

33 A mineral supplement designed to prevent the flu was given to two groups of people during a scientific study. Dosages of the supplement were measured in milligrams per day, as shown in the table below.

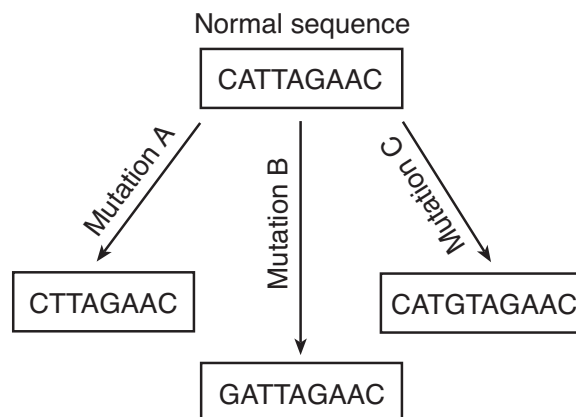
Supplement Dosages

Group	Dosage (mg/day)
A	100
B	200

After 10 weeks, neither group reported a case of the flu. Which procedure would have made the outcome of this study more valid?

- (1) test only one group with 200 mg of the supplement
- (2) test the supplement on both groups for 5 weeks instead of 10 weeks
- (3) test a third group that receives 150 mg of the supplement
- (4) test a third group that does not receive the supplement

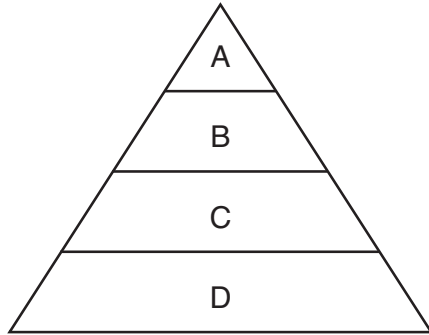
34 The diagram below shows a normal gene sequence and three mutated sequences of a segment of DNA.



Which row in the chart below correctly identifies the cause of each type of mutation?

Row	Mutation A	Mutation B	Mutation C
(1)	deletion	substitution	insertion
(2)	insertion	substitution	deletion
(3)	insertion	deletion	substitution
(4)	deletion	insertion	substitution

Base your answers to questions 35 and 36 on the energy pyramid below and on your knowledge of biology.



35 Which level includes organisms that receive their energy from level B?

- (1) A (3) C
(2) B (4) D

36 Which level includes organisms that get their energy exclusively from a source other than the organisms in this ecosystem?

- (1) A (3) C
(2) B (4) D

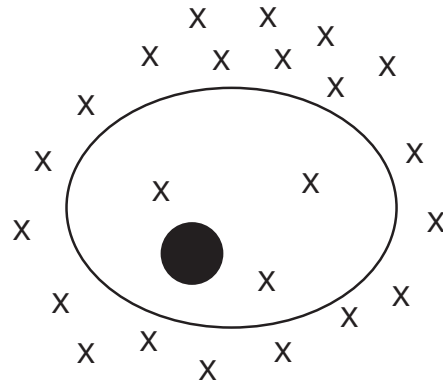
37 The chart below compares the size of three structures: a gene, a nucleus, and a chromosome.

Size	Structure
smallest in size	A
↓	B
greatest in size	C

Based on this information, structure A would most likely be a

- (1) chromosome that is part of structure C
(2) chromosome that contains structures B and C
(3) nucleus that contains both structure B and structure A
(4) gene that is part of structure B

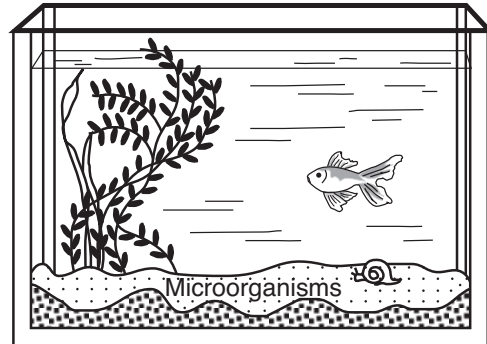
38 The diagram below shows molecules represented by X both outside and inside of a cell.



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

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

39 Which statement most accurately predicts what would happen in the aquarium shown below if it were tightly covered and maintained in natural light for one month?



- (1) The water temperature would rapidly decrease.
(2) The process of respiration in the snail would decrease.
(3) The rate of reproduction of the fish would be affected.
(4) The organisms would probably survive because materials would cycle.