Teacher Answer Key

Case Study

1. Elena cannot publish the LiDAR images alone as proof because LiDAR only shows shapes that must be interpreted and confirmed. The reading warns that premature announcements can lead to looting and that some suspected sites may turn out to be natural features or modern disturbances.

2. Elena's situation shows LiDAR's power because it helped her identify a possible site hidden in dense jungle far from known cities. It also shows LiDAR's limits because the feature must still be ground-truthed through field investigation, permits, planning, and protection measures before it can be confirmed.

Multiple Choice

1. B

2. C

3. D

Matching

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

Fill-in-the-Blank

1) 60,000, 2) ground-truthing, 3) Angkor Wat

Short Answer (Sample Responses)

Q1: LiDAR changed archaeologists' understanding by showing that the Maya lowlands were far more densely populated and interconnected than many scholars had believed. The 2018 Guatemala survey revealed over 60,000 structures, including homes, causeways, terraces, and fortifications, leading to revised population estimates of about 10–15 million people.

Q2: One major ethical concern is that publishing detailed site locations can attract looters and damage unprotected ruins. The reading says researchers worked with the Guatemalan government to restrict exact coordinates, though the conflict between openness and protection remains unresolved.

Q3: In all of these regions, archaeological features are hidden by forests, vegetation, farming, or later development, making them hard to detect through traditional surveys. LiDAR is especially valuable because it can reveal subtle ground features across large areas quickly, even in places where walking surveys would take years or decades.