

**GS331 Introductory Oceanography**  
**Intro Video Exercise Part 1 ("Understanding Oceans")**

Name \_\_\_\_\_

Watch the video "Understanding Oceans" and answer the following Questions.

"Earth's Liquid Mantle"

1. What percentage of the Earth's surface is covered in ocean water?
2. How many oceans are there on the Earth?
3. What is the chemical formula of water?
4. What is the hypothesized source of water on the surface of the Earth?
5. What percentage of the Earth's total water component is contained in the ocean?
6. What is the function of the atmosphere and oceans on the Earth relative to solar heating?
7. What popular weather phenomena is the direct result of the linkage between the ocean and the atmosphere?
8. What two components of the atmosphere and oceans are exchanged on a continual basis?
9. What happens to the trade winds during an El Nino year in the Pacific Ocean? What is the net result in terms of sea surface temperatures in the eastern Pacific?

"Rivers in the Sea"

10. True or False: ocean currents are only located near the surface. Explain your answer.
11. What are the primary functions of ocean currents?
12. What are the driving forces of ocean currents?
13. What is the Coriolis effect and how does it effect ocean currents?
14. What happens to water at the north pole?
15. True or False: the atmosphere transfers most of the heat that accumulates near the equator. Explain your answer.

16. Explain the importance of technology in terms of ocean exploration and data collection.
17. Why is the ocean important in terms of global warming and global carbon dioxide levels in the atmosphere?  
"Making Waves"
18. What is the driving force for wave action?
19. What is the driving mechanism for wind generation in the atmosphere?
20. What is the second law of thermodynamics, as stated in the video?
21. True or False: waves are comprised of horizontally moving water molecules. Explain your answer.
22. What causes waves to break on the shore?
23. What is the driving mechanism for tides on the ocean?
24. What is the tidal bulge? How does it influence daily tidal fluctuation? What causes the bulge?

End of part 1 .....