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**Question 12-1.** Read the following sentences, and answer the questions.

El Niño in equatorial Pacific Ocean is known to be triggered by change of (a). Usually, (a) induce ( ① ), which moves surface waters away from the coast to offshore of Peru, South America. Then ( ② ) occurs, which brings (b) waters. When the (a) weaken, or the wind is reversed, (c) waters appear farther east, in the direction of South America.

(1) Choose the appropriate terms for the blanks (a) to (c) from the list below;

warm and nutrient-rich, warm and oligotrophic, cool and nutrient-rich,  
cool and oligotrophic, south-east trade winds, westerlies, polar easterlies

(2) Fill ( ① ) and ( ② ) with appropriate words.

(3) Explain the process how changes in water temperature and nutrient concentrations associated with El Niño affect marine organisms from primary producers to top predators.