HOMEWORK CHECK QUIZ #2 KEY:

1. In the U-Tube shown, both water and glucose can move through the membrane, but Proteins are too large and the membrane is IMPERMEABLE to proteins.

|  |  |  |  |
| --- | --- | --- | --- |
| Ingredients | Side A | Side B | Can it Move?? |
| Water | 92 | 84 | YES  |
| Glucose | 2 | 6 | YES |
| Hemoglobin | 6 | 10 | NO |

Therefore water will move from Side A over to Side B and this will dilute the concentration of both the Glucose and the Hemoglobin. At the same time, the Glucose can move from Side B to Side A.

This will cause, the concentration of Hemoglobin and Glucose on Side B to go down (decrease). As water leaves Side A, and glucose moves to side A, the glucose conc and Hemoglibin conc on side A go up (increase)

Best answer is : B

1. Mechanisms of PASSIVE transport include – Diffusion, Osmosis and Facilitated Transport.

Best Answer – A – No ATP required

1. Two hours later and it is quite evident that Cl – ions, Na + ions and Glucose molecules moved from higher concentration over to the side where they were in lower concentration (actually 0%). However, Proteins and Starch could not move and did not move. Both those molecules are macromolecules (they are huge compared to Chloride ions, Sodium ions and even a Glucose molecule. So the main factor determining permeability was SIZE !!!

Best answer – A

1. All types of Vesicular Transport (Endocytosis/Exocytosis) require ATP, any time you move molecules against the conc gradient ATP is required.

Therefore the best answer is : D – Facilitated Transport –

Facilitated Transport requires a carrier, but you are going with the concentration gradient – which is a type of passive transport.

1. Devouring of large cell fragments or entire cells (such as dead cells or bacterial cells) is a type of Endocytosis specifically known as PHAGOCYTOSIS

Best Answer is – C

1. Some cells in the body, like those lining the intestine increase their surface area by folding their upper surface (apical side) of cell membrane up and down like a folded fan to increase their surface area. These folds up and down are known as MICROVILLI

Best answer is – B