Beneath the Sidewalk

Trace how an explanation moves from a problem to a qualified conclusion.

11-12.RST.5 "Analyze how a text is structured (e.g. section, paragraphs, graphs, diagrams) to emphasize key points or advance an explanation or analysis."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the sentence that frames the problem, number the testing steps in order, and circle the phrase that shifts from the method to its limits so you can trace how the explanation develops.

Finding a Leak Without Seeing It

1 At dawn, water seeps through a crack in a city sidewalk, yet no pipe is visible. A crew could dig beneath the wet spot, but water can travel along gravel before reaching the surface. The opening in a buried main might be several meters away. Digging in the wrong place would block traffic and leave the leak untouched. How can workers locate a break they cannot see? The answer begins with evidence that travels through the pipe itself, rather than with the water that appears aboveground.

2 Escaping water makes the pipe vibrate. First, technicians place listening sensors at two accessible points, such as valves, on opposite sides of the suspected leak. Next, a device compares when the same vibration reaches each sensor. Because sound travels through the pipe in both directions, a difference in arrival times helps technicians estimate where between the sensors the noise began. Finally, they mark a likely location on the pavement. This sequence turns an invisible break into a testable location, but it does not prove that the pipe is broken there.

3 A passing truck can add noise, and some pipe materials transmit leak sounds less clearly than others. These limits matter because an acoustic estimate is only as reliable as the signals behind it. Crews may listen again when traffic is lighter and compare the result with records of unusual water loss. If the evidence still points to one stretch, they can open a small section of pavement to inspect the pipe. The explanation ends with verification, not excavation alone: locating a leak requires narrowing the search, testing the estimate, and checking the buried pipe.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why does paragraph 1 contrast the wet sidewalk with the buried opening before asking its question? Explain how that order prepares you for paragraph 2.

2. How does the order of the three actions in paragraph 2 advance the explanation instead of merely listing equipment?

3. What does the final sentence of paragraph 2 prepare you to understand in paragraph 3? Use one detail from paragraph 3.

4. Why does paragraph 3 end with inspecting the pipe rather than stop after another listening test? How does that ending refine the passage's main point?

3 YOUR TURN

Your own words

Imagine revising this passage for a city crew deciding where to dig. In 80 to 110 words, propose where you would move two specific details from different paragraphs, and explain how your new order would emphasize the risk of digging in the wrong place without changing the facts.

ANSWER KEY

Beneath the Sidewalk

HIGH SCHOOL · 11-12.RST.5

PART 1 · READ AND MARK

Underline the sentence that frames the problem, number the testing steps in order, and circle the phrase that shifts from the method to its limits so you can trace how the explanation develops. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why does paragraph 1 contrast the wet sidewalk with the buried opening before asking its question? Explain how that order prepares you for paragraph 2.	**The contrast shows that the visible wet spot may not identify the break. It establishes the need for paragraph 2's method of locating the leak through vibrations in the pipe.**
2	How does the order of the three actions in paragraph 2 advance the explanation instead of merely listing equipment?	**Placing sensors provides signals to compare, comparing their arrival times supports a location estimate, and marking the pavement makes that estimate usable.**
3	What does the final sentence of paragraph 2 prepare you to understand in paragraph 3? Use one detail from paragraph 3.	**It prepares the reader for the estimate's limits. For example, truck noise can interfere with the signals, so crews may listen again.**
4	Why does paragraph 3 end with inspecting the pipe rather than stop after another listening test? How does that ending refine the passage's main point?	**Inspection can confirm whether the estimated location contains the break. The ending makes clear that locating a leak requires checking an estimate, not simply trusting it.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would move the warning about blocking traffic by digging in the wrong place from paragraph 1 to the end of paragraph 2, just after the crew marks a likely location. I would also move the details about truck noise and pipe materials from paragraph 3 to the point in paragraph 2 where the sensors are introduced. Readers would then encounter reasons for doubt while following the test, before they see its result. The last paragraph could focus on repeating the test and inspecting the pipe. This order would make the risk of treating an estimate as proof harder to miss.

Accept other evidence-based interpretations of paragraph function. For the revision, look for two identifiable details from different paragraphs, proposed placements, and a clear explanation of how the new order changes emphasis without changing the facts.