Teacher Answer Key

Case Study

1. Priya identifies looting by comparing satellite images taken at different times and looking for new dark pits and vehicle tracks. The organized grid pattern of the pits indicates coordinated theft rather than natural erosion, which would create irregular features.

2. The reading explains that satellite monitoring can document destruction in near-real-time but cannot translate that information into action without functioning governments and law enforcement on the ground. In conflict zones, these institutions are absent, creating a gap between observation and protection.

Multiple Choice

1. A

2. C

3. B

Matching

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

Fill-in-the-Blank

1) satellite, 2) GlobalXplorer, 3) Palmyra

Short Answer (Sample Responses)

Q1: Buried walls change the moisture content and chemistry of the soil above them, which affects how vegetation grows. Grass over a buried wall may be shorter or a different color because roots cannot penetrate the stone, and these differences show up clearly in infrared satellite imagery.

Q2: Even though monitoring cannot stop looting directly, the satellite evidence documents what happened and can be used by international organizations to hold perpetrators accountable. It also helps heritage organizations identify which sites are most at risk and prioritize limited resources.

Q3: LiDAR is better for seeing through forest canopy and mapping terrain in detail, while satellite imagery covers much larger areas and can be collected repeatedly over time to track changes. An archaeologist would choose LiDAR for densely forested areas and satellite imagery for monitoring sites or surveying open landscapes.