

Read "The Oldest Fire in the World" before answering the questions that follow.

The Oldest Fire in the World

by Laura Bresko

How It Began

- 1 The oldest fire in the world has been burning for almost 50 years, right here in the United States, and will probably continue for many years to come. In 1962, a fire in a landfill set off a blaze that still burns today. The landfill was built in an abandoned coal-mining pit. Tunnels dug in the walls of the pit led to an enormous seam of anthracite, an extremely dense form of coal. Flames from burning trash traveled through one of the mining tunnels and set off the coal. Although the fire stayed underground, it spread for acres and caused incredible damage. The resulting fumes, heat, and ground instability forced evacuations of local residents from the late 1960s through the early 1990s. The fire continues to spread and cause damage today. No known technology can extinguish the subterranean fire.
- 2 Until 1828, few people knew how to ignite anthracite and use it for fuel. Anthracite was so compacted that no ordinary flame could make it burn. Then a Scotsman named James Neilson invented the hot blast furnace. The air produced in the first chamber of the furnace was blown over anthracite, located in the second chamber. The hot air caused the surface of the anthracite to ignite. Because it was so dense, anthracite could produce enough heat to melt iron ore. It was also plentiful and a little went a long way, lowering the cost of iron production. Once the hot blast technique was perfected, anthracite was in demand all over the world. In the United States, anthracite is found exclusively in Pennsylvania. As a result, Pennsylvania's mining industry boomed during the nineteenth century. When newer fuels replaced anthracite in the twentieth century, the black gold rush ended and most anthracite mines were abandoned.



- 3 Abandoned mines dot the landscape in Pennsylvania's anthracite country. Towns often use the sites for landfills. Such was the case in Centralia, a small town built directly atop an anthracite seam. When the Centralia landfill caught fire, no one was alarmed; it was down in the ground and contained. They did not realize that Centralia's landfill was similar to Neilson's hot blast furnace. The trash in the landfill provided the fuel to heat up the air in the pit. Dumping continued and the trash burned for weeks, stoking the fire and making it extremely hot. The hot air released by the burning trash traveled through the empty mining tunnels and into the abandoned anthracite mine. This caused the coal to ignite.

How It Spread

- 4 Despite efforts to douse the fire with water, the landfill continued to burn. Experts were brought in to help with the situation. Readings of the smoke coming from the landfill determined that burning coal was indeed producing some of the smoke. The warning came too late, though. Local firefighters poured thousands of gallons of water into the landfill but the fire flared up again in a few days. The fire had already started burning into the Buck Mountain anthracite coal seam lying underneath Centralia, and no one could stop it. State and federal governments spent \$3.3 million on unsuccessful efforts to control the fire between 1962 and 1978.

The Effects

- 5 By 1979, large pits in the earth began opening up where the underlying coal had turned to ash. The process, known as subsidence, swallowed roads and destabilized buildings. Pennsylvania Route 61 crumbled despite thousands of dollars spent by the state in 1983 to repair the road. Ground temperatures rose as high as 1000 degrees Fahrenheit just feet below the soil in some areas of town. Smoke rose from cracks in the ground, poisonous gases escaped, and plants withered. Centralia's gas stations closed from fear of explosions. Though residents desperately wanted to leave, they couldn't. Insurance companies canceled their homeowner policies and banks threatened foreclosure. The residents of Centralia were trapped.

Congress Steps In

- 6 In 1984, the U.S. Congress intervened. It appropriated \$42 million for the State of Pennsylvania to buy homes from Centralia residents. Congress called this evacuation effort "voluntary acquisition" since the residents could choose not to sell their homes and remain in Centralia. Between 1985 and 1991, 545 residences and businesses were relocated. In 1992, the state government began condemning homes threatened by subsidence and noxious gases such as carbon monoxide. Some diehard residents remained in Centralia, though. According to the state's Department of Environmental Protection, Centralia's former population of 1,100 dropped to 46 by 1996. The current population stands at around ten.

The Ghost Town

- 7 Today, Centralia is an eerie ghost town. The wafting smoke and shifting soil are too dangerous for most to brave. The detour signs on Route 61 give no indication of the troubles in Centralia; most cars just veer around the smoldering town. But for those who are fascinated by the fire, Centralia has become a sort of mecca. Tourists come to stare at the devastated landscape, and conspiracy theorists gather to share their outlandish ideas. The most hopeful of the visitors are the research teams. They study Centralia's soil, plants, and animals, and believe that the effects of the fire will shed light upon the processes that created this planet. Though a terrible tragedy, the Centralia fire may someday lead to breakthroughs in science and technology.

Use "The Oldest Fire in the World" to answer questions 1-9.

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| <p>1 Which is a difference between Centralia today and Centralia in the early 1960s?</p> <p>A An increase in local population</p> <p>B A decrease in ground stability</p> <p>C An increase in land values</p> <p>D A decrease in public attention</p> | <p>3 The author wants the reader to conclude that —</p> <p>A the effects of fire are quick and devastating.</p> <p>B Neilson's technique caused the black gold rush.</p> <p>C anthracite is easy to light, but difficult to put out.</p> <p>D fire should be kept away from coal seams.</p> |
| <p>2 The detour signs on Route 61 are the result of —</p> <p>F voluntary acquisition.</p> <p>G explosions.</p> <p>H heavy traffic.</p> <p>J subsidence.</p> | <p>4 What is the most likely description of Centralia's future?</p> <p>F People will move back after the fire is put out.</p> <p>G There will be no residents.</p> <p>H Research teams will discover a solution.</p> <p>J It will disintegrate.</p> |

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- 5 What does the phrase "destabilized buildings" mean in paragraph 5?
- A Gave new life to buildings
 - B Transformed buildings from stables
 - C Made buildings unstable
 - D Strengthened buildings' structures
- 6 The purpose of the graphic in the selection is to —
- F show readers that progress has been made against the fire.
 - G tell the story of Centralia and the dangers the town faces.
 - H warn passersby to avoid going into the underground mine.
 - J emphasize the unseen dangers in the Centralia area.
- 7 In which sentence below does the word boomed have the same meaning as in paragraph 2?
- A The bass drum boomed above the bright brass notes of the trombones and tubas.
 - B The player boomed the baseball deep into left field.
 - C The sound of dynamite exploding in the mine boomed through the streets of the town.
 - D Business at the local grocery boomed after frozen foods became available.
- 8 Which sentence from the selection best supports the author's belief that some good may come of the fire at Centralia?
- F *Tourists come to stare at the devastated landscape, and conspiracy theorists gather to share their outlandish ideas.*
 - G *They did not realize that Centralia's landfill was similar to Neilson's hot blast furnace.*
 - H *Once the hot blast technique was perfected, anthracite was in demand all over the world.*
 - J *They study Centralia's soil, plants, and animals and believe that the effects of the fire will shed light upon the processes that created this planet.*
- 9 If this selection needed a new title, which of the following would be best?
- A "The Endless Fire of Centralia"
 - B "The Hot Blast Furnace"
 - C "The Uses of Anthracite"
 - D "Who Started the Centralia Fire?"



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Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Correct Answer
READING Selection 1				
1	3	Readiness	8.10 (D)	B
2	3	Readiness	8.10 (A)	J
3	3	Readiness	8.10 Fig.19 (D)	D
4	3	Readiness	8.10 Fig.19 (D)	G
5	1	Readiness	8.2 (B)	C
6	3	Readiness	8.13 Fig.19 (D)	J
7	1	Readiness	8.2 (B)	D
8	3	Readiness	8.10 Fig.19 (D)	J
9	3	Readiness	8.10 (A)	A