**BIOLOGY**

**Topic: 5**

*Active vs. Passive Transport*

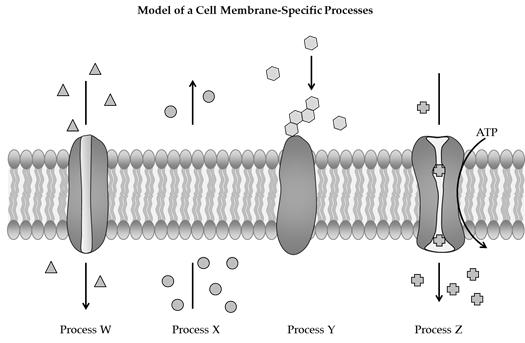
***Mini – Summative #1***

**Directions:** **Select the lettered choice that best answers each question.**

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| 1. | The diagram below shows two different types of molecules entering a cell.        Based on the information above, which of the following **best** describes the relationship between the cell membrane and Molecule X and Y? |
|  | |  |  | | --- | --- | | A. | Molecule X requires lower activation energy to move across the cell membrane. | | B. | Molecule X needs a carrier protein to transport it through the cell membrane. | | C. | Molecule Y requires ATP move across the cell membrane. | | D. | Molecule Y binds with Molecule X to move into the cell. | |

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| 2. | Which macromolecule makes up **most** of cell membrane layers? |
|  | |  |  | | --- | --- | | A. | Carbohydrates | | B. | Lipids | | C. | Nucleic acids | | D. | Proteins | |

The diagram below shows several processes that occur using the cell membrane.



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| 3. | Which of the following is an example of **diffusion**? |
|  | |  |  | | --- | --- | | A. | Process W and Process X | | B. | Process X and Process Y | | C. | Process Y and Process Z | | D. | Process Z and Process W | |

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| 4. | Which of the following is true about **passive transport**? |
|  | |  |  | | --- | --- | | A. | It does not allow material to diffuse. | | B. | It requires energy to create a higher concentration of materials outside the cell. | | C. | It requires energy to create a higher concentration of materials inside the cell. | | D. | It allows particles to pass without the use of the cell's energy. | |

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| 5. | What is the term for a **fluid** moving across a membrane from an area of high concentration to one of low concentration? |
|  | |  |  | | --- | --- | | A. | Endocytosis | | B. | Facilitated diffusion | | C. | Active transport | | D. | Osmosis | |

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| 6. | Fill in the blank.  The cell membrane is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because it allows some materials to pass through, but not all. |
|  | |  |  | | --- | --- | | A. | Porous | | B. | Selectively permeable | | C. | Hypotonic | | D. | Actively diffusive | |

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| 7. | What is needed for material to enter the cell membrane through active transport? |
|  | |  |  | | --- | --- | | A. | A higher concentration of material inside the membrane | | B. | A hypotonic solution | | C. | The cell's energy (ATP) | | D. | A higher concentration of material outside the membrane | |

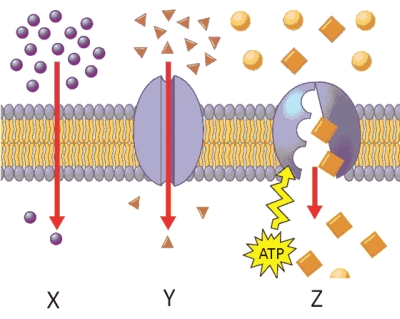
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| 8. | Fill in the blank.   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs spontaneously when molecules spread out from an area of high concentration to an area of lower concentration. |
|  | |  |  | | --- | --- | | A. | Diffusion | | B. | Osmosis | | C. | Active transport | | D. | Permeability | |

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| 9. | How might the molecule indicated in the diagram pass into this cell against the concentration gradient? |
|  | |  |  | | --- | --- | | A. | It might dissolve in water and enter by diffusion. | | B. | It might dissolve in water and enter by osmosis. | | C. | A carrier protein might take it in by active transport. | | D. | A carrier protein might take it in by facilitated diffusion. | |

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| 10. | Use the diagram of the cell membrane below to answer the question.     Which organic molecule is indicated by the arrow? |
|  | |  |  | | --- | --- | | A. | A phospholipid | | B. | A protein | | C. | A fatty acid | | D. | An amino acid | |

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| 11. | The diagram below shows two different kinds of substances, A and B, entering a cell.      Based on the information above, which of the following **best** describes the relationship between the cell and substances? |
|  | |  |  | | --- | --- | | A. | Substance A requires active transport to move across the membrane into the cell | | B. | Substance B requires active transport to move across the membrane into the cell | | C. | Substance A requires active transport to move across the membrane out of the cell | | D. | Substance B requires passive transport to move across the membrane out of the cell | |

The diagram below illustrates the transport of materials across a cell membrane.



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| 12. | Which of the following is an example of active transport? |
|  | |  |  | | --- | --- | | A. | X | | B. | X and Y | | C. | Y and Z | | D. | Z | |

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| 13. | Which of the following is an example of passive transport? |
|  | |  |  | | --- | --- | | A. | Y | | B. | X and Y | | C. | Y and Z | | D. | Z | |