato cores in more concentrated solutions. Null hypothesis: Different sodium chloride concentrations in solutions have no effects on the mass of the potato cores. 3. Analysis of Variables Type of Variable Details Notes on how variable is manipulated / measured / controlled Independent (manipulated) Sodium concentration of the solutions Different amount of salt (sodium chloride) is put in the solvent (water) to make . MM, 0. MM, MM, MM, 1. MM solutions. Dependent (responding) Final mass of potato pieces Measured at the end of the experiment with a ruler (in mm) and an electronic balance (in gram). Controlled variables Volume of solutions Each solution is mixed with 300 CM of solvent (water) and then divided into two beakers with 150 CM in each. Room temperature All beakers are kept in the same room, so that they all experience the same conditions. Type of potato All the potato pieces come from potatoes bought at a store, packaged together.

Initial sizes of potato pieces Measured before putting the pieces into the solutions with a ruler (in mm) and an electronic balance (in gram). Temperature of the solutions All the beakers were kept in the same place, so the solutions experienced the same conditions. Size and material of the beakers The 500 ml beakers were made of glass. Duration of time the potato is left in the solutions The potato pieces were left in the solutions overnight, approximately 10 hours. 4.

Background Information Osmosis can be defined as the movement of water across a semi-permeable membrane from a region of high water

concentration to a region of low water incineration. The semi-permeable membrane allows small particles through it but does not allow large particles such as sodium chloride. Osmosis will continue until a state of equilibrium is reached i. E. There is no area with a higher or lower concentration than another area. To land plants, water and osmosis are vital as they play leading roles in the structural support of a plant, they facilitate transport of materials, etc.

Lack of water will lead to a plant wilting and possibly dying. When a cell is in a hypotonic solution (more solute concentration than the cell), eater will move from the hypersonic solution (less concentrated) to the hypotonic solution via the process of osmosis. In this experiment, the movement of water in and out of potato cells left in sodium chloride solution will be investigated. The sodium chloride molecule is too large to be passively transported across the cell membrane, so only net movement of water will happen without any input of energy.