

Name _____



Polar Layers

Directions: Read each question and choose the best answer.
Circle the letter of your answer.

1. Which layer of the Arctic Ocean is the coldest and most dense?
 - A. Surface layer
 - B. Midwater layer
 - C. Deep water layer
 - D. Sunlit layer
2. What happens to sea ice during the Arctic summer?
 - A. It becomes thicker and spreads farther south
 - B. It stays exactly the same all year
 - C. It grows taller due to ocean pressure
 - D. It melts and becomes thinner
3. Which factor causes the Arctic Ocean to lose heat more slowly during winter?
 - A. The warm air from nearby continents
 - B. The long hours of sunlight
 - C. The insulating effect of sea ice
 - D. The movement of warm rivers into the ocean
4. Which climate feature is common in the Arctic region?
 - A. Long, cold winters and short, cool summers
 - B. Frequent thunderstorms
 - C. Very mild winters and hot summers
 - D. Constant rainfall throughout the year
5. Seasonal changes in sunlight affect the Arctic Ocean mainly by influencing
 - A. the number of dust storms
 - B. how quickly surface water warms
 - C. the amount of salt in the deep ocean
 - D. the size of ocean trenches

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6. As sea ice forms, which process affects the water beneath it?
 - A. The water becomes saltier because brine sinks
 - B. The water becomes less salty and rises
 - C. The water turns into freshwater
 - D. The water freezes instantly to the bottom
7. What helps determine the movement of Arctic surface currents?
 - A. Temperature of underground volcanoes
 - B. Wind patterns across the region
 - C. The number of animals living nearby
 - D. Precipitation from coastal storms
8. Which factor can slow the formation of deep water in the Arctic Ocean?
 - A. Strong waves breaking sea ice
 - B. An increase in surface salinity
 - C. Large amounts of freshwater from melting ice
 - D. Warm winds moving south
9. The warmest part of the Arctic Ocean is usually the
 - A. deep water layer
 - B. shaded regions under ice
 - C. ocean floor
 - D. surface layer
10. When the Arctic experiences long periods of darkness in winter, one result is
 - A. increased warming of surface water
 - B. rapid growth of sea ice
 - C. higher evaporation rates
 - D. continuous sunlight reaching the ocean floor