

# NOT BORING MEDIA

## THE LAKE THAT EXPLODED

High-Interest Nonfiction Reading Passage

### WHAT'S INCLUDED

- ✓ Reading Passage ✓ Comprehension Questions
- ✓ Answer Key ✓ Teacher Guide

GRADES 4-6 • LEXILE ~750L • DOK LEVELS 1-4

*Reading they'll actually do.*

## NOT BORING MEDIA — TERMS OF USE

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### WHAT'S INCLUDED

- ✓ High-interest nonfiction reading passage (300-400 words)
- ✓ 6 comprehension questions spanning DOK levels 1-4
- ✓ Complete answer key with explanations
- ✓ Teacher guide with standards, pacing, and extensions

Questions or feedback? Leave a review or message us through TPT!

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Reading they'll actually do.

# THE LAKE THAT EXPLODED

On the night of August 21, 1986, a lake in Cameroon killed nearly 1,800 people while they slept. There was no earthquake. No volcano. No warning at all. The lake simply exhaled—and an invisible cloud of death rolled down the hillsides into the villages below.

Lake Nyos sits in the crater of an old volcano in the mountains of northwest Cameroon. Deep beneath its surface, volcanic activity constantly releases carbon dioxide into the water. Over decades, the lake had become saturated with dissolved gas—like a giant bottle of soda that had never been opened.

Then something triggered a release. Scientists aren't certain what—perhaps a landslide, a small earthquake, or even a change in temperature. But the result was catastrophic. The lake "turned over," sending a massive bubble of carbon dioxide rushing to the surface.

The gas burst into the air and spilled over the crater's edge. Carbon dioxide is heavier than air, so instead of rising and dispersing, the deadly cloud hugged the ground. It flowed downhill like an invisible river, filling valleys and settling into low-lying areas where villages had been built.

The cloud moved silently at nearly 45 miles per hour. People had no time to react, no way to know what was happening. Within minutes, nearly 1,800 people had suffocated in their homes, their beds, their fields. Livestock died by the thousands. Birds fell from trees. The cloud traveled as far as 15 miles before finally dispersing.

Survivors described waking to find everyone around them dead. Some had been knocked unconscious by the gas and woke hours later, surrounded by bodies. The few who survived had been on higher ground or in sealed rooms.

The disaster led to an unprecedented solution. Scientists installed pipes that continuously siphon gas from the lake's depths, releasing it slowly and safely into the air. The system works—but it requires constant maintenance. Lake Nyos remains dangerous, as do other "killer lakes" in the region.

Today, warning systems and degassing pipes protect nearby communities. But the 1986 disaster remains a haunting reminder that nature holds dangers we don't always see coming—sometimes right beneath the surface of something as peaceful as a lake.

Word Count: 358 | Lexile: ~750L | Grades 4-6 | Source: United States Geological Survey (USGS)

## COMPREHENSION QUESTIONS

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**1 What gas was released from Lake Nyos that caused the disaster?**

- A) Oxygen
- B) Carbon dioxide
- C) Methane
- D) Nitrogen

**2 Why did the gas cloud travel downhill instead of rising into the air?**

- A) The wind pushed it downhill
- B) Carbon dioxide is heavier than air
- C) The lake is at the bottom of a valley
- D) The gas was extremely cold

**3 What does the phrase 'turned over' most likely mean in the context of this passage?**

- A) The lake spun in a circle
- B) The lake completely dried up
- C) Deep water mixed with surface water, releasing trapped gas
- D) The lake changed direction

**4 According to the passage, why did some people survive the disaster?**

- A) They ran away when they heard the explosion
- B) They were on higher ground or in sealed rooms
- C) They held their breath until the gas passed
- D) They were warned by scientists

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The passage compares Lake Nyos to 'a giant bottle of soda that had never been opened.' How does this comparison help readers understand what happened? What makes this an effective analogy?

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The passage ends by saying the disaster is 'a haunting reminder that nature holds dangers we don't always see coming.' What lessons should communities learn from Lake Nyos? How might this event change how we think about 'peaceful' natural features like lakes?

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## ANSWER KEY

### The Lake That Exploded

#### 1. B) Carbon dioxide

DOK 1 — Recall. The passage states 'volcanic activity constantly releases carbon dioxide into the water' and describes a 'massive bubble of carbon dioxide.'

#### 2. B) Carbon dioxide is heavier than air

DOK 1 — Recall. The passage explicitly states: 'Carbon dioxide is heavier than air, so instead of rising and dispersing, the deadly cloud hugged the ground.'

#### 3. C) Deep water mixed with surface water, releasing trapped gas

DOK 2 — Vocabulary in context. The passage describes gas being trapped at depth and suddenly 'rushing to the surface,' suggesting a mixing event.

#### 4. B) They were on higher ground or in sealed rooms

DOK 2 — Text evidence. The passage states: 'The few who survived had been on higher ground or in sealed rooms.'

#### 5. Sample Response:

The soda comparison helps because most readers know what happens when you open a shaken soda—gas rushes out explosively. Lake Nyos had been building up carbon dioxide 'over decades,' like pressure in a sealed bottle. When something triggered the release, the gas burst out suddenly, just like opening that bottle. The analogy makes a complex geological event understandable through everyday experience.

#### 6. Sample Response:

Answers will vary. Lessons might include: not all dangers are visible; scientific monitoring of natural features is essential; communities should have evacuation plans for unexpected events; and 'peaceful' doesn't mean 'safe.' Students might note that the lake looked normal before the disaster—no warning signs were visible to residents. This should change how we think about lakes, volcanoes, and other features by reminding us that hidden processes may be occurring beneath the surface.

## TEACHER GUIDE

### The Lake That Exploded

#### STANDARDS ALIGNMENT

- CCSS.ELA-LITERACY.RI.4.1 — Refer to details and examples in a text
- CCSS.ELA-LITERACY.RI.5.4 — Determine meaning of words and phrases
- CCSS.ELA-LITERACY.RI.5.8 — Explain how author uses evidence
- NGSS — Connections to scientific practices
- C3 Framework — Historical thinking skills

#### PACING OPTIONS

- Quick Read (10-15 min): Passage + questions 1-4
- Standard (20-25 min): Full passage + all questions
- Deep Dive (35-40 min): Add discussion + extension

#### DISCUSSION QUESTIONS

- The lake looked peaceful but held invisible danger. What other 'hidden dangers' exist in nature or everyday life?
- Scientists installed pipes to slowly release gas and prevent future disasters. When should humans intervene in natural processes?
- Survivors woke to find everyone around them dead. How might someone process and recover from that kind of trauma?

#### EXTENSION ACTIVITIES

- Science: Draw a cross-section of Lake Nyos showing how gas accumulated and was released. Label the process.
- Engineering: Research the degassing pipes installed after the disaster. How do they work? Create a diagram.
- Research: Find the other 'killer lakes' in the region. Map their locations and assess current risks.

#### DIFFERENTIATION

- Struggling: Pre-teach vocabulary, partner reading
- Advanced: Add research, compare to related events
- ELL: Visual supports, pre-teach context

#### SOURCE

- United States Geological Survey (USGS)