

# Science notes

Science



Cell membrane has proteins (recognize chem sig) floating in lipids and controls active transport, recog of chem mess and protection. Damage to cm can disrupt water balance and a cm cant protect cell from all toxins Simple diffusion  $\text{CO}_2$  and  $\text{H}_2\text{O}$  can pass cm is selectively permeable maintain homeostatis In a single celled organism cell membrane acts as a lung and does active transport and diffusion.

When protein carb and fat are completely digested they will be soluble enough to pass cm Molec b can pass through active transport because it go low to high The calcium concentration in the root cells of certain plants is higher than in the surrounding soil. Calcium may continue to enter the root cells of the plant by the process of active transport Need atp when moving from low to high A cell will shrink if placed in 15 salt soluiion because it goes from high water to low water  $\text{O}_2$  would diffuse out of cell cause high to low key word diffuse not glucose into cell because low glucose out side that require atp cuse low to high when relating mmolec x that diffuses and atp u say high to low and no atp used because molec x moves from high to low cause diffusion but atp not used in diffusion In a class, each student made three models of the small intestine using three artificial membrane tubes. They filled each of the three tubes with equal amounts of water, starch, protein, and vitamin C.

They added starch-digesting enzyme to tube 1. They added protein-digesting enzyme to tube 2. No enzyme was added to tube 3. The ends of the membrane tubes were sealed and the tubes were soaked for 24 hours in beakers of pure water. The beakers were numbered 1, 2, and 3, corresponding to the number of the tube they contained. At the end of the

experiment, the students removed the tubes and tested the water in the beakers for the presence of nutrients. Which statement would be a valid inference if vitamin C had been present in the water in each beaker?

Vitamin C is a small molecule because it can pass through cell membrane diffusion would least be affected when ATP is disrupted cells decrease in size when placed in a solution with less water than the movement of gases is diffusion diffusion is high to low ATP requires cellular energy cell decreases in size when placed in salt solution cells may continue absorbing minerals even if minerals outside cell is less because of active transport. after a cookie is digested glucose enters blood through diffusion low to high-active High to low passive or diffusion CO<sub>2</sub> gets out cell when CO<sub>2</sub> is great in cell than environment osmosis may occur in both directions when cell shrinks or bursts Movement of water into cell from outside when water inside cell is 90 and 95 outside cell Red blood cells has a higher amount of potassium than outside because of active transport yes at because it is maintained because potassium goes from low (outside cell) to inside high Red blood cell swell due to distilled water outside cell clean water with no solutes into cell because high to low Water and minerals move from soil into plant through diffusion and active transport Cell will lose water if placed in very salty water because water will move inside to outside Stomata is like cell membrane.