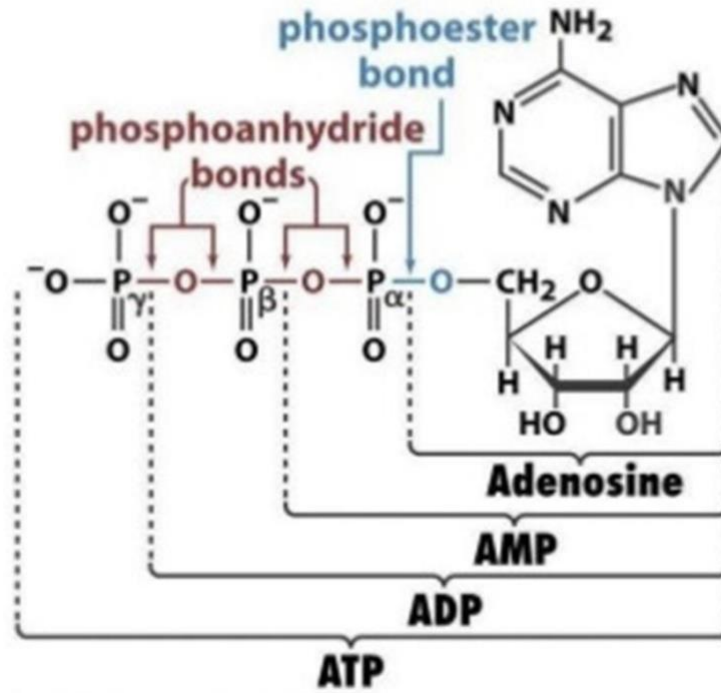


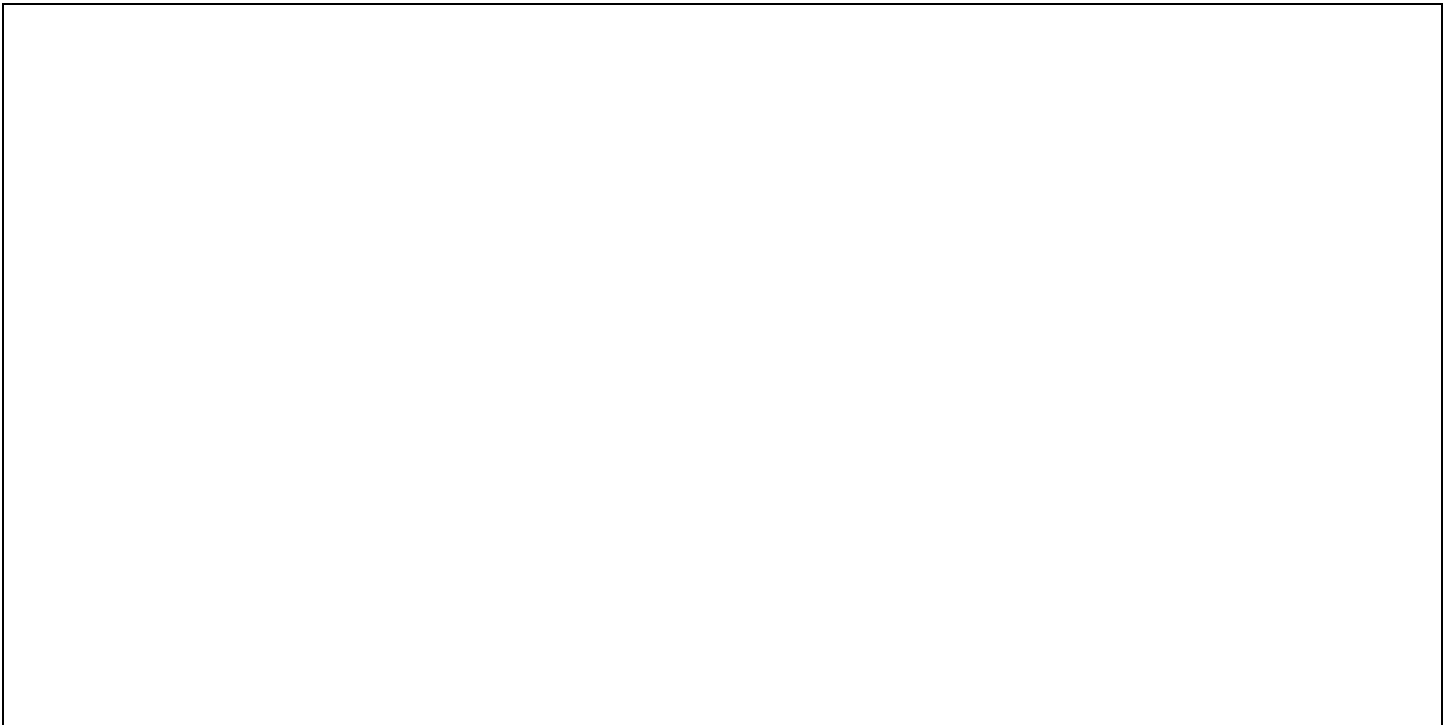
3-1-M FRQ

Campbell Biology: Concepts & Connections 9E (Taylor et al.)

ATP 구조 외우기



ATP 구조 스스로 그려보기



Chapter 5 Review Question (필)

A biologist performed two series of experiments on lactase, the enzyme that hydrolyzes lactose to glucose and galactose. First, she made up 10% lactose solutions containing different concentrations of enzyme and measured the rate at which galactose was produced (grams of galactose per minute). Results of these experiments are shown in Table A below. In the second series of experiments (Table B), she prepared 2% enzyme solutions containing different concentrations of lactose and again measured the rate of galactose production.

Table A. Reaction Rate and Enzyme Concentration

Lactose concentration	10%	10%	10%	10%	10%
Enzyme concentration	0%	1%	2%	4%	8%
Reaction rate	0	25	50	100	200

Table B. Reaction Rate and Substrate Concentration

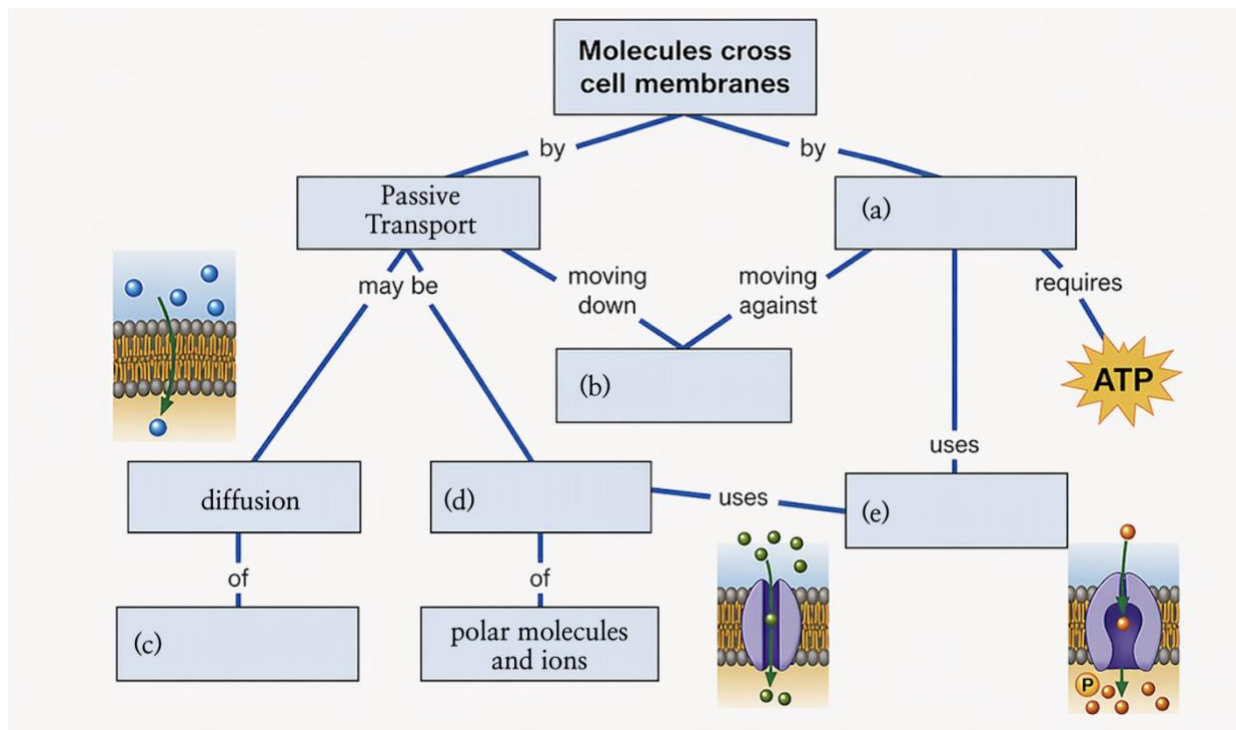
Lactose concentration	0%	5%	10%	20%	30%
Enzyme concentration	2%	2%	2%	2%	2%
Reaction rate	0	25	50	65	65

- a. Graph and explain the relationship between the reaction rate and the enzyme concentration.

- b. Graph and explain the relationship between the reaction rate and the substrate concentration. How and why did the results of the two experiments differ?

Chapter 5 Connecting the Concepts (필)

- Fill in the following concept map to review the processes by which molecules move across membranes.



- Label the parts of the following diagram illustrating the catalytic cycle of an enzyme.

