

How Text Structure Develops the Author's Ideas

Name: _____

Date: _____

Score: _____ / 10



Quick Review

A Grade 7 reader can tell the difference between **STRUCTURE** (how the article is organized — problem and solution, compare and contrast, cause and effect) and **SEQUENCE** (what happens first, next, last). Pay attention to how each **MAJOR SECTION** contributes to the whole — and to the development of the author's ideas.

PART 1 — READ

Read the passage. Then answer the questions.

The Hidden Backbone of the Internet

Most people picture the internet as something in the air. In fact, more than ninety-five percent of the data that crosses oceans travels through fiber-optic cables laid on the seafloor. These cables, some no thicker than a garden hose, carry text messages, video calls, bank transfers, and military communications between continents. There are roughly 550 of them in service today, with a total length that would wrap around the Earth more than thirty times.

A modern undersea cable is built around eight fragile glass fibers, each about the thickness of a human hair, that carry pulses of light. Around those fibers sit layers of plastic, copper for power, steel wire for strength, and waterproof insulation. The whole bundle is then armored against shark bites, ship anchors, and trawling nets — the three most common causes of damage. A specialized ship lays the cable by pulling it slowly from a giant spool while a remote-controlled vehicle on the seafloor digs a shallow trench. In shallow water, the cable is buried. In deep water, it simply rests on the bottom, where pressure is so high that no anchor or fishing gear can reach it.

When a cable breaks, the result is rarely an internet "blackout" — traffic is automatically rerouted through other cables, usually within seconds. The problem is capacity. If too many cables fail in one region at once, the surviving cables become overloaded, and connections slow dramatically. In 2022, a single underwater landslide near the island nation of Tonga cut the country off from the rest of the world for almost six weeks. Repair ships exist for exactly this reason. A specialized vessel finds the broken section using sonar, lifts both ends to the surface with a grappling hook, splices in a new section, and lowers the repaired cable back. The work is slow, expensive, and often dangerous.

The cable system, then, is best understood not as a single network but as a fragile, redundant web — fragile because individual cables break often, and redundant because the network as a whole is designed to survive those breaks. That balance, between vulnerability and resilience, is what allows a video call from Tokyo to a classroom in Toronto to feel instantaneous and ordinary, even though the signal has traveled across the floor of the Pacific.

PART 2 — PRACTICE



Read the article. Then choose the best answer for each question.

- Which choice BEST describes the OVERALL STRUCTURE of the article?
 - A strict chronological account of one cable being laid from start to finish.
 - A general-to-specific structure: introduce the scale of the cable network, then explain how it is built, how it fails and is repaired, and finally what the whole pattern means.
 - A compare-and-contrast structure between fiber-optic cables and satellite communications.
 - A persuasive structure arguing that all cables should be replaced with satellites.
- How does paragraph 1 CONTRIBUTE to the article as a whole?
 - It tells the personal story of the engineer who invented fiber optics.
 - It establishes the scale and importance of the cable system, giving readers a reason to care about the technical paragraphs that follow.
 - It argues that the internet should be regulated more strictly.
 - It describes one specific cable break in detail.
- How does paragraph 2 CONTRIBUTE to the development of the author's ideas?
 - It explains the construction of a single cable, which lets the reader understand why cables are both strong and fragile.
 - It argues that cables should never be buried.
 - It compares modern cables to satellites.
 - It describes the politics of cable ownership.
- How does paragraph 3 CONTRIBUTE to the structure of the article?
 - It opens a new topic unrelated to cables.
 - It moves the article from how cables are built to how the SYSTEM responds when they fail — introducing the resilience idea that paragraph 4 names.
 - It contradicts the claims of paragraph 1.
 - It is mostly background and could be removed without changing the article.
- How does paragraph 4 CONTRIBUTE to the article as a whole?
 - It introduces new information not found anywhere else.
 - It synthesizes the earlier sections by naming the fragile-but-redundant pattern that connects construction (paragraph 2) and repair (paragraph 3).
 - It is a personal anecdote about the author.
 - It argues against the use of fiber-optic cables.
- Which detail BEST shows that the author is using a PROBLEM-AND-RESPONSE structure inside paragraph 3?
 - "Most people picture the internet as something in the air."
 - "When a cable breaks...repair ships exist for exactly this reason."
 - "There are roughly 550 of them in service today."
 - "In deep water, it simply rests on the bottom."



7. Which choice BEST distinguishes the article's STRUCTURE from its SEQUENCE?
- A. The article is organized as a step-by-step timeline of how the internet was invented.
 - B. The article is organized by IDEA — scale, then construction, then failure and repair, then synthesis — not by chronological event order.
 - C. The article is organized alphabetically by country.
 - D. The article uses no organization at all.
8. If a writer wanted to ADD a new section that fit the article's existing structure, the BEST placement for a section titled "Who Owns the Cables?" would be —
- A. before paragraph 1, as the opening hook.
 - B. between paragraph 1 and paragraph 2, where the author moves from scale to specifics, since ownership is another scale-level fact about the system.
 - C. between paragraph 3 and paragraph 4, in the middle of the failure-and-repair section.
 - D. after paragraph 4, where it would replace the synthesis.
9. Explain in 2-3 sentences how paragraphs 2 and 3 work TOGETHER to develop the idea that the cable system is both fragile and resilient.

10. How does paragraph 4 contribute to the WHOLE article? Use one detail from paragraph 4 in your answer.



Answer Keys

<p>1 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>2 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>3 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>4 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>5 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p>	<p>6 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>7 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>8 <input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D</p> <p>9 <input type="text" value="See below"/></p> <p>10 <input type="text" value="See below"/></p>
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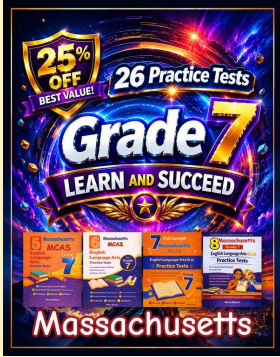
Explanations	
1. B	The article moves from a wide opening (95% of data, 550 cables) to construction, to failure/repair, to a synthesis paragraph — the general-to-specific structure B names. A confuses structure with sequence inside one event. C invents a satellite comparison that never appears. D invents a persuasive claim the article does not make.
2. B	Paragraph 1 sets the stakes — 95%, 550 cables, thirty times around the Earth — preparing readers to invest attention in the technical detail later. A invents a biography. C invents a policy claim. D belongs to paragraph 3.
3. B	Paragraph 2 builds the cable, layer by layer, so the later contrast between fragility and resilience (paragraph 4) makes sense. A is right that it explains construction but it ALSO sets up the strong-but-fragile theme — the developmental role. The other options invent content.
4. B	Paragraph 3 pivots from construction to system response, prepping the synthesis paragraph. A is false. C invents a contradiction. D dismisses the very paragraph that develops the central idea.
5. B	Paragraph 4's job is to NAME the pattern the article has been showing — the textbook role of a synthesis paragraph. A is false; paragraph 4 reuses material. C and D invent content.
6. B	B names a problem (a break) and the response (repair ships exist for this reason) — the structural move the question asks about. A is the opening hook. C is a scale fact. D is a construction detail from paragraph 2.
7. B	The article moves by idea (scale to construction to failure-response to synthesis), not by time of events — the structure-vs-sequence distinction the question targets. A confuses structure with timeline. C invents an organization. D is false.
8. B	Ownership is a system-level fact, like "how many" and "how long," so it belongs near paragraph 1's scale framing. A would replace the hook. C interrupts a problem-and-response unit. D would gut the synthesis.



9.	<p>Answer: Strong answer: Paragraph 2 shows how each individual cable is built — fragile glass fibers protected by layers of plastic, copper, steel, and armor — which establishes the fragility-with-protection pattern at the level of one cable. Paragraph 3 then moves to what happens when a cable still fails: traffic reroutes automatically and repair ships restore the connection, showing that the system as a whole is resilient even when individual cables are not. Together, the two paragraphs build the case for the synthesis in paragraph 4: fragile parts, resilient network. Acceptable variations: any answer that links paragraph 2 (construction, layers, armor) to paragraph 3 (rerouting, repair, the Tonga example) and names the fragile-but-resilient idea. NOT acceptable: answers using only one paragraph; answers that name the structure as "chronological"; answers that confuse paragraph 4's synthesis with paragraphs 2 and 3. A 2-point answer uses ONE detail from paragraph 2 AND ONE from paragraph 3 to support the fragile-but-resilient idea.</p>
10.	<p>Answer: Strong answer: Paragraph 4 acts as a synthesis: it names the fragile-but-redundant pattern that paragraphs 2 and 3 have been demonstrating, and it gives the reader an everyday example (the Tokyo-to-Toronto video call) that ties the technical material back to ordinary life. The detail "fragile because individual cables break often, and redundant because the network as a whole is designed to survive those breaks" makes the article's central idea explicit for the first time. Acceptable variations: any answer that calls paragraph 4 a synthesis or conclusion AND cites one of its specific phrases (the fragile-but-redundant line, the Tokyo-Toronto video call, or "vulnerability and resilience"). NOT acceptable: answers that treat paragraph 4 as new information; answers without a paragraph-4 detail; answers that confuse paragraph 4 with paragraph 1's hook. A 2-point answer must (1) name paragraph 4's synthesis role AND (2) cite a specific paragraph-4 phrase.</p>



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