PARK EAST HIGH SCHOOL
Purpose, Preparation, Pride

Name: _____ Date: _____

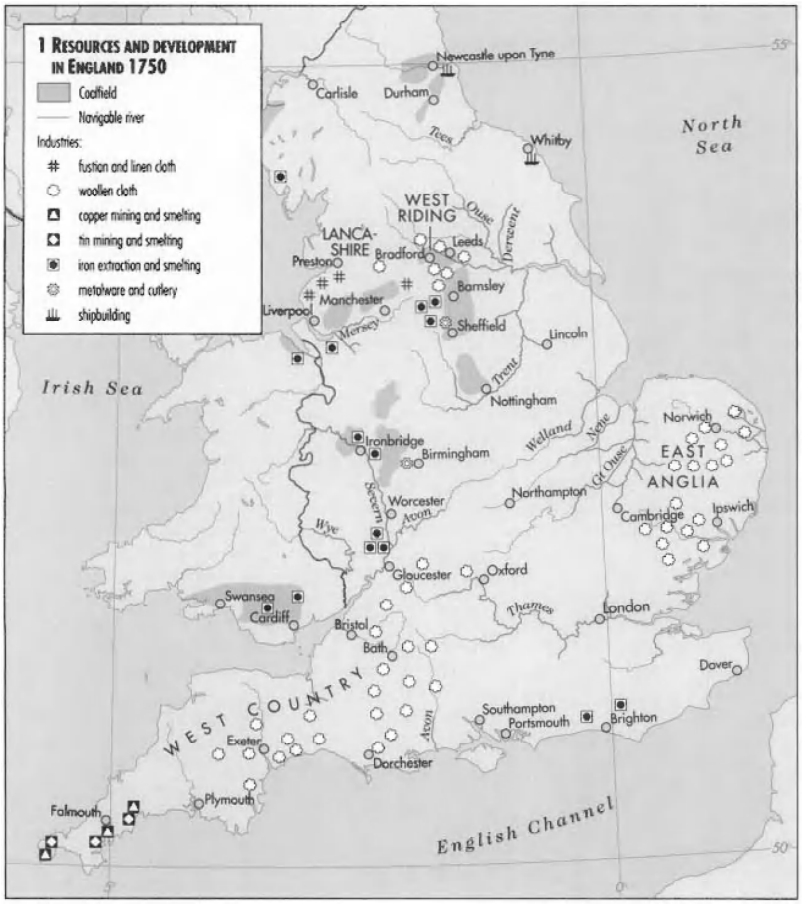
The Industrial Revolution

STUDENT PACKET



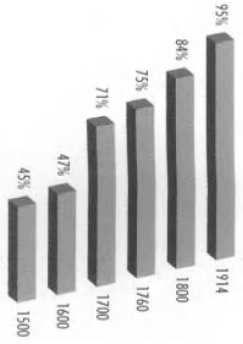


THE INDUSTRIAL REVOLUTION IN BRITAIN 1750–1850



▲ In 1750 most English people lived in the countryside but many worked in the well-established local industries as well as on the land. The largest centre of manufacturing was London, whose products included silk, gin, soap, glass and furniture. Its population had increased from an estimated 120,000 to 675,000 between 1550 and 1750, and the resultant demand encouraged developments in agriculture, industry and transport. Around 650,000 tonnes of coal was shipped to London from Newcastle each year – a trade that employed 15,000 people by 1750.

1 PERCENTAGE OF LAND ENCLOSED IN ENGLAND 1500–1914



▲ In 1760, 75 per cent of the agricultural land in England was already enclosed and agricultural productivity had been improving for 200 years.

In the late 18th and early 19th centuries Britain became the world's leading industrial nation in a process of economic growth and change that is regarded as the world's first industrial revolution. In some respects, however, the process was of an evolutionary nature, with change occurring at different speeds in different sectors of the economy.

There were a number of reasons why the process of industrialization first occurred in Britain rather than any other country in Europe. In 1750 Britain had a well-developed and specialized economy, substantial overseas trade and an average per capita national income that was one of the highest in Europe. Domestic textile industries, iron smelting and the manufacturing of iron goods were well-established (*map 1*). The country was also fortunate in its natural resources, among them fertile land on which a productive agricultural sector had been able to develop. Early enclosure of fields (*bar chart 1*), together with crop improvements and livestock breeding, meant that British agriculture could feed a rapidly increasing urban workforce. Supplies of coal – fundamental to the nature of Britain's industrialization – were widespread and plentiful, and the development of a national market in coal was facilitated by coastal trade. Navigable rivers provided initial internal transport, while faster-flowing rivers supplied water power for industry and corn-milling.

The British government also played a very important role in establishing the conditions under which industry could thrive. Britain was free from the internal customs barriers and river tolls which stifled trade in Europe, while laws protected the textile and iron industries from foreign competition. Private property rights and a stable currency stimulated economic development, as did the stability provided by a strong state in which warfare, taxation and the public debt were managed by sophisticated bureaucracies. Shipping and trade were protected by Britain's naval supremacy, which also helped to secure trading privileges and build up a worldwide colonial empire obliged to conduct trade using British ships.

Rapid economic progress was further encouraged by Britain's success in war, in particular the war of 1793–1815 against France (*pages 166–67*), during which Britain remained free from invasion and escaped the economic dislocation engendered by war on the continent of Europe. The war created a demand for armaments, ships and uniforms, which in turn stimulated Britain's shipbuilding, iron-smelting, engineering and textile industries.

THE TEXTILE INDUSTRY

In 1750 a variety of textiles – silk, linen, fustian (a mixture of linen and cotton) and, in particular, wool – had long been produced in Britain. The West Riding of Yorkshire, the West Country and East Anglia were centres of the woollen industry, while the fustian industry had developed in Lancashire (*map 1*). The skilled workforce employed in both industries was largely home-based and organized by merchants who thus built up capital and entrepreneurial skills. Such skills were used to great effect in the second half of the 18th century, when the cotton industry developed rapidly. Technological change allowed Lancashire to produce and sell cotton cloth more cheaply than India, where production depended on low-paid labour. Inventions such as Arkwright's water frame and Watt's steam-powered rotative engine transformed cotton spinning in the last decade of the 18th century into a factory-based, urban industry. This led to an unprecedented rise in productivity and production. Lancashire became the centre of the world's cotton manufacturing industry (*map 2*) and exported cotton cloth throughout the world. The woollen industry continued to be of importance, especially in the West Riding of Yorkshire, where mechanization was introduced and British wool was supplemented by merino wool imported from Australia.

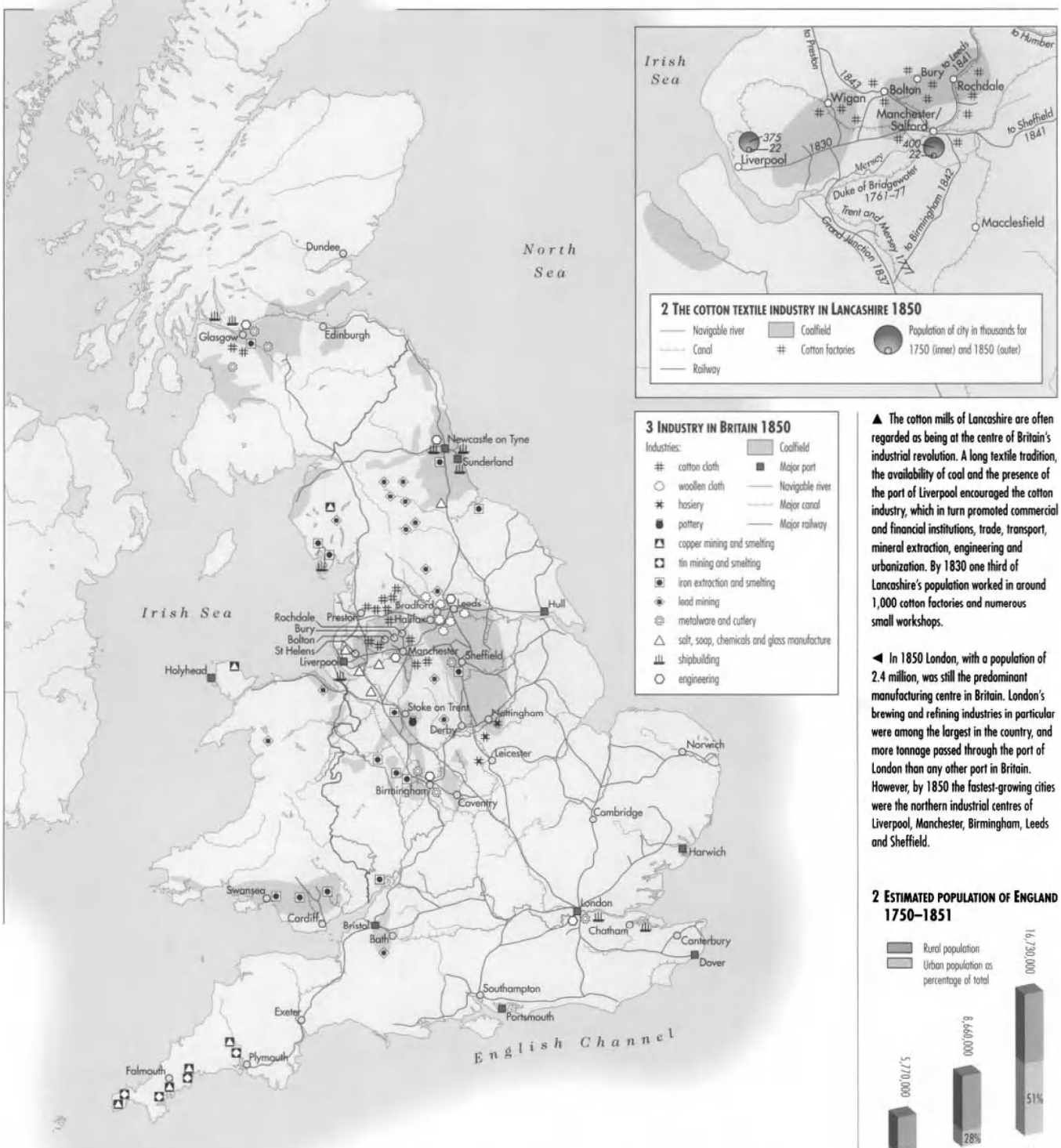
IRON, COAL AND TRANSPORT

Innovation in iron production in the 18th century facilitated smelting, and later refining, using coke instead of charcoal. Steam power, fuelled by plentiful coal supplies, began to replace man, horse and water power, encouraging the development of the factory system and rapid urbanization near to coalfields. These developments were self-sustaining, for while steam engines increased the demand for coal and iron, better steam-driven pumps and rotary winding equipment facilitated deeper coalmines.

Transport developed in response to the economic changes. Canals were constructed to carry heavy and bulky goods, and roads were improved by turnpike trusts, opening up the national market for goods. The combination of colliery waggonways and the steam engine led to the piecemeal development of a rail network from 1825 onwards which by 1850 linked the major urban centres. It also encouraged further industrialization by generating a huge fresh demand for coal, iron, steel, engineering and investment (*map 3*).

THE CONSEQUENCES OF THE INDUSTRIAL REVOLUTION

The economic and social effects of industrialization were complex and wide-ranging. Between 1750 and 1850 the population of England almost trebled. By 1850 more than half the population lived in towns or cities, compared with only 25 per cent in 1800 (*bar chart 2*). Eleven per cent lived in London, which remained the largest manufacturing centre, and more than 60 towns and cities had over 20,000 inhabitants. Such a process of rapid urbanization was unprecedented and unplanned. Crowded and insanitary living conditions meant that urban death rates were considerably higher than those in rural areas. At the same time, the development of the factory system generated issues of discipline, as some workers resented capitalist control of work processes and the replacement of traditional skills by machines. There were outbreaks of machine



▲ The cotton mills of Lancashire are often regarded as being at the centre of Britain's industrial revolution. A long textile tradition, the availability of coal and the presence of the port of Liverpool encouraged the cotton industry, which in turn promoted commercial and financial institutions, trade, transport, mineral extraction, engineering and urbanization. By 1830 one third of Lancashire's population worked in around 1,000 cotton factories and numerous small workshops.

◄ In 1850 London, with a population of 2.4 million, was still the predominant manufacturing centre in Britain. London's brewing and refining industries in particular were among the largest in the country, and more tonnage passed through the port of London than any other port in Britain. However, by 1850 the fastest-growing cities were the northern industrial centres of Liverpool, Manchester, Birmingham, Leeds and Sheffield.

breaking, especially in times of trade depression. Moral debates were prompted by the employment of women and children as cheap labour.

Even as late as 1850, however, when British manufactured goods were traded all over the world, many areas of Britain remained rural. In some regions industries had actually declined, among them wool production in the West Country and iron manufacture around Ironbridge (*maps 1 and 2*). The vast majority of the industrial working population was employed in retailing and warehousing, workshops and small enterprises rather than in factories. Capital and technology had become less involved with agriculture and more involved with industry, especially manufacturing, and with trade and construction related to industry. Yet agriculture was still the largest single occupation and most of Britain's food was still home-produced.

By 1850 Britain was no longer the only country to have undergone an industrial revolution. Similar changes had begun to occur in continental Europe (*pages 170–71*), sometimes with the aid of British machinery, entrepreneurial and financial skills. British industrial workers had also taken their skills to the Continent. In the second half of the century a considerable number were to emigrate to the United States, where the process of industrialization (*pages 186–87*) was eventually to lead to Britain losing its position as the world's greatest industrial power.

2 ESTIMATED POPULATION OF ENGLAND 1750–1851

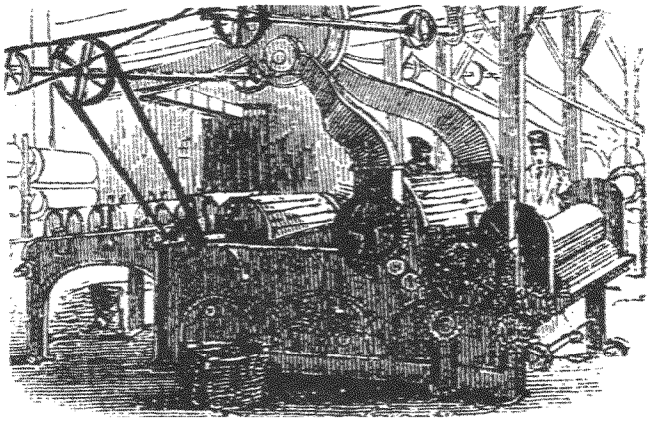
▲ As the population of England increased, its geographical distribution shifted in favour of the developing industrial regions. In 1750 Middlesex, Lancashire, the West Riding and Devon, the most populated counties, shared 10 per cent of the total English population. By 1851 the four most industrialized counties – Lancashire, West Riding, Staffordshire and Warwickshire – contained nearly a quarter of the English population.

NAME: _____ Global History III

WHY DID THE INDUSTRIAL REVOLUTION BEGIN IN ENGLAND?

DOCUMENT #1





The picture on the left is before the Industrial Revolution. The picture on the right is after the Industrial Revolution. Based on this document, what major changes did the Industrial Revolution bring to society?

DOCUMENT #2

"In 1750, England had one of the largest supplies of iron ore and coal in all of Europe. Machines could be built and powered endlessly; without these the Industrial Revolution would have simply disappeared in England."

- Knowa Lotnow, English guy

Based on this document, how did England's natural resources help spread the Industrial Revolution?

_____

_____

_____

DOCUMENT #3 (OVERHEAD)

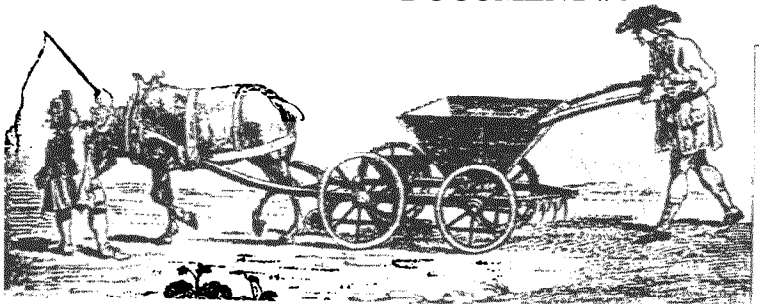
Based on this map, how did England's geography help it sell its manufactured products throughout the world? _____

_____

_____

_____

DOCUMENT #4



Improved Farm Machinery
Jethro Tull's seed drill planted seeds in straight lines. Since crops planted this way grew in neat rows, they could be weeded with another new invention, the horse-drawn hoe, instead of by hand.

Jethro Tull's invention of the seed drill performed the work of twenty farm laborers, often leaving them unemployed. Where do you think they found work? _____



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Global History III
Industrial Revolution

WHY DID INDUSTRIALIZATION LEAD TO PROBLEMS?

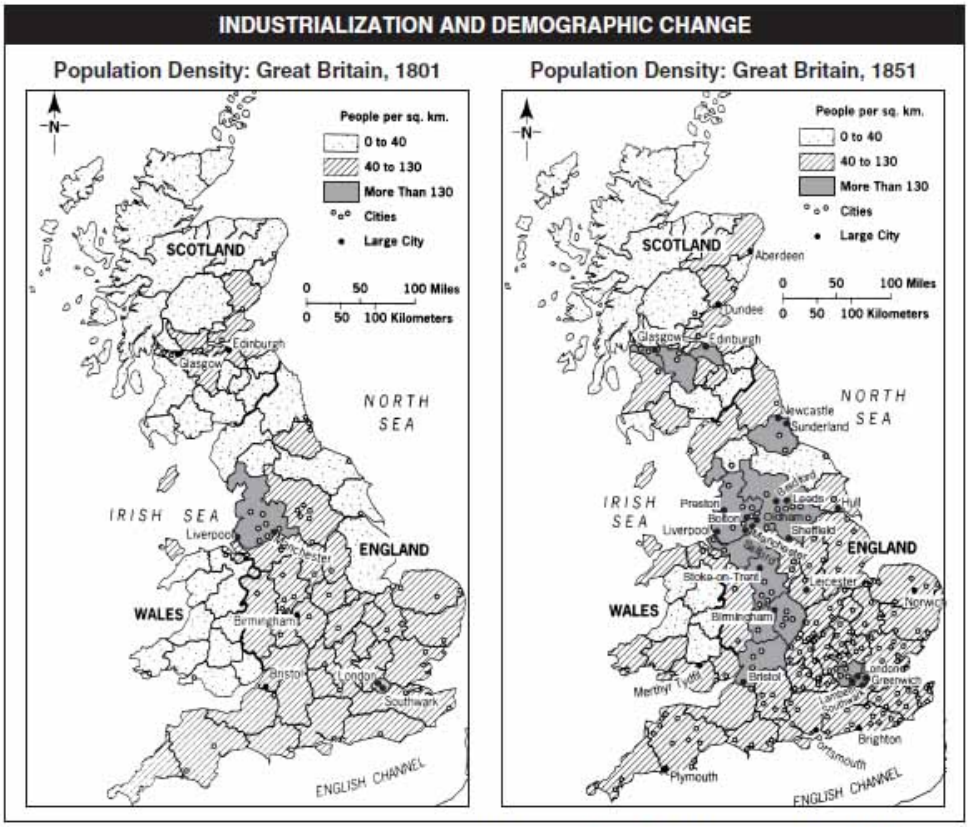
DOCUMENT # 1



Based on this document, why was there a great demand for children to work in coal mines? _____

_____

_____



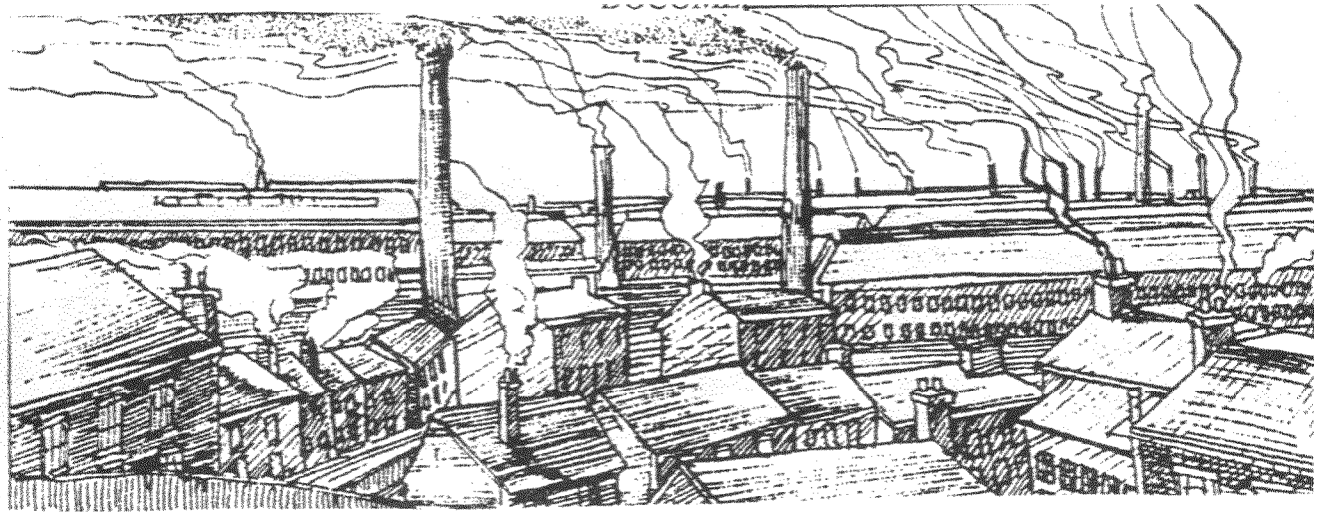
Source: *World Civilizations: Sources, Images, and Interpretations*, McGraw-Hill (adapted)

Based on the document on the right, what was one major problem resulting from the growth of factories and industries?_____

_____

_____

DOCUMENT #3



Based on document #3, why were respiratory diseases abundant in industrialized areas?

_____

_____

_____

DOCUMENT #4



Why would some handworkers want to destroy the new industrial machinery? _____

_____

_____

Name _____ Date _____ Class _____

The Growth of Industry

1. From 1700 to 1800, how many index points did agricultural production rise in France? In Great Britain?
2. From 1700 to 1800, how many index points did industrial production rise in France? In Great Britain?
3. Which nation was more industrialized?
4. In which country did people earn more money in 1800?

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

PRODUCTION IN FRANCE AND GREAT BRITAIN, 1700–1800

	FRANCE			GREAT BRITAIN		
	1700	1780	1800	1700	1780	1800
Agricultural Production	100	155	177	100	126	143
Industrial Production	100	197	387	100	454	700
Income per Person	100	127	142	100	129	160

In this table, 1700 is the base year and is given an index number of 100. Production in later years is then compared to the base year.

LIFE IN THE STEEL MILLS

Kracha worked from six to six, seven days a week, one week on day turn, one week on night. The constant shifting of turns made settlement into an energy-saving routine impossible; just when he was getting used to sleeping at night he had to learn to sleep during the day. At the end of each day-turn week came the long turn of twenty-four hours, when he went into the mill Sunday morning at six and worked continuously until Monday morning. Then home to wash, eat and sleep until five that afternoon, when he got up and returned to the mill to begin his night-turn week. The long turn was bad but this first night turn coming on its heels was worse. Tempers flared easily; men fought over a shovel or a look and it was fatally easy to be careless, to blunder.

When work was good, when one full week followed another with little besides paydays to break their monotony, Kracha lived only during his day-turn weeks. Night-turn weeks were periods of mental fog; he went back and forth to the mill in half a daze which lasted until the end of his turn Sunday morning, when he was given twenty-four hours to himself. Sometimes he went to early mass; other times he went directly home and rolled into bed. When he rose late that afternoon there was little time to do anything. Usually he got drunk. Only whisky could pierce the shell of his weariness, warm him, make him think well of himself and his world again.

Hope sustained him, as it sustained them all; hope and the human tendency to feel that, dreadful though one's circumstances might be at the moment, there were depths of misfortune still unplumbed beneath one, there were people much worse off; in fact, what with a steady job in the blast furnaces, a cozy home on the cinder dump, a friend like Dubik here and a dollar to slap down on Wold's bar of a Saturday night, one was as well-favored a man as could be found in the First Ward. And there was always, hope the hope of saving enough money to go back in triumph to the old country, of buying a farm back in the hills, of going into business for one's self.

For a few their hopes were not in vain. To others work and hope alike came to a sudden, unreasonable end when they were carried - if machinery or molten metal had left anything to be carried out of the mill feet-first. The greater part went on from day to day feeling that all this was only temporary since such things couldn't. last, that just before human flesh and blood could stand no more something would happen to change everything for the better.

But it never did. When human flesh and blood could stand no more it got up at five in the morning as usual and put on its work clothes and went into the mill; and when the whistle blew it came home.

Directions: Answer the following questions on separate paper.

1. How many hours did Kracha work in a week?
2. Why did Kracha have problems sleeping?
3. In your own words, why does Kracha drink?
4. What is Kracha dream?
5. Why didn’t Kracha simply quit his crummy job?
6. What does “carried out the mill feet-first mean?”
7. Why does the author refer to Kracha as “it” in the final paragraph?
8. What is the author’s view on the Industrial Revolution?

Vocabulary:
Turns: shifts, work schedule
Monotony: boredom
Cinder dump: ash pile

RESPONSES TO INDUSTRIALISM

The Industrial Revolution brought many new problems to the nations of Western Europe and the United States. The most outstanding of these problems was the extreme poverty of factory workers and rural workers. The plight of the poor caused people to question old ideas about societies, economic systems, and governments. How could these be changed to make life better for everyone?

Competing Solutions

Different groups of people came up with different answers to this question. Some were against making changes. Those who did want changes often disagreed about what the changes should be.

The members of the aristocracy tended to be conservative. They wanted to maintain the kind of power structure in which they were dominant and their rights were preserved. Businesspeople such as bankers and merchants whose families had enjoyed wealth and prestige for many generations or who had only recently become wealthy sided with the aristocrats.

Many members of the middle class, though, were liberals. They thought freedom and equality should be expanded. In the 19th century, most liberals believed in *laissez-faire* economics. Therefore, while many wanted to help the poor, they did not feel that the government should regulate businesses in order to do so.

The Labor Union Movement

While utopians and other thinkers tried to design the perfect society, workers sought more immediate solutions to their problems. The eventual success of their attempts was one of the reasons that communism did not replace capitalism throughout Europe.

Organizing. People who worked in the same occupation or industry joined together in organizations called *unions* to improve their wages and working and living conditions. They realized that, as a group, they could put more pressure on employers to raise wages or improve safety measures than they could as individuals.

Tactics. Union members elected representatives to present their requests or demands to an employer. This process is called *collective bargaining.* If an employer did not grant their requests or demands, the workers might strike. They would stop working until they got what they wanted. Sometimes unions organized a *boycott* of an employer's product. They refused to buy the product and urged others not to buy it until the employer came to an agreement with the union.

To stop a strike, an employer might hire strikebreakers to replace the striking workers. Police or military troops might be called in to end a strike. Some employers tried to weaken union causes by *blacklisting* outspoken members. This list, which was sent to other employers, branded selected workers as undesirable employees. Blacklisting meant that the selected workers could not get jobs in their usual line of work.

The Socialist Movement

Socialists believed that setting up a new form of government and economic system was the best solution to the problems caused by the Industrial Revolution. They wanted the people as a whole, rather than single individuals, to own factories, mines, and farms. Socialists attacked the practice of producing goods for profit. Instead, they wanted the goods everyone needed to be produced at prices everyone could afford. Most important, socialists demanded that governments serve the needs of all the people and not just the wealthy landowners and industrialists.

Directions: Answer the following questions based on the reading.

1. Name one problem that the Industrial Revolution brought to the United States and Western Europe. _____
_____
2. How did the "aristocracy" respond to the problems of the Industrial Revolution?
_____
_____
_____
_____
3. How did the "Middle Class" respond to the problems of the Industrial Revolution? _____
_____
_____
_____
4. In the 19th century what did most "liberals" believe in? _____
_____
_____
5. What is a "labor union?" _____
_____
_____
6. What are some of the tactics used by labor unions? _____
_____
_____
_____
_____
7. What did socialists believe would be the best solution to the problems caused by the Industrial Revolution? _____
_____
_____
_____
_____
_____
8. According to socialists who should own factories? _____
_____
9. Why did socialists attack the practice of producing goods for profit? _____
_____
_____
_____
_____
10. What did socialists demand from the government? _____
_____
_____
_____
_____

NAME: _____ Global History III
Communism

The Communist Movement

Marx and Engels. Karl Marx was a 19th-century German revolutionary who lived much of his life in London. His solutions to the problems of industrialization were more radical than those proposed by most other socialists. In 1848, Marx and a friend named Friedrich Engels published a pamphlet titled the *Communist Manifesto.* The ideas discussed in it came to be called scientific socialism, or *communism.*

Class Struggle. Marx blamed the problems faced by workers on capitalism. Under the capitalistic system, business owners put up the money, or capital, needed to bring workers, machines, and raw materials together to produce goods. Workers receive wages for their labor. Capitalists gain profits on their investments. Marx claimed that it was unfair for workers who produce goods to get less for their labor than the capitalists get for their investments. According to Marx, workers and capitalists were enemies locked in an endless conflict. He referred to this conflict as a "class struggle." It would take place between the *proletariat,* the working class, and the *bourgeoisie,* the owners of businesses.

Revolution. For Marx, the solution to the problems caused by capitalism was revolution. He urged the workers of every nation to rise up and smash the capitalistic system. The workers would then own all the sources of wealth. Since everything would be shared and businesses would be cooperative instead of competitive, the state would no loner be necessary. People would be truly free.

Limited Acceptance. The theories developed by Marx and Engels appealed to many. They were especially attractive to those who saw no other solution to problems such as poverty and unemployment. But the worldwide revolution Marx predicted never occurred. Instead, conditions for workers gradually improved. By the beginning of the 20th century, the standard of living for most people in the Western world had begun to rise higher than ever before.

Communist Governments. Russia and China adopted Communist governments. A great revolution in 1917 gave Communist leaders control over Russia. This revolution was caused by the inability of the czar's government to stop the terrible suffering and problems brought about by World War I. Communists took over the government of China in 1949 after a long civil war. Neither Russia nor China had gone through the Industrial Revolution at the time of the Communist takeovers. Workers never directed the government in either country. The government in China remains a dictatorship. Russia was a dictatorship until late 1991, when the Communist system collapsed. Vietnam, North Korea, and Cuba continue to have Communist governments.

Directions: Answer the following questions based on the reading.

1. How did communism seek to respond to the problems of the Industrial Revolution?
_____
_____
_____
_____
_____
_____

2. Why was communism regarded as the most revolutionary and potentially violent solution? _____
_____
_____
_____
_____
_____
_____
_____

Effects of Industrialization Notes

I. Socialism
- A. Socialists wanted factories, mines, and farms to be owned by the people in common
  1. necessities could than be produced at prices everyone could afford
  2. governments had an obligation to serve the needs of all people rather than an elite wealthy landowners and industrialists

II. Communist Movement
- A. Marx & Engles
  1. published the Communist Manifesto
     a) outlined the beliefs known as communism
- B. Class Struggle
  1. Marx blamed capitalism for the poverty of workers
  2. unfair for workers to receive less than bourgeoisie (capitalists)
  3. bourgeoisie and proletarians (workers) were enemies in a "class struggle"
- C. Revolution
  1. Marx urged workers to rebel against capitalism and seize the source of wealth

III. Labor Union Movement
- A. Organization
  1. labor unions
- B. Tactics
  1. collective bargaining
     a) union representatives presented their case to an employer