Teacher Answer Key

Case Study

1. Each body structure has a critical period during which it is forming and is most vulnerable, and nearly all major structures form during the embryonic stage in weeks three through eight. Week four falls inside that highest-risk window, which is also the stretch when many people do not yet know they are pregnant.

2. Nothing can undo an exposure that has already happened, so the useful move is to protect what is still ahead. Folic acid still supports development and early consistent prenatal care is one of the strongest predictors of a healthy outcome, since it screens for conditions like preeclampsia that are dangerous only when missed.

Multiple Choice

1. C

2. A

3. D

Matching

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

Fill-in-the-Blank

1) full, 2) fetal, 3) placenta

Short Answer (Sample Responses)

Q1: Those weeks are when every major structure forms, so they carry the highest risk of serious birth defects, but they also fall before many people know they are pregnant. The most dangerous window arrives before anyone can act on it, which means prevention has to happen at the population level rather than after a positive test.

Q2: Researchers cannot ethically run an experiment exposing fetuses to alcohol to locate a threshold, so no safe amount or safe trimester has ever been established. When the evidence cannot identify a safe level and the resulting damage is permanent and incurable, recommending none is the only honest position.

Q3: Alcohol crosses the placenta and directly damages the developing brain and body, producing permanent cognitive and physical effects. Tobacco works indirectly, since nicotine narrows blood vessels and carbon monoxide reduces oxygen in the blood, so the fetus is underfed and underoxygenated, leading to low birth weight and premature birth.