

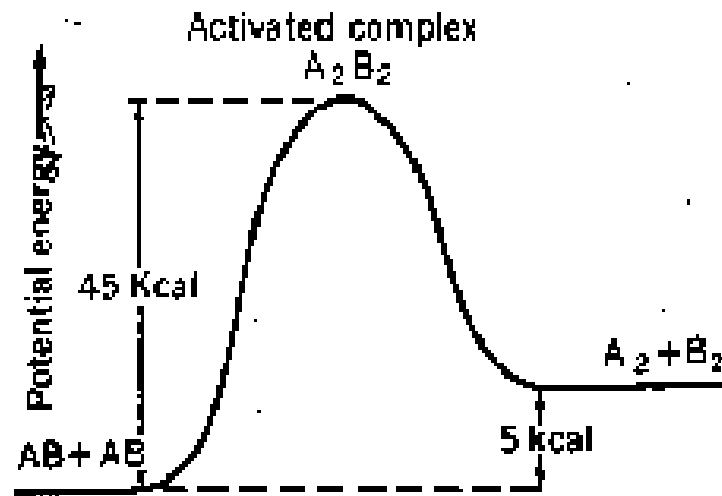
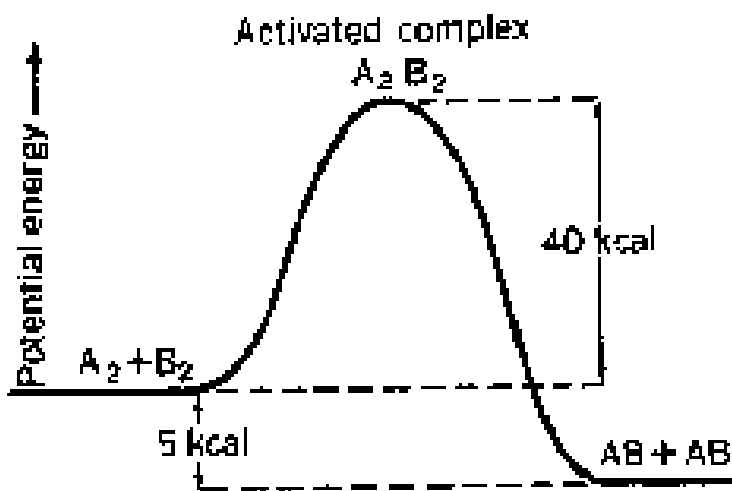
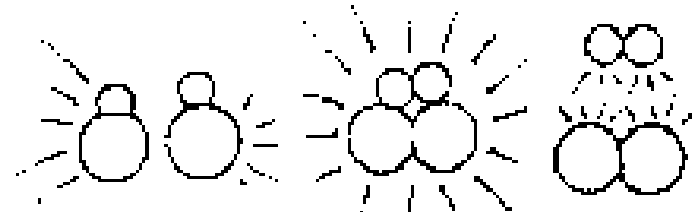
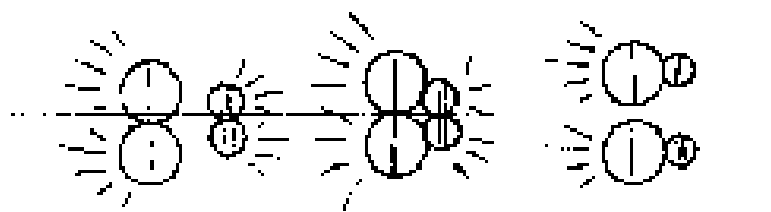
“SPEED”

Group Knowledge battle

Game Rules:

Write down as many key terms (words) that pertain to the projected image. Be as specific as possible, try to cover as much ground. The more you write the MORE points you CAN EARN. You only have 40 seconds per image, BE QUICK!!

Question #1.



Key terms #1:

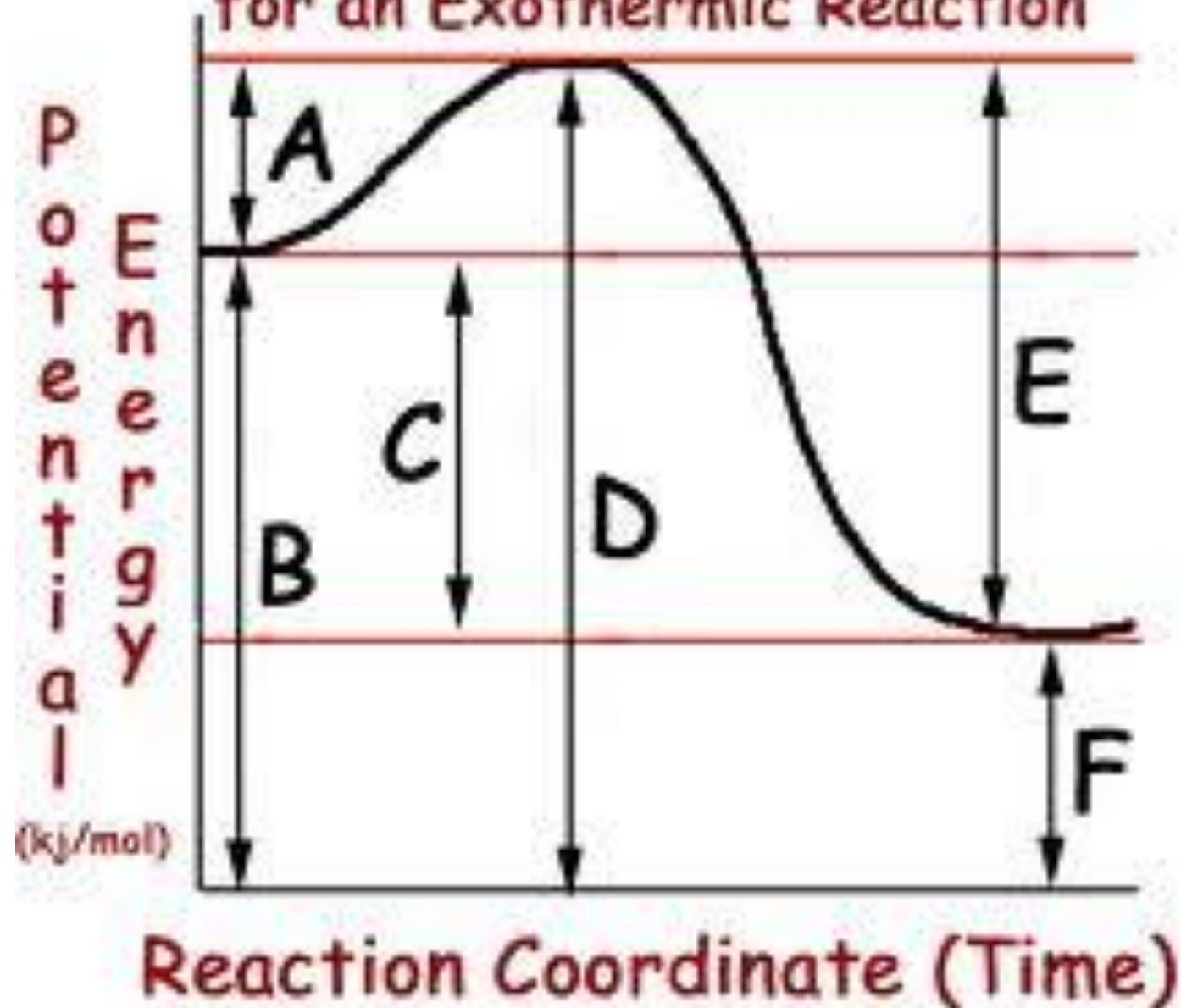
Exothermic, exergonic (1PT FOR ONLY ONE)

Endothermic, endergonic (1PT FOR ONLY ONE)

Both diagrams represent the same reaction (+10 pts)

G, H, S (+1 pt each)

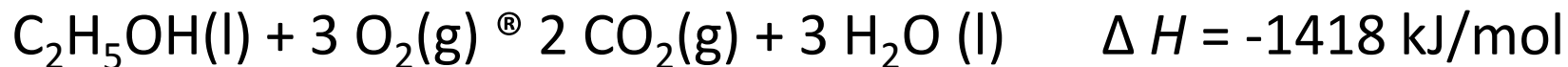
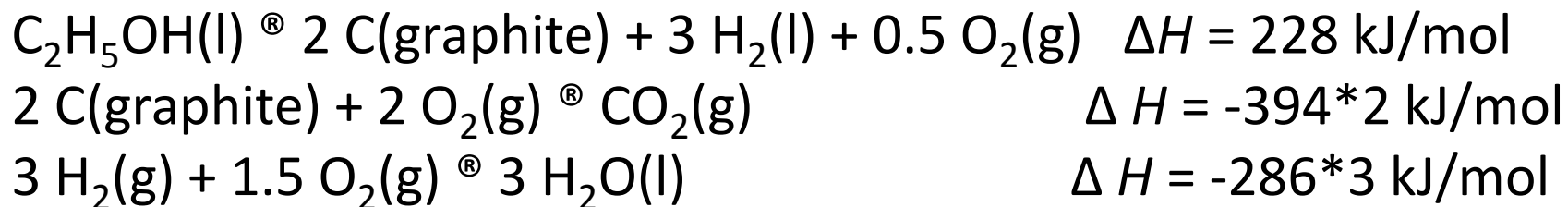
Potential Energy Diagram for an Exothermic Reaction



Key Terms #2

- A = ACTIVATION ENERGY
- C = FREE ENERGY, G
- E = ACTIVATION ENERGY OF REVERSE RXN (+5 PTS)
- B = POTENTIAL ENERGY OF REACTANTS (+10PTS)
- F = POTENTIAL ENERGY OF PRODUCTS (+10PTS)
- D = ACTIVATION COMPLEX (+15PTS)

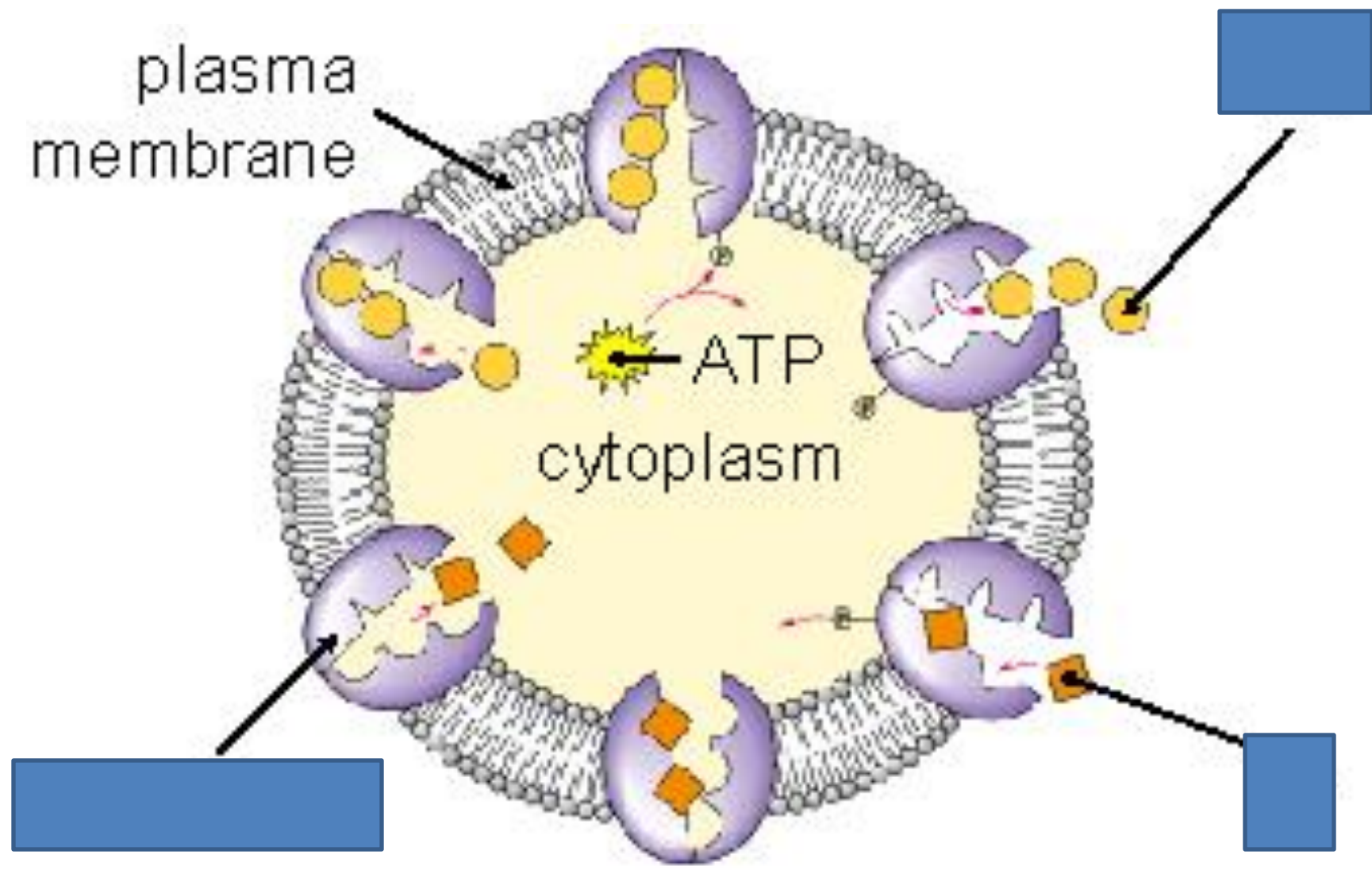
Question #3



Key terms #3

- Overall reaction is exothermic, exergonic
- 1 of the reactions, C₂H₅OH, is endothermic, endergonic, has a + ΔG (2pts)
- This is an example of energy coupling (+5pts)
- Two reactions are exothermic, exergonic, - ΔG , (+2pts)

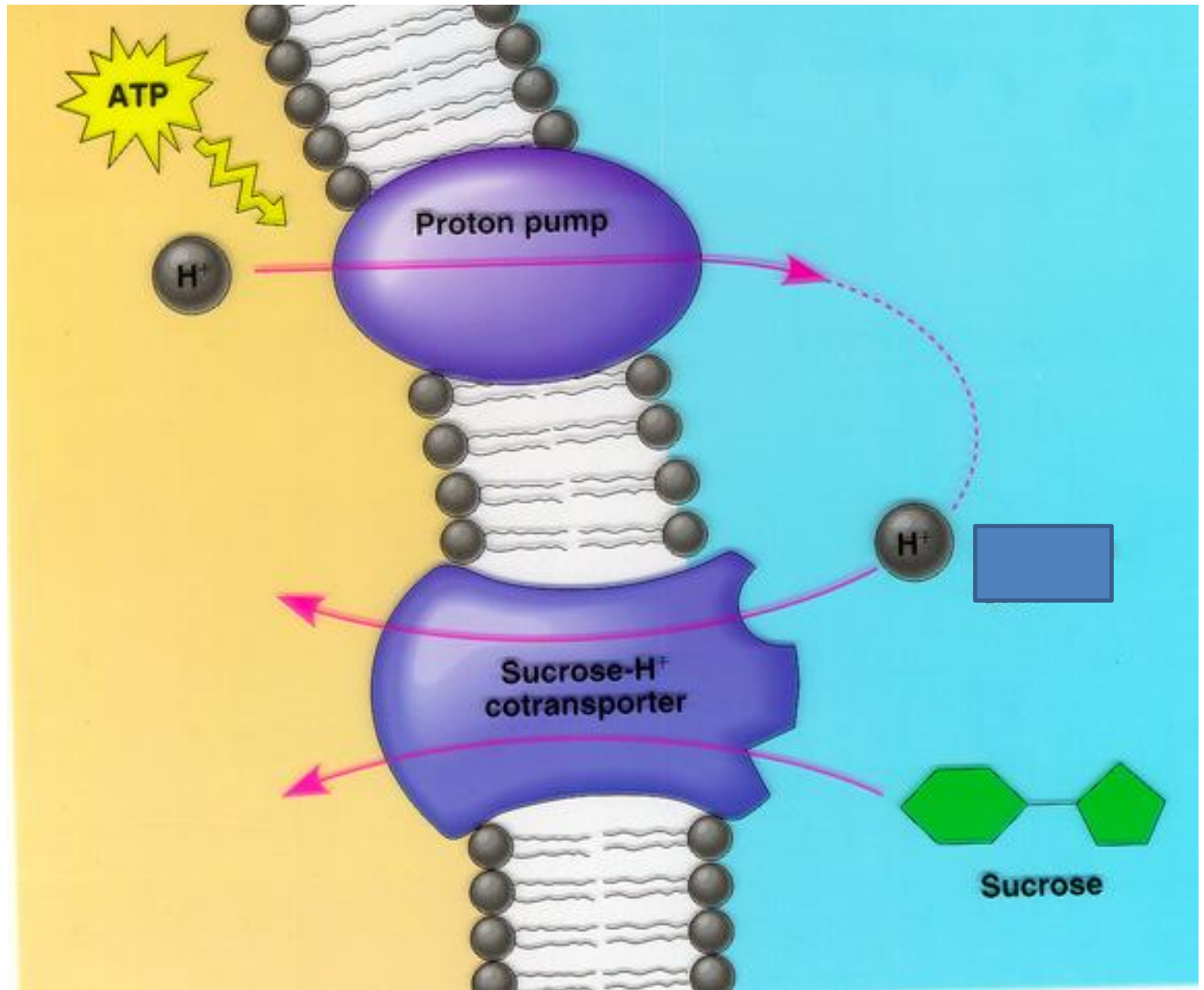
Question #4



Key terms #4:

- 3 Na⁺ ions out (2pts)
- 2 K⁺ ions in
- Active transport, using ATP and a Kinase
- Transport protein, channel proteins,
- Endergonic, uphill, anabolic pathway
- + ΔG (+5pts)
- Charge difference across plasma membrane, VOLTAGE (+10pts)

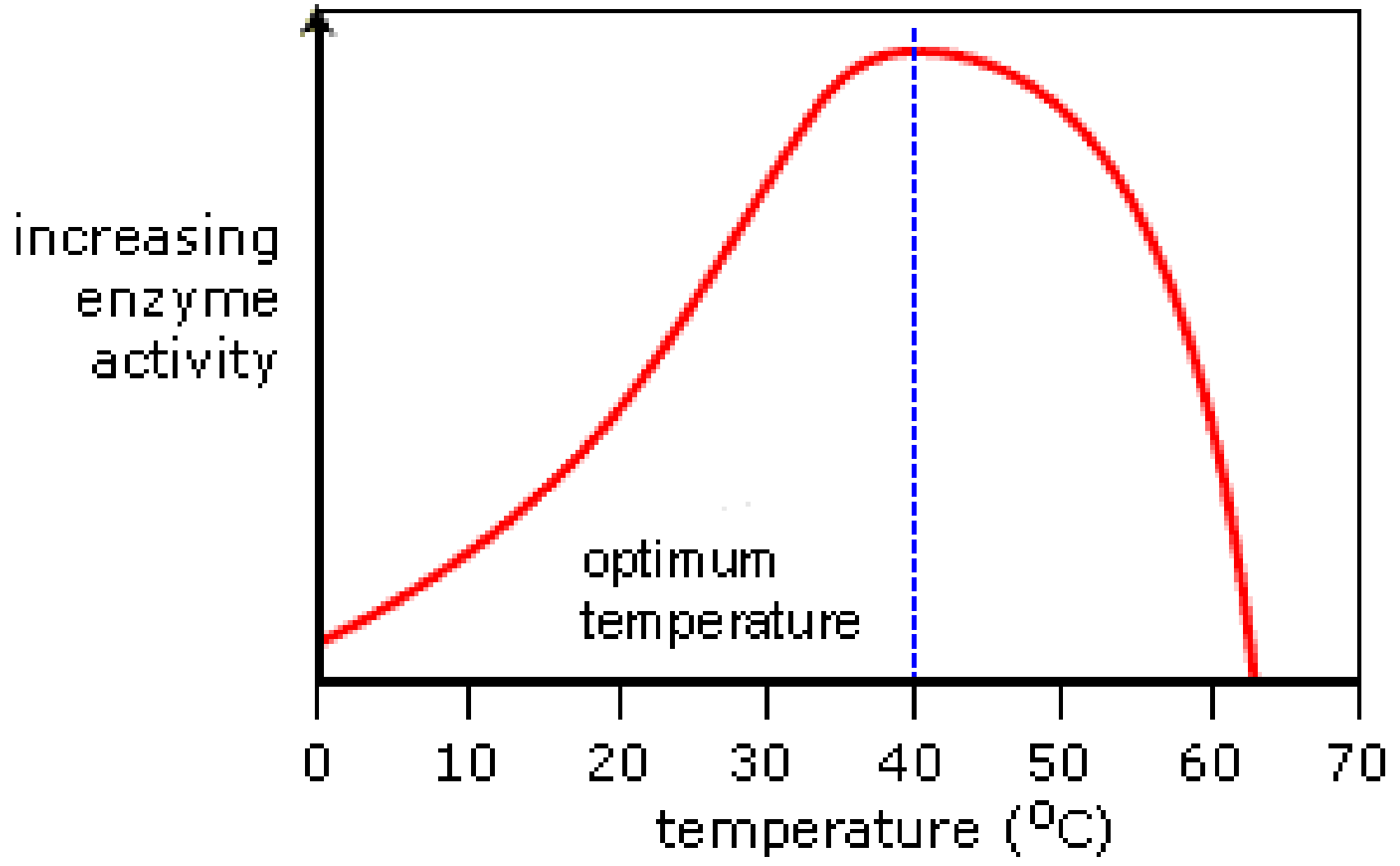
Question 5



Key terms #5

- At Sucrose/Hydrogen pump: Gradients of H⁺ (high to low) or Sucrose (low to high) = +5pts
- Proton pump is active using ATP, + $\Delta G = +2$ pts
- Energy coupling (+5pts)
- Outside cell more acidic due to higher concentration of H⁺ (+3pts)

Question #6



Key terms #6

- Optimal temperature at 40 degrees
- Rapid rate drop past 40 degrees
- Enzyme most likely denatures (+5pts)
- Rate increases rapidly before attaining 40 degrees
- Loss of conformation leads to loss of function and poor substrate binding past 40 degrees (+10pts)