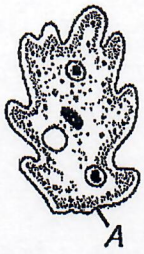
Name: Key

* Please return to Station 2 Ms. Campbell!

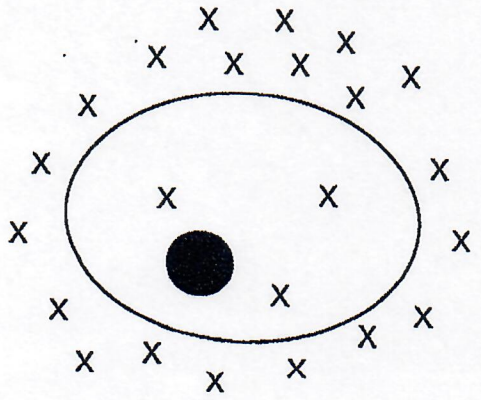
2 1) The ameba represented in the diagram below is a single-celled organism.



Which two processes are most closely associated with structure *A*?

1) nervous regulation and circulation
2) active transport and diffusion
3) replication and photosynthesis
4) insertion and deletion

3 2) The diagram below shows molecules represented by **X** both outside and inside of a cell.

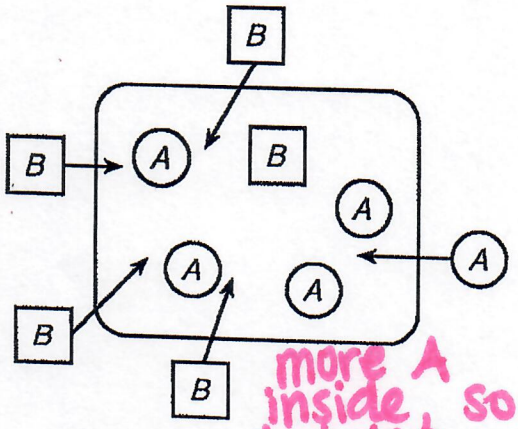


A process that would result in the movement of these molecules out of the cell requires the use of

1) antigens
2) antibodies
3) ATP
4) DNA

↳ low → high concentration, active transport, needs ATP

1 3) The diagram below shows two different kinds of substances, *A* and *B*, entering a cell.



more A inside so to bring inside, need ATP

ATP is most likely being used for

1) substance *A* to enter the cell
2) both substances to enter the cell
3) substance *B* to enter the cell
4) neither substance to enter the cell

2 4) Which of the following would be *least* affected by defective receptor proteins on a cell membrane?

1) hormone action
2) diffusion
3) nerve signals
4) homeostasis

Diffusion does not require/use receptor proteins

1 5) Cyanide is a poison that limits the ability of an animal cell to manufacture ATP. In a cell containing a small amount of cyanide, which process would be *least* affected?

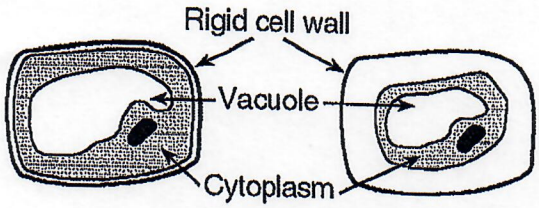
1) diffusion — no ATP required
2) cell division
3) movement
4) active transport

} require ATP energy

4 6) The process of active transport requires the most direct use of

1) carbon dioxide
2) amino acids
3) glucose
4) ATP

1 7) A biologist observed a plant cell in a drop of water as shown in diagram *A*. The biologist added a 10% salt solution to the slide and observed the cell as shown in diagram *B*.

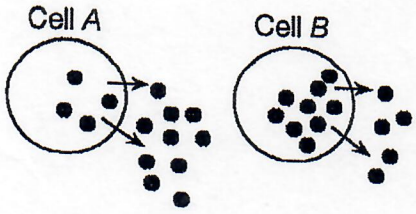


The change in appearance of the cell resulted from

1) more water moving out of the cell than into the cell
2) more water moving into the cell than out of the cell
3) more salt moving out of the cell than into the cell
4) more salt moving into the cell than out of the cell

salt can't pass

3 8) In the diagram below, the dark dots indicate small molecules. These molecules are moving out of the cells, as indicated by the arrows. The number of dots inside and outside of the two cells represents the relative concentrations of the molecules inside and outside of the cells.

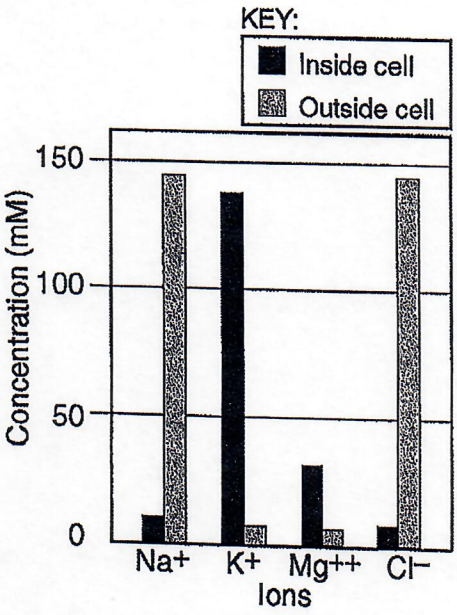


ATP is being used to move the molecules out of the cell by

1) cell *B*, only
2) both cell *A* and cell *B*
3) cell *A*, only
4) neither cell *A* nor cell *B*

going against concentration gradient

3 9) The graph below shows the relative concentrations of different ions inside and outside of an animal cell.



Which process is directly responsible for the net movement of K^+ and Mg^{++} into the animal cell?

1) diffusion
2) electrophoresis
3) active transport
4) circulation

More K^+ & Mg^{++} inside cell, so moving more into the cell = active

3 10) Which row in the chart below *best* describes the active transport of molecule *X* through a cell membrane?

Row	Movement of Molecule *X*	ATP
(1)	high concentration → low concentration	used
(2)	high concentration → low concentration	not used
(3)	low concentration → high concentration	used
(4)	low concentration → high concentration	not used

1) 1
2) 2
3) 3
4) 4