Name _____

Arctic Shift Answer Key

1. Open water has lower albedo and absorbs more sunlight, increasing warming and causing more melting.
2. Examples: Polar bears lose hunting platforms; seals lose stable resting or birthing areas. These changes threaten survival.
3. Warmer waters allow new species to move north, altering food webs and increasing competition.
4. Added freshwater lowers salinity, reducing density and slowing the sinking of cold water which weakens circulation.
5. Changes in circulation can affect heat distribution and weather patterns worldwide.
6. Answers will vary but must include evidence from the text.
7. Answers will vary. Examples include rising sea levels, disrupted weather patterns, or changes in fisheries.
8. Answers will vary. Examples include how species migrations will change in the coming decades.

Teacher's Guide

- Support grades 9 to 12 in analyzing complex informational text.
- Build understanding of warming trends, albedo, and ecosystem shifts.
- Encourage higher level reasoning through evidence based reflection.

Differentiation Tips

- Pre teach vocabulary such as albedo, salinity, circulation, and ecosystem shift.
- Challenge advanced students to write a short argumentative paragraph using three pieces of textual evidence.

Engagement Ideas

- Begin class by showing an image comparison of Arctic sea ice from different decades.
- Facilitate a short discussion about how local climate connects to global ocean systems.
- Use a globe or diagram to illustrate how sunlight behaves differently on ice versus water.