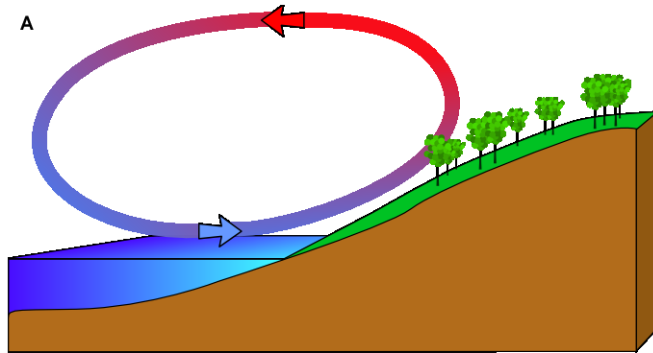


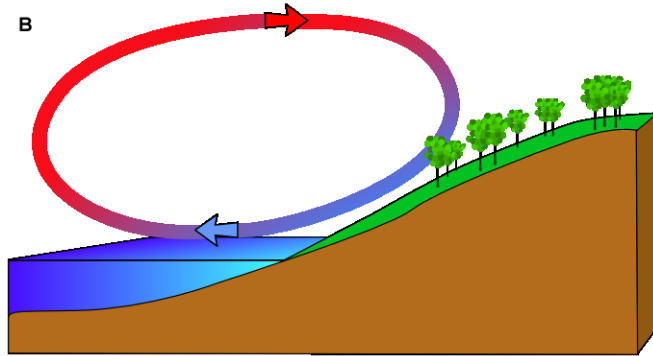
**Round:** 3A  
**Category:** Physical  
**Time:** 4 minutes

The schematic below shows a diurnal wind pattern that reverses each day and night.

1. Label the one that represents the land breeze and the one that represents the sea breeze. (4 pts)



\_\_\_\_\_



\_\_\_\_\_

2. What causes the sea breeze? (6 pts)

3. What causes the land breeze? (6 pts)

4. From where does the energy come for this diurnal wind pattern? (4 pts)

ANSWER

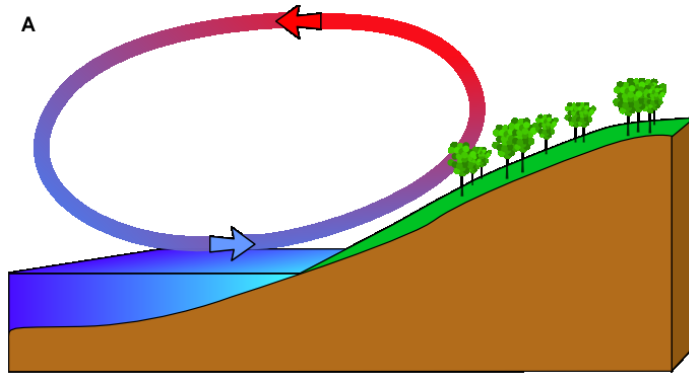
ANSWER

ANSWER

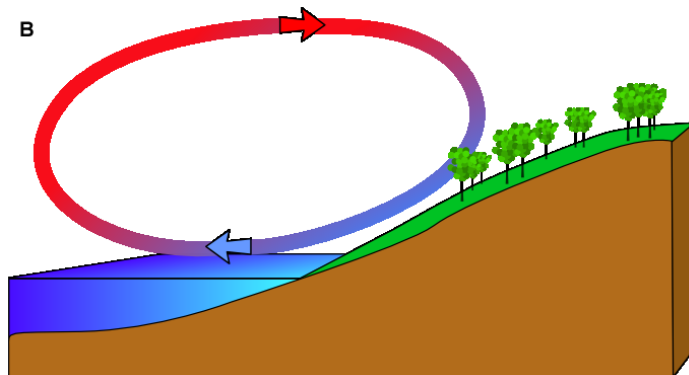
Round: 3A  
Category: Physical  
Time: 4 minutes

The schematic below shows a diurnal wind pattern that reverses each day and night.

1. Label the one that represents the land breeze and the one that represents the sea breeze.



Sea Breeze (2 pts)



Land Breeze (2 pts)

figure source: [http://en.wikipedia.org/wiki/Image:Diagrama\\_de\\_formacion\\_de\\_la\\_brisa-breeze.png](http://en.wikipedia.org/wiki/Image:Diagrama_de_formacion_de_la_brisa-breeze.png)

2. What causes the sea breeze?

Water has a high specific heat capacity and so is slower to heat up and lose its heat (2 pts). During the day, the air over the land heats up more quickly than the ocean and the less dense air rises (2 pts). This causes an onshore flow of cooler air during the day (2 pts).

3. What causes the land breeze?

During the evening, the land cools more quickly than the adjacent sea (2 pts). The air over the sea becomes warmer relative to the air over the land and the air over the ocean becomes less dense and rises (2 pts). This causes an offshore flow of cooler air in the evening (2 pts).

4. From where does the energy come for this diurnal wind pattern?

The Sun (4 pts)