Teacher Answer Key

Case Study

1. The cruel paradox is that climate change reveals preserved material while destroying it. Dr. Amaruq faces thawing permafrost exposing 800-year-old remains that will decompose within days, coastal erosion carrying the site into the sea, limited funding, a tiny team, and a short Arctic field season — all while watching irreplaceable history disintegrate faster than she can document it.

2. Dr. Amaruq bridges Indigenous and scientific worlds. Her identity as an Inuvialuit person gives her deep personal connection to and cultural knowledge of the site, while her professional training provides the scientific methods to document and study it. This combination exemplifies the kind of partnership the reading describes as producing innovative and responsible archaeological research.

Multiple Choice

1. A
2. D
3. C

Matching

1-B, 2-A, 3-E, 4-C, 5-D

Fill-in-the-Blank

1) salvage archaeology, 2) permafrost, 3) erosion

Short Answer (Sample Responses)

Q1: Melting ice has exposed artifacts preserved for thousands of years, including Otzi the Iceman in the Alps, who carried a copper axe, bow and arrows, and other personal belongings that provided unprecedented insight into Copper Age life. In Norway, the Secrets of the Ice program has recovered over 3,000 artifacts from melting ice patches.

Q2: Thawing permafrost is exciting because it reveals extraordinarily well-preserved organic materials that would have decayed in warmer conditions. However, once exposed to air, sunlight, and microorganisms, these materials can disintegrate within a single summer — meaning researchers have only days or weeks to reach and document artifacts that survived intact for thousands of years.

Q3: A 3D scan captures a site's appearance at one moment in time, but it cannot preserve the unexcavated layers, soil chemistry, and spatial relationships between

buried artifacts that contain the most important archaeological data. When a site is physically destroyed by rising seas or erosion, all of that unrecovered information is permanently lost, regardless of how good the digital record is.