Science
Elimination

Learning Targets

1. Explain why the process of elimination is more effective than searching for one correct answer.
2. Use strategies specific to a subject test to improve elimination skills.

Elimination

Instructions

Use the Elimination strategy to answer the following question.

Elimination

Some science questions are so wordy that they're longer than the passage! Use this strategy to help make eliminations on the Science test:

1. Divide and conquer. Divide the answer choices into segments, or features, and think about each piece one at a time. If even one feature is incorrect, the whole choice is wrong.

Passage III

Students in a high school physics class are conducting experiments using springs of varying stiffness and carts of different masses on a track with one side of the cart attached to a spring, as in Figure 1. A spring always wants to be at equilibrium. When a spring is either stretched or compressed in one direction, it begins exerting a force in the opposite direction in an attempt to restore itself to its equilibrium position. During this process, kinetic energy is converted into potential energy. Figure 2 shows the exchange of energy over time in a spring.

Definition 1: The force exerted by a spring is $F = kx$ where k is a constant related to the stiffness of the spring and x is the amount the spring is stretched or compressed.

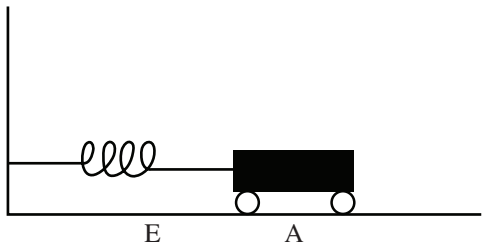

Figure 1

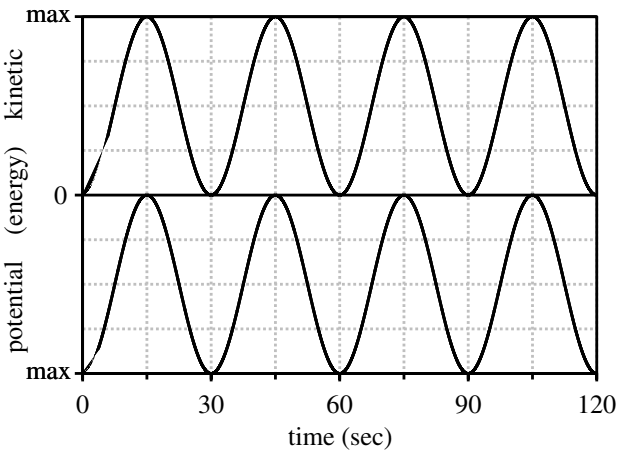

Figure 2

1. Suppose a spring with a stiffness constant of 5 is used in an experiment. Based on Definition 1, how would the force exerted by this new spring when stretched a distance of 10 cm compare to a standard spring with a stiffness constant of 2 stretched the same distance?

   A. The force exerted would be greater since x is the same and k is larger in the new spring.
   B. The force exerted would be less since x is the same and k is less in the new spring.
   C. The force exerted would be greater since x is larger and k is the same in the new spring.
   D. The force exerted would be smaller since x is smaller and k is the same in the new spring.

Instructions

Use the Elimination strategy to answer the question.

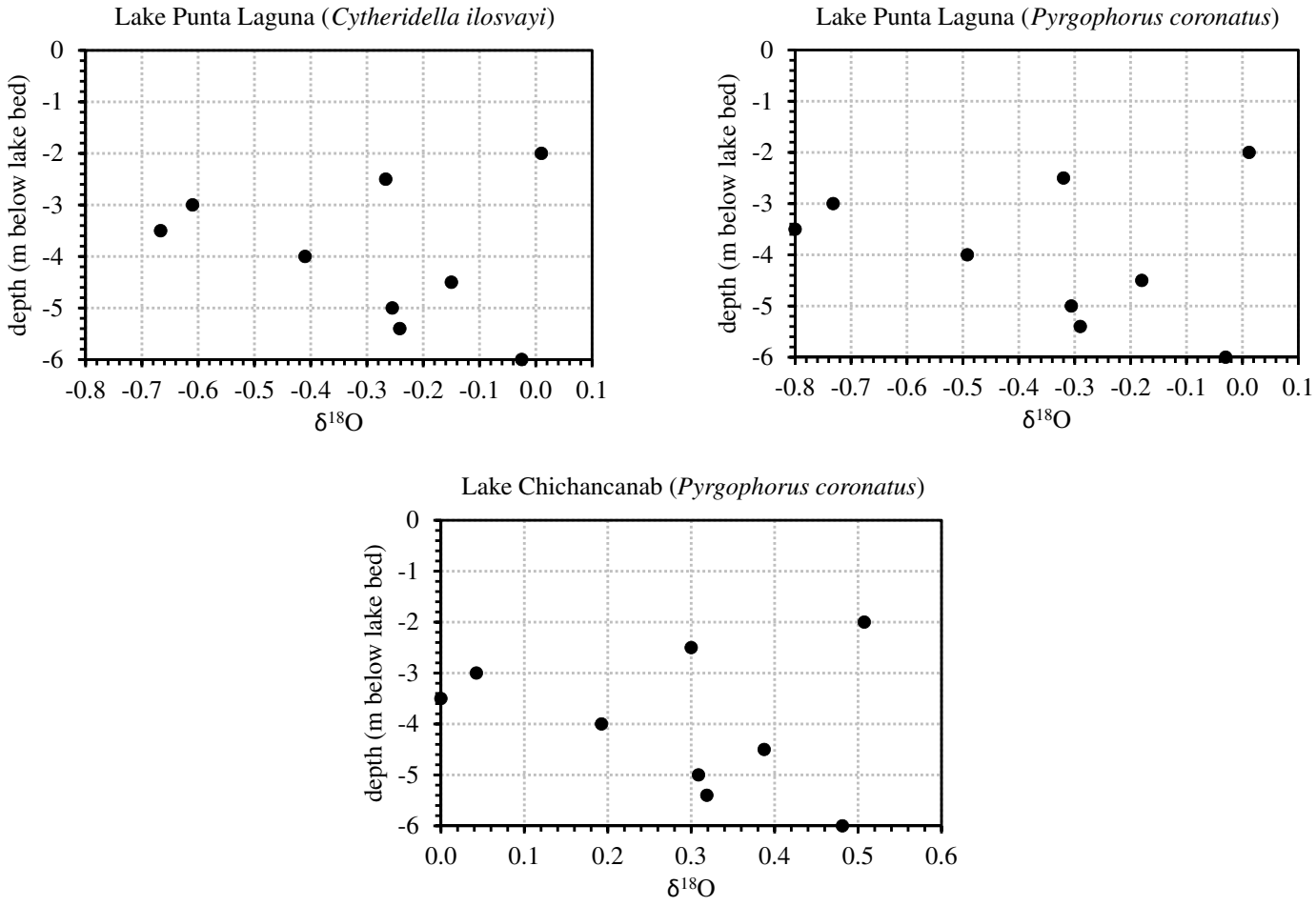

Figure 1

2. How did the data collection for the study in Lake Punta Laguna differ from that for the study in Lake Chichancanab? In Lake Punta Laguna:

F. one invertebrate species was sampled; in Lake Chichancanab two invertebrate species were sampled.
G. two invertebrate species were sampled; in Lake Chichancanab one invertebrate species was sampled.
H. both ^{16}O and ^{18}O were measured; in Lake Chichancanab only ^{18}O was measured.
J. only ^{18}O was measured; in Lake Chichancanab both ^{16}O and ^{18}O were measured.