## Teacher Answer Key

**Case Study**

1. It showed that ecosystems could exist without sunlight, powered by chemosynthesis.

2. ROVs capture close-up video and samples; AUVs survey larger areas; sonar maps seafloor structure.

**Multiple Choice**

1. D

2. A

3. D

**Matching**

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

**Fill-in-the-Blank**

1) Sound Navigation and Ranging, 2) Chemosynthesis, 3) AUV

**Short Answer (Sample Responses)**

Q1: They provide real-time images and manipulator arms while keeping people safe.

Q2: It proved life could thrive without photosynthesis, suggesting life may exist in extreme places.

Q3: Examples: safe navigation, mapping earthquakes, or studying fish populations.