Teacher Answer Key

Case Study

1. Her amygdala had linked enclosed elevators to mortal danger and fired its alarm on every ride; her stress-weakened hippocampus filed the trauma without past-tense context, so triggers replayed it as present threat; and her prefrontal cortex could not override the alarm with the rational knowledge that she was safe.
2. Avoidance relieves fear briefly but teaches the amygdala that elevators really are dangerous, strengthening the alarm. Graduated exposure lets the alarm fire in genuinely safe conditions until it extinguishes — using the brain's plasticity to refile the memory as past danger.

Multiple Choice

1. C
2. B
3. D

Matching

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

Fill-in-the-Blank

1) hippocampus, 2) Liberty, 3) plastic

Short Answer (Sample Responses)

Q1: Fight-or-flight evolved for brief emergencies: adrenaline and cortisol boost survival short-term. Sustained for weeks, cortisol damages the hippocampus, sensitizes the amygdala, and weakens prefrontal control — converting a protective alarm into a stuck one that fires at harmless reminders.
Q2: Risk rose with exposure intensity: tower evacuees highest, then responders, the bereaved, and nearby residents. Yet stress symptoms also appeared in distant viewers in proportion to TV coverage watched, and delayed-onset cases surfaced years later — showing exposure is necessary but timing and pathway vary.

Q3: Answers will vary. Strong responses explain that safely revisiting the memory lets the amygdala's alarm fire without real danger until it extinguishes, while the hippocampus refiles the event as past — a literal retraining of circuits that imaging shows as restored prefrontal regulation.