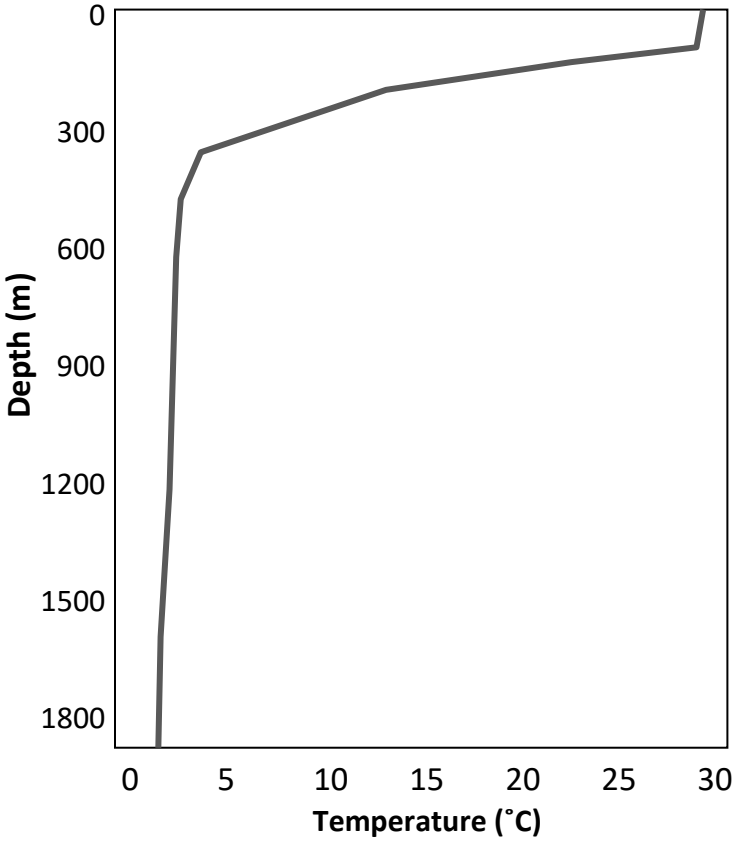


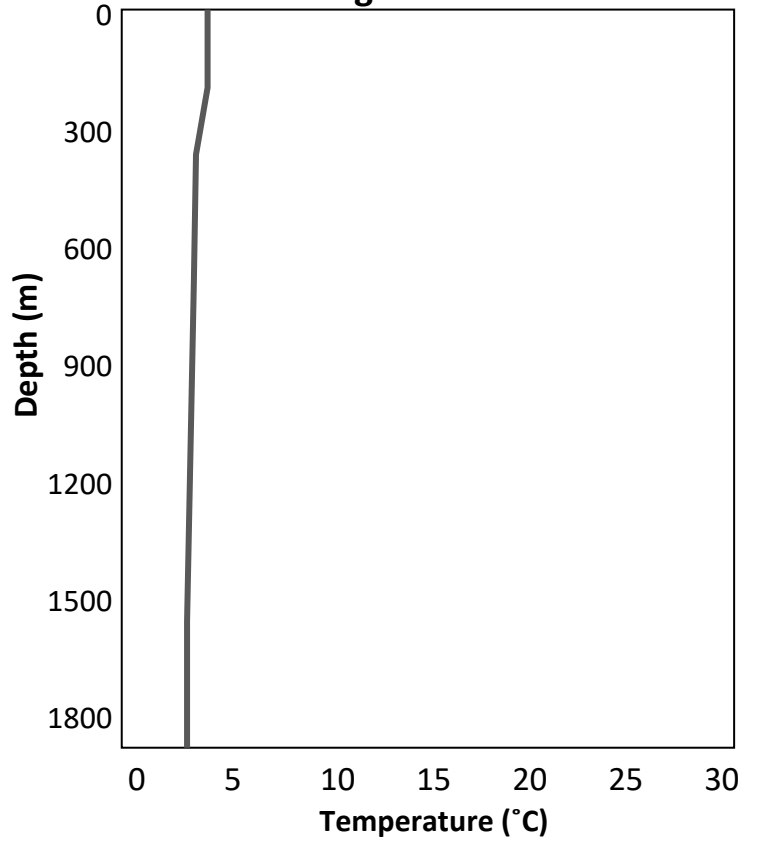
Name: _____ Period: _____ Date: _____

Thermocline lab

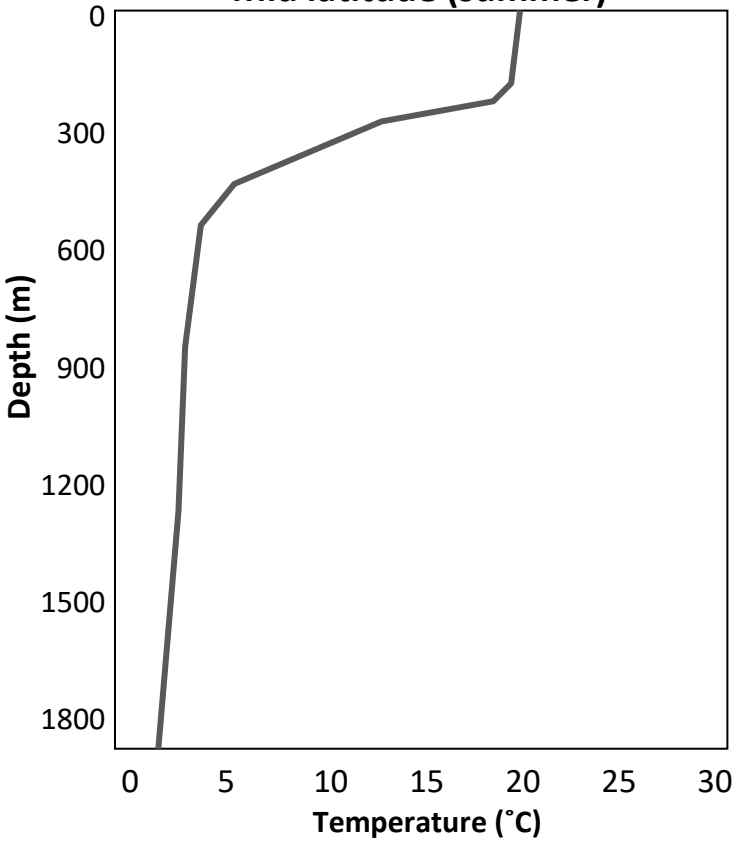
Low latitude



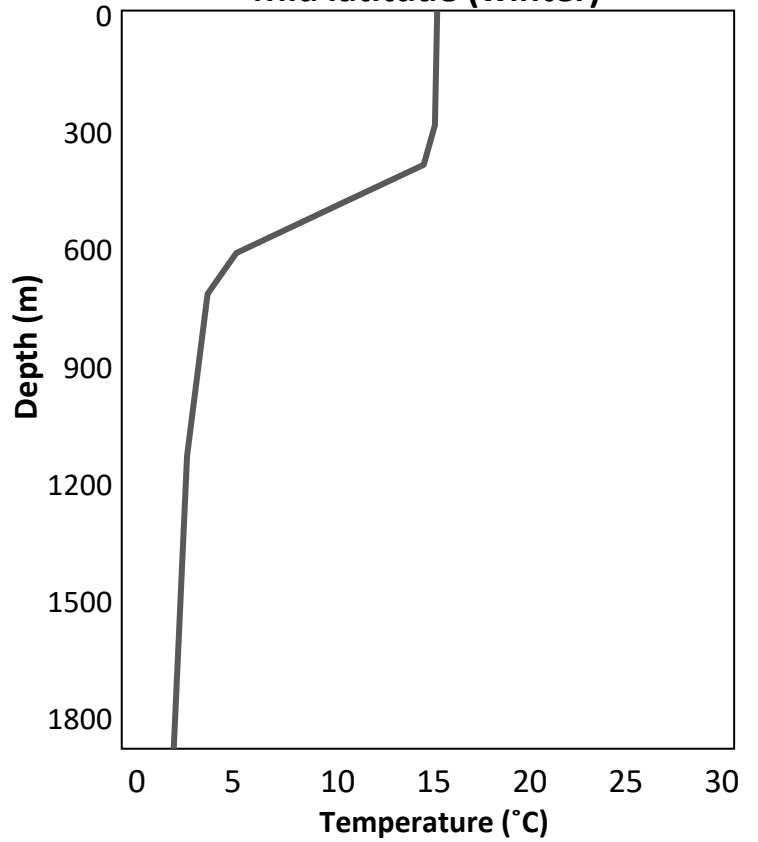
High latitude



Mid latitude (summer)



Mid latitude (winter)



Thermocline Analysis Questions

1. Refer to p. 424 in your textbook. On the front of this page, label the three temperature zones for the three profiles where the zones are visible. (*You do not need to label the profile for high latitude.*)
2. Find a world map somewhere in the room, or on the computer. Look at the horizontal latitude lines and note the scale in degrees. In general, where on the Earth are **low latitudes** located (near what)? _____
3. Where are **high latitudes** located on the map? _____
4. Which of the three different locations on the front (**low, middle, or high latitude**) shows the greatest range in temperature between the surface and the bottom? _____
 - a. By about how many Celsius degrees does the temperature vary at this latitude? _____ °C
HINT: You need to do find the **difference (subtract).*
 - b. Why does this region have such a big range in temperature compared to the other profiles?
5. What is the **thermocline**? (Refer to your textbook if you don't know.)
6. Which latitude doesn't seem to have a thermocline, and **WHY**?
7. Why do you think the seasonal differences are shown **only for the mid-latitude profiles**?
8. Compare the temperature profiles for all 4 graphs **at deeper depths** (below 750 m). Explain this connection.
9. Why does the surface zone's depth extend significantly deeper than the sunlight can penetrate?
(Read about Ocean Layering on p. 426.)