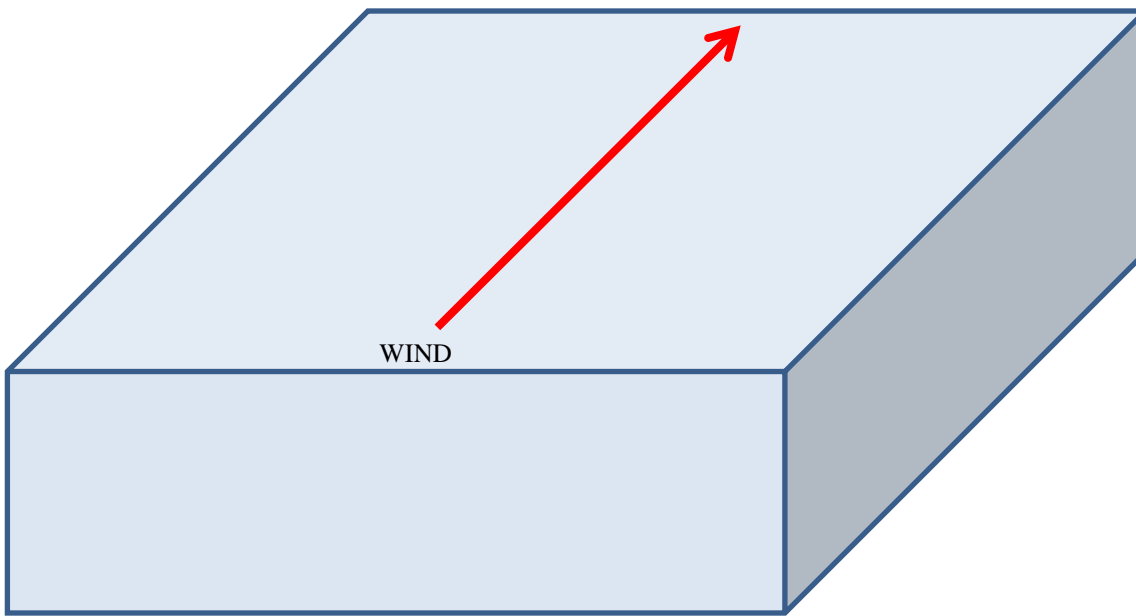


## Round: 3A

1. Who first scientifically described Langmuir circulation (first and last name), in what year, and in what body of water? (3 pts)
2. a. Describe in words the flow pattern in Langmuir circulation cells, and the conditions required to form them. (4 pts)  
b. Draw and label a diagram on the box below to show the vertical and horizontal circulations, and the causes and effects, of a Langmuir circulation cell in relation to the noted prevailing wind direction. (4 pts)



3. What is the approximate depth of a Langmuir cell? (1 pt)
4. When observing from a boat or vessel, what are the visible telltale signs that Langmuir circulation is occurring? (2 pts)
5. How might Langmuir circulation affect the distribution of plankton at the surface? (4 pts)
6. How might Langmuir circulation contribute to the cleanup of the Deepwater Horizon oil spill? (2 pts)