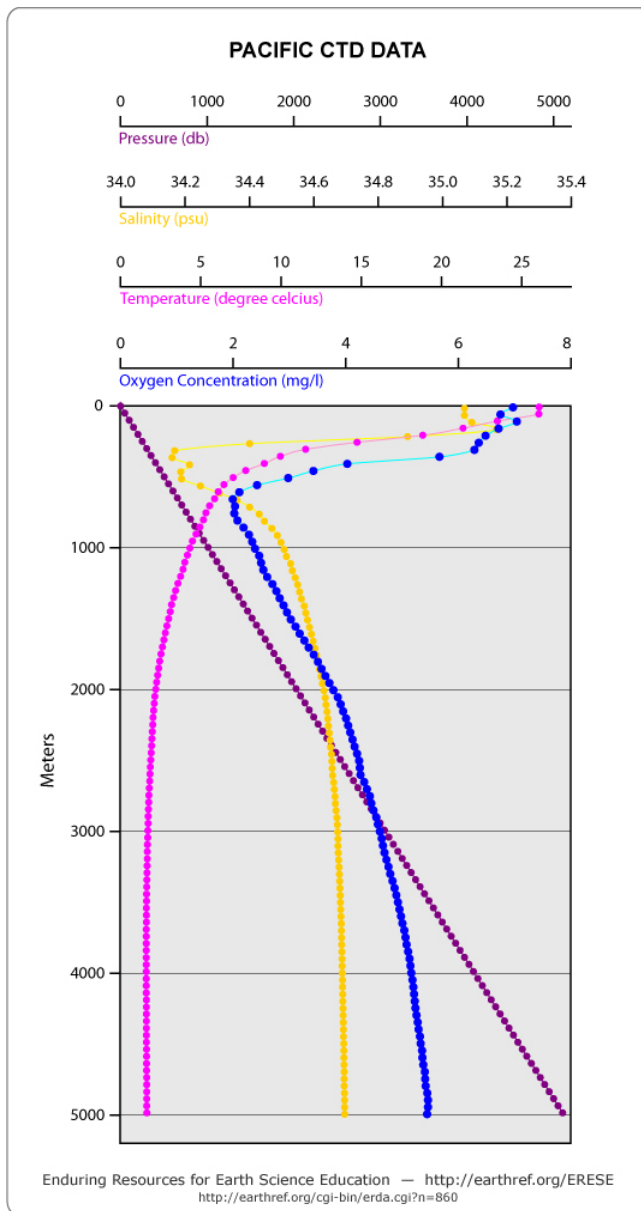


Two Layer Ocean – Pretest

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- Q1.** Plants don't grow at the bottom of the ocean, because?
- There are no ocean plants
 - There is no fertilizer at the bottom of the ocean
 - There is no light at the bottom of the ocean
 - It is too cold at the bottom of the ocean
 - Incorrect statement – plants do grow at the bottom of the ocean
- Q2.** Tropical ocean water is warm all the way to the bottom of the ocean, because?
- It is closer to the sun than arctic ocean water
 - It receives more light than arctic ocean water
 - Hydrothermal vents (hot springs) at the mid-ocean ridges heat up the water
 - The bottom water is formed in the tropics
 - Incorrect statement – bottom water in the tropics is cold
- Q3.** Deeper water is warmer than shallow water, because?
- The greater pressure increases the temperature
 - Hydrothermal vents (hot springs) at the mid-ocean ridges heat up the water
 - Incorrect statement – deep water is colder than the shallow water
- Q4.** Does water pressure change with depth?
- No, water pressure is the same all the way to the bottom
 - Yes, there is less pressure at the bottom
 - Yes, if you are twice as deep you experience twice the pressure
 - Yes, if you are twice as deep you experience 4 times the pressure

- Q5.** Deep ocean fish have big eyes, because?
- a. There is very little light in the deep ocean
 - b. Big eyes withstand pressure better
 - c. Big eyes withstand cold better
 - d. Larger fish have bigger eyes
- Q6.** Salinity at the surface of the open ocean might be greater in the tropics, because?
- a. Evaporation of water molecules
 - b. Rivers flowing into the ocean
 - c. Addition of salt molecules
 - d. More sun
- Q7.** Surface ocean water is _____ than deep ocean water
- a. Warmer
 - b. Colder
 - c. The same temperature



Questions 8-12 refer to the graph above.

Q8. Which of the following decreases quickly with depth then stays relatively constant?

- Pressure
- Salinity
- Temperature
- Oxygen

Q9. Which of the following increases linearly with depth?

- a. Pressure
- b. Salinity
- c. Temperature
- d. Oxygen

Q10. What would cause the oxygen to decrease with depth in the first 600 meters?

- a. Respiration of sinking algae by bacteria
- b. The abundance of mesopelagic fish and squid
- c. 600 meters is closer to the source of oxygen in the ocean

Q11. The ocean has been described as having 2 layers. Based on the data in the graph where does the ocean change from one layer to another?

- a. Surface
- b. 300 meters
- c. 600 meters
- d. 2500 meters

Q12. Based on the data in the graph how deep would you estimate that light penetrates the ocean?

- a. 5000 meters
- b. 2500 meters
- c. 1000 meters
- d. 300 meters
- e. 10 meters

End graph questions

Q13. Surface water contains _____ plants than deep ocean water

- a. More
- b. Less
- c. About the same number of plants are found at the surface as at depth

Q14. Deep water forms?

- a. Near the tropics
- b. Near the equator
- c. Near the poles
- d. Deep water cannot be distinguished from any other water

Q15. Dissolved oxygen in the ocean?

- a. Increases with depth because deep water is colder
- b. Decreases with depth because there is more respiration in deep water than in shallow
- c. Is greater in the tropics because warm water dissolves more oxygen than cold water
- d. Is great near continents than the open ocean

Q16. What is the major difference in the 2 layers of the ocean?

- a. The amount of light
- b. The amount of oxygen
- c. The pressure
- d. The temperature