

CHAPTER
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GUIDED READING *Europe Plunges into War*

Section 2

A. Analyzing Causes and Recognizing Effects As you read this section, note the effects of each of the actions or situations (causes) listed below.

Causes	Effects
1. Russia mobilizes along the German border.	
2. Germany declares war on France.	
3. The Allies defeat the Germans in the Battle of the Marne.	
4. Machine guns, tanks, poison gas, and airplanes are used in battles along the Western Front.	
5. Russian forces attack both Austria and Germany.	
6. The Allies are unable to ship war supplies to Russia's ports.	

B. Summarizing On the back of this paper, identify each of the following:

Schlieffen Plan
Western Front

Central Powers
trench warfare

Allies
Eastern Front

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GEOGRAPHY APPLICATION: HUMAN-ENVIRONMENT INTERACTION

The Battle of the Somme

Section 2

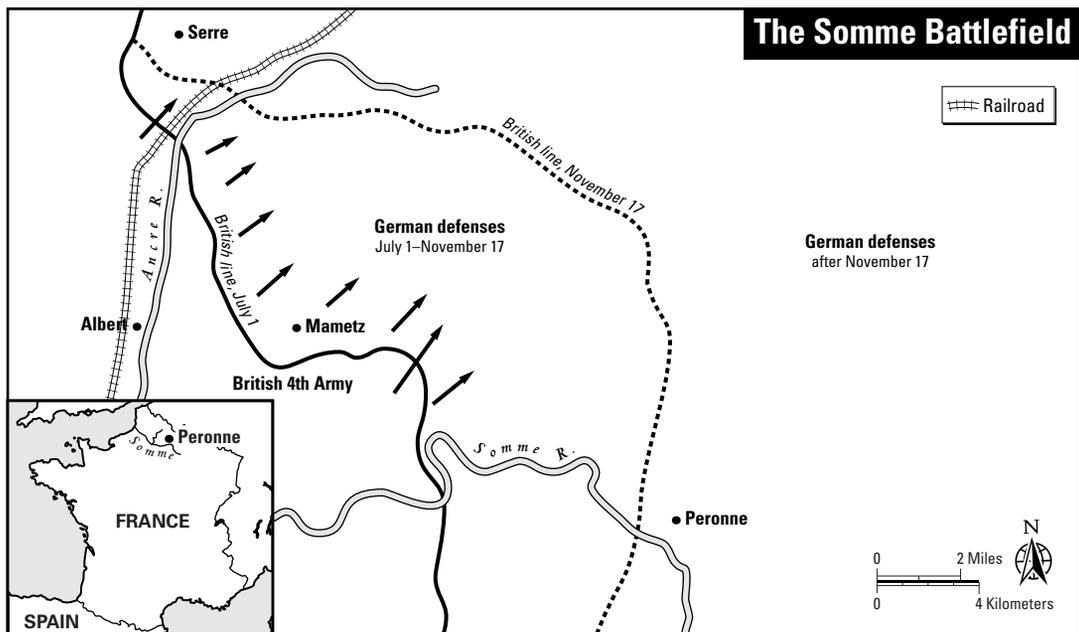
Directions: Read the paragraphs below and study the map carefully. Then answer the questions that follow.

French vacationers have long enjoyed the Somme River as it flows gently through a countryside filled with rolling hills, thick forests, and rich farmland. However, during World War I, on July 1, 1916, the British Fourth Army fought a battle against the German army that transformed this valley into a barren and charred wasteland.

The Battle of the Somme was a typical World War I engagement filled with uncreative military strategy and trench warfare at its worst. The British decided to first destroy German defenses to the east with a massive artillery bombardment. After the shelling, approximately 100,000 soldiers would advance toward German positions now substantially destroyed. Then, after the British had overcome the initial German defenses, two cavalry divisions would be sent in to finish off the Germans. One British commander even assured his men that after the artillery assault, “they could advance with sloped arms, smoking their pipes, and come to no harm.”

The British plan hinged on their ability to destroy German defenses with the artillery bombardment. However, the Germans had dug themselves deep into the ground. The Germans knew that the British had to stop their own artillery before the attack. When the English artillery did stop, the Germans emerged from the trenches with their weapons and shattered the approaching British army with a stream of grenades and machine guns. As historians Tonie and Valmai Holt have written, the German machine guns “cut down the ripe corn of British youth.”

The British suffered about 60,000 casualties on July 1, including more than 20,000 deaths. In all on that first day, the British captured only about a half-mile of land from German forces. When the battle ended months later on November 17, the British had gained only six and a half miles of land at the cost of about one million total casualties on both sides.



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Interpreting Text and Visuals

1. What benefits might the railroad tracks give to the British Fourth Army? _____

2. Explain how the British planned to attack the Germans at the Somme. _____

3. Where in France was the Somme battlefield located? _____

4. Which French city shown on the map changed back from Germany to Britain? _____

5. Compare the July 1 and November 17 British lines. Where were the most gains against German forces made? _____

6. Describe the valley of the Somme River as it looked before the battle. _____

7. What was the outcome of the battle for the British? _____

What do you think primarily caused the massive British casualties on July 1? _____

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29**Section 2****PRIMARY SOURCE** **Poison Gas**
by William Pressey

During World War I, the Germans introduced the use of poison gases—chlorine, phosgene, and mustard gas—in warfare. William Pressey, a British bombardier or noncommissioned artillery officer, was gassed by the Germans at Messines Ridge on June 7, 1917. According to this excerpt from his eyewitness account, what were the effects of phosgene gas?

We had been shooting most of the night and the Germans had been hitting back with shrapnel, high explosive and gas shells. With the terrific noise and blinding flashes of gunfire, if a lull occurred for only a few minutes and you were leaning against something, you had just to close your eyes and you were asleep. Nearing daylight we were told to rest. We dived into the dugout, I pulled off my tunic [a type of military jacket] and boots and was asleep in no time at all.

I was awakened by a terrific crash. The roof came down on my chest and legs and I couldn't move anything but my head. I thought, 'So this is it, then.' I found I could hardly breathe. Then I heard voices. Other fellows with gas helmets on, looking very frightening in the half-light, were lifting timber off me and one was forcing a gas helmet on me. Even when you were all right, to wear a gas helmet was uncomfortable, your nose pinched, sucking air through a canister of chemicals. As I was already choking I remember fighting against having this helmet on.

The next thing I knew [I] was being carried on a stretcher past our officers and some distance from the guns. I heard someone ask, 'Who's that?' 'Bombardier Pressey, sir.' 'Bloody hell.' I was put into an ambulance and taken to the base, where we were placed on the stretchers side by side on the floor of a marquee [a large tent with open sides], with about twelve inches between. I suppose I resembled a kind of fish with my mouth open gasping for air. It seemed as if my lungs were gradually shutting up and my heart pounded away in my ears

like the beat of a drum. On looking at the chap next to me I felt sick, for green stuff was oozing from the side of his mouth.

To get air into my lungs was real agony and the less I got the less the pain. I dozed off for short periods but seemed to wake in a sort of panic. To ease the pain in my chest I may subconsciously have stopped breathing, until the pounding of my heart woke me up. I was always surprised when I found myself awake, for I felt sure that I would die in my sleep. So little was known about treatment for various gases, that I never had treatment for phosgene, the type I was supposed to have had. And I'm sure that the gas some of the other poor fellows had swallowed was worse than phosgene. Now and then orderlies would carry out a stretcher.

*from William Pressey in Michael Moynihan, ed., *People at War 1914–1918* (David & Charles, 1973). Reprinted in John Carey, ed., *Eyewitness to History* (New York: Avon, 1987), 473–474.*

Research Option**Writing Expository Paragraphs**

Find out more about the use of poison gas by both the Germans and the Allies during World War I. What were the effects of different types of poison gas? How did soldiers avoid being gassed? How were victims treated? Has chemical warfare been practiced in other modern wars besides World War I? Share your findings by writing a column for a health newsletter.

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LITERATURE SELECTION *from All Quiet on the
Western Front*

by Erich Maria Remarque

Erich Maria Remarque was a German novelist who fought in World War I. His novel All Quiet on the Western Front provides a vivid description of the fighting as seen through the eyes of a 19-year-old German soldier named Paul Bäumer. In the following passage, Bäumer and Stanislaus Katczinsky or "Kat," the 40-year-old leader of the group, face intense shelling and artillery fire near the front line. What impressions of fighting in World War I does this passage convey?

Mist and the smoke of guns lie breast-high over the fields. The moon is shining. Along the road troops file. Their helmets gleam softly in the moonlight. The heads and the rifles stand out above the white mist, nodding heads, rocking carriers of guns.

Farther on the mist ends. Here the heads become figures; coats, trousers, and boots appear out of the mist as from a milky pool. They become a column. The column marches on, straight ahead, the figures resolve themselves into a block, individuals are no longer recognizable, the dark wedge presses onward, fantastically topped by the heads and weapons floating off on the milky pool. A column—not men at all.

Guns and munition wagons are moving along a cross-road. The backs of the horses shine in the moonlight, their movements are beautiful, they toss their heads, and their eyes gleam. The guns and the wagons float before the dim background of the moonlit landscape, the riders in their steel helmets resemble knights of a forgotten time; it is strangely beautiful and arresting.

We push on to the pioneer dump. Some of us load our shoulders with pointed and twisted iron stakes; others thrust smooth iron rods through rolls of wire and go off with them. The burdens are awkward and heavy.

The ground becomes more broken. From ahead come warnings: "Look out, deep shell-hole on the left"—"Mind, trenches"—

Our eyes peer out, our feet and our sticks feel in front of us before they take the weight of the body. Suddenly the line halts; I bump my face against the roll of wire carried by the man in front and curse.

There are some shell-smashed lorries [trucks] in the road. Another order: "Cigarettes and pipes out." We are getting near the line.

In the meantime it has become pitch dark. We skirt a small wood and then have the front line immediately before us.

An uncertain, red glow spreads along the sky line from one end to the other. It is in perpetual movement, punctuated with the bursts of flame from the muzzles of the batteries. Balls of light rise up high above it, silver and red spheres which explode and rain down in showers of red, white, and green stars. French rockets go up, which unfold a silk parachute to the air and drift slowly down. They light up everything as bright as day, their light shines on us and we see our shadows sharply outlined on the ground. They hover for the space of a minute before they burn out. Immediately fresh ones shoot up to the sky, and again green, red, and blue stars.

"Bombardment," says Kat.

The thunder of the guns swells to a single heavy roar and then breaks up again into separate explosions. The dry bursts of the machine-guns rattle. Above us the air teems with invisible swift movement, with howls, pipings, and hisses. They are the smaller shells;—and amongst them, booming through the night like an organ, go the great coal-boxes and the heavies. They have a hoarse, distant bellow . . . and make their way high above the howl and whistle of the smaller shells. It reminds me of flocks of wild geese when I hear them. Last autumn the wild geese flew day after day across the path of the shells.

The searchlights begin to sweep the dark sky. They slide along it like gigantic tapering rulers. One of them pauses, and quivers a little. Immediately a second is beside him, a black insect is caught between them and tries to escape—the airman. He hesitates, is blinded and falls.

At regular intervals we ram in the iron stakes. Two men hold a roll and the others spool off the

barbed wire. It is that awful stuff with close-set, long spikes. I am not used to unrolling it and tear my hand.

After a few hours it is done. But there is still some time before the lorries come. Most of us lie down and sleep. I try also, but it has turned too chilly. Near to the sea one is constantly waked by the cold.

Once I fall fast asleep. Then waking suddenly with a start I do not know where I am. I see the stars, I see the rockets, and for a moment have the impression that I have fallen asleep at a garden fête. I don't know whether it is morning or evening, I lie in the pale cradle of the twilight, and listen for soft words which will come, soft and near—am I crying? I put my hand to my eyes, it is so fantastic, am I a child? Smooth skin;—it lasts only a second, then I recognize the silhouette of Katzinsky. The old veteran, he sits quietly and smokes his pipe—a covered pipe of course. When he sees I am awake, he says: “That gave you a fright. It was only a nose-cap, it landed in the bushes over there.”

I sit up, I feel myself strangely alone. It's good Kat is there. He gazes thoughtfully at the front and says:

“Mighty fine fire-works if they weren't so dangerous.”

One lands behind us. Two recruits jump up terrified. A couple of minutes later another comes over, nearer this time. Kat knocks out his pipe. “It makes a glow.”

Then it begins in earnest. We crawl away as well as we can in our haste. The next lands fair among us. Two fellows cry out. Green rockets shoot up on the sky-line. Barrage. The mud flies high, fragments whizz past. The crack of the guns is heard long after the roar of the explosions.

Beside us lies a fair-headed recruit in utter terror. He has buried his face in his hands, his helmet has fallen off. I fish hold of it and try to put it back on his head. He looks up, pushes the helmet off and like a child creeps under my arm, his head close to my breast. The little shoulders heave. Shoulders just like Kemmerich's [a fellow soldier who is in the hospital]. I let him be. So that the helmet should be of some use I stick it on his behind;—not for a jest, but out of consideration, since that is his highest part. And though there is plenty of meat there, a shot in it can be damned painful. Besides, a man

has to lie a whole month on his belly in the hospital, and afterwards he would be almost sure to have a limp.

It's got someone pretty badly. Cries are heard between the explosions.

At last it grows quiet. The fire has lifted over us and is now dropping on the reserves. We risk a look. Red rockets shoot up to the sky. Apparently there's an attack coming.

Where we are it is still quiet. I sit up and shake the recruit by the shoulder. “All over, kid! It's all right this time.”

“Mighty fine fire-works if they weren't so dangerous.”

Activity Options

1. **Recognizing Facts and Details** Make a chart to note sensory details—ones that appeal to the five senses—that bring Bäumer's experiences alive. Share your chart with a group of classmates.
2. **Recognizing Point of View** Pretend that you are Paul Bäumer. Write a letter home to your family, describing your war experiences and your state of mind. Share your letter with classmates.

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LITERATURE SELECTION

“The Soldier”

by Rupert Brooke

“Dulce et Decorum Est”

by Wilfred Owen

“The Soldier” is one of a sequence of sonnets titled *1914* by English poet Rupert Brooke, who died of blood poisoning in 1915 on his way to Gallipoli. “Dulce et Decorum Est” is a well-known poem by English poet Wilfred Owen, who served as an officer in the British infantry and was killed in combat. What impressions of World War I do these poems convey?

The Soldier

If I should die, think only this of me:
That there’s some corner of a foreign field
That is for ever England. There shall be
In that rich earth a richer dust concealed;
A dust whom England bore, shaped, made
aware,
Gave, once, her flowers to love, her ways to
roam,
A body of England’s, breathing English air,
Washed by the rivers, blest by suns of home.

And think, this heart, all evil shed away,
A pulse in the eternal mind, no less
Gives somewhere back the thoughts by England
given;
Her sights and sounds; dreams happy as her
day;
And laughter, learnt of friends; and gentleness,
In hearts at peace, under an English heaven.

Rupert Brooke “The Soldier” from *The Collected Poems of Rupert Brooke* (New York: Dodd, Mead, 1915), 115.

Dulce et Decorum Est

Bent double, like old beggars under sacks,
Knock-kneed, coughing like hags, we cursed
through sludge,
Till on the haunting flares we turned our backs,
And towards our distant rest began to trudge.
Men marched asleep. Many had lost their boots,
But limped on, blood-shod. All went lame, all
blind;
Drunk with fatigue; deaf even to the hoots
Of gas-shells dropping softly behind.

Gas! GAS! Quick, boys!—An ecstasy of fumbling
Fitting the clumsy helmets just in time,
But someone still was yelling out and stumbling
And flound’ring like a man in fire or lime.—
Dim through the misty panes and thick green
light,
As under a green sea, I saw him drowning.

In all my dreams before my helpless sight
He plunges at me, guttering, choking, drowning.

If in some smothering dreams, you too could
pace
Behind the wagon that we flung him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil’s sick of sin,
If you could hear, at every jolt, the blood
Come gargling from the froth-corrupted lungs
Bitten as the cud
Of vile, incurable sores on innocent tongues,—
My friend, you would not tell with such high
zest
To children ardent for some desperate glory,
The old Lie: *Dulce et decorum est*
Pro patria mori. [It is sweet and fitting to die for
one’s country.]

Poems by Wilfred Owen with an Introduction by Siegfried Sassoon (New York: Viking/London: Chatto & Windus, 1921, 2nd edition)

Research Option

Writing Expository Paragraphs Research the life of either Wilfred Owen or Rupert Brooke. Then write a biographical sketch of the poet for an anthology of poetry about World War I.

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SCIENCE & TECHNOLOGY

Industrial Technology Creates Poison Gas

Many new technologies introduced during World War I were developed with military uses in mind. However, some new weapons were developed from peacetime industrial discoveries.

Poison gas in Germany during World War I was manufactured using a variation of the process that had originally been developed to produce fertilizer for farmers. Fritz Haber, a German chemist, invented this method of using nitrogen from the air in 1909. He was awarded the Nobel Prize for Chemistry in 1918 for this discovery.

Nitrogen makes up over 78 percent of our atmosphere and is the basis of fertilizers. Prior to the 20th century, nitrogen to make fertilizers had been taken from either minerals or other materials. However, there was not enough nitrogen available from these sources to satisfy the increasing demand from farms and factories.

Haber thought of tapping the virtually endless supply of nitrogen in the air. His idea was to cap-

ture it as a gas by combining it with hydrogen to form ammonia. Three parts hydrogen would combine with one part nitrogen (NH_3). The problem he came across was that high temperatures, around 1200 degrees Fahrenheit, were needed to make this process work. Unfortunately, these high temperatures slowed down the production of the ammonia he was attempting to manufacture.

The solution to Haber's problem was to use a catalyst. A catalyst is a substance that speeds up a chemical reaction but is not part of the reaction itself. The hydrogen and nitrogen were combined at high pressure, more than 200 times normal atmospheric pressure. This mixture of gases was placed in contact with a catalyst, mainly composed of iron, which then produced ammonia gas in large quantities. Nitrogen, in the form of ammonia, could then be combined with other chemicals to produce fertilizer and other materials.

During World War I, Germany was cut off from its mineral supplies of nitrogen, making this discovery extremely important to its war effort. Carl Bosch, another German chemist, refined Haber's process to make it easier to manage on an industrial scale. The Haber-Bosch process was used by Germany to manufacture both fertilizers and, with alterations, poison gas. The Haber-Bosch process underlies the method of production in almost every ammonia factory in the world today.

Questions

1. **Clarifying** What process did Fritz Haber invent?
2. **Analyzing Causes and Recognizing Effects** What impact did a catalyst have on Haber's creation?
3. **Drawing Conclusions** Why was the Haber-Bosch process so important to Germany's war effort?



Chemical warfare was used by both sides during World War I. Here, two British soldiers advance during a German poison gas attack.

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RETEACHING ACTIVITY *Europe Plunges into War*

Section 2

Reading Comprehension Find the name or term in the second column that best matches the description in the first column. Then write the letter of your answer(s) in the blank.

- | | |
|--|--------------------------------------|
| _____ 1. World War I alliance that included Great Britain, France, and Russia | A. Western Front |
| _____ 2. Alliance that included Germany, Austria-Hungary, and Italy | B. Triple Alliance |
| _____ 3. Countries that composed the Central Powers at the start of the war | C. Eastern Front |
| _____ 4. Countries that composed the Allied Powers at the start of the war | D. poison gas |
| _____ 5. The region of France that became a bloody stalemate | E. Germany, Austria-Hungary |
| _____ 6. German battle strategy that called for a quick defeat of France in the west and then attacking Russia in the east | F. trench warfare |
| _____ 7. Battle strategy in which soldiers fought from deep pits dug into the earth | G. submarine |
| _____ 8. New warship introduced by the Germans that used underwater missiles | H. Schlieffen Plan |
| _____ 9. Stretch of battlefield along the German and Russian border | I. Triple Entente |
| _____ 10. New weapon that caused blindness, blisters, and choking | J. Great Britain, France, and Russia |