

# **8<sup>th</sup> Grade, Lewis County Middle School NTI Day 17**

## **Contents:**

- **Language Arts**
- **Math**
- **Science**
- **Social Studies**

**School Phone: 606-796-6228**

## **Teams:**

**[William.maynard@lewis.kyschools.us](mailto:William.maynard@lewis.kyschools.us)**

**[Julee.howard@lewis.kyschools.us](mailto:Julee.howard@lewis.kyschools.us)**

**[Karen.jones@lewis.kyschools.us](mailto:Karen.jones@lewis.kyschools.us)**

**[John.liles@lewis.kyschools.us](mailto:John.liles@lewis.kyschools.us)**

**[Rick.robinette@lewis.kyschools.us](mailto:Rick.robinette@lewis.kyschools.us)**

**[Alexis.enix@lewis.kyschools.us](mailto:Alexis.enix@lewis.kyschools.us)**

**[Bj.thornsberry@lewis.kyschools.us](mailto:Bj.thornsberry@lewis.kyschools.us)**

**[Chris.bryan@lewis.kyschools.us](mailto:Chris.bryan@lewis.kyschools.us)**



## **Day 17 - Language Arts**

Read the Historical account. Then answer the questions that follow.

### **A Brief History of Chapel Hill**

By Carlos Hernandez

The Town of Chapel Hill, North Carolina, is situated in the rolling hills of Orange County, extending into neighboring Durham County. People of all nationalities reside in this thriving community, which has managed to keep its small-town charm. Many of the residents are students or faculty at the University of North Carolina, Chapel Hill. It is not uncommon for a university town to be heavily populated in the way. What is less usual is the fact that the university was planned and chartered even before the town existed. In fact, the role of the town was to serve as a support system for the new university.

What was the region like before the university was created? In the late 1700s, local people could attend the New Hope Chapel, erected on the highest point of the hill. The church stood where two main roads crossed. There were no other imposing buildings before the nation's oldest public university was founded in 1793. Then the school's Board of Trustees selected the area around the chapel as the setting of the university. The school would need a town to serve it, and so the planning began.

In the same year that the university's cornerstone was laid, the auction of town lots took place. These parcels of land lay around the perimeter of the campus. There were thirty lots available to the public. The first residents moved into their homes in 1795. That meant the university and the small community that would become a busy town grew up together.

However, there was still no official town of Chapel Hill until its founding in 1819; it would not be chartered until 1851. The town finally got a mayor some twenty years later when the magistrate of police, H. B. Guthrie, assumed the duties associated with the position. There was still no elected mayor until 1895.

The university opened its doors in 1795 to a single student, Hinton James. By the end of his first term, another forty students were enrolled. Throughout the following century, the scope of the university's curriculum expanded. Students could now take courses in the classics and in the natural sciences. In 1831, the university established an astronomical observatory.



The Civil War forced the closing of many colleges throughout the South, but the university at Chapel Hill was able to continue holding classes. In 1875, the university started to expand and soon there were course offerings in a broader range of disciplines, including medical and pharmaceutical science. In 1932, the University of North Carolina was consolidated, or joined together, which meant the three campuses would now offer different kinds of programs.

During this time, the town of Chapel Hill was also growing and developing. When its first mayor was elected, the town covered 820 acres, but now it is spread over approximately 21 square miles. Populated largely by the students and staff of the university, the town is also a bustling center of commerce. Because of its lovely setting and old-fashioned appeal, the town attracts quite a few people of retirement age: Chapel Hill is no longer a small village, but it has preserved a great deal of its original character.

However, times have changed: The United States is now a multicultural society. People from around the world come to study and work here, and our institutions evolve in response to this changing population. Today, approximately 15% of Chapel Hill undergraduates come from other countries while the university has become broader and more inclusive as it welcomes people of different cultural backgrounds.

Town planners are also adapting to today's challenges. With so many people employed by either the university or by the UNC Health Care Systems, the job outlook for the town is positive. However, some people say that the economy should be more balanced to bring different kinds of trades and industries to the city. There are other concerns, as well. Urban planners are considering how to build more affordable housing within the town. That way, there will be fewer commuters and more residents of the town itself.

Although the relationship is a close and profitable one, the Town of Chapel Hill is no longer merely an extension of the university. Town residents can enjoy the interesting educational and cultural programs the university offers, yet there is more to town life than that. There are many reasons to come to this community, including a love of natural beauty and desire for a certain way of life. The small lots that once simply encircled the university campus have grown into a city with its own distinctive personality and appeal.

Highlight the correct answer in yellow or circle if you have paper copy.



1. Which statement **best** supports the central idea of how the university and town have impacted each other?
  - a. "These parcels of land lay around the perimeter of the campus."
  - b. "Then the school's Board of Trustees selected the area around the chapel as the setting of the university."
  - c. "That meant the university and the small community that would become a busy town grew up together."
  - d. "Throughout the following century, the scope of the university's curriculum expanded."
  
2. One reason Chapel Hill has developed into more than just a college town is its location. Which sentence from the passage **best** supports this analysis?
  - a. "In the late 1700s, local people could attend the New Hope Chapel, erected on the highest point of the hill."
  - b. "In 1831, the university established an astronomical observatory."
  - c. "In 1932, the University of North Carolina was consolidated, or joined together, which meant the three campuses would now offer different kinds of programs."
  - d. "Because of its lovely setting and old-fashioned appeal, the town attracts quite a few people of retirement age."
  
3. According to the account, " People of all nationalities reside in this thriving community." Which detail from the account **best** supports this idea?
  - a. The town of Chapel Hill is a center of commerce.
  - b. About 15% of Chapel Hill's undergraduates come from other countries.
  - c. Town planners are adapting to modern challenges.
  - d. The economy needs to be more balanced to encourage business growth.
  
4. Explain how the relationship between the town and the university of Chapel Hill changed over time. Use at least **two** details from the account to support our explanation.

--





To graph a line in  $Y = mx + b$  form, state  $m$  and  $b$ .

Start with the  $Y$ -intercept and then count rise over run to get more points on the line.

## Graphing a Linear Equation Given in Any Form

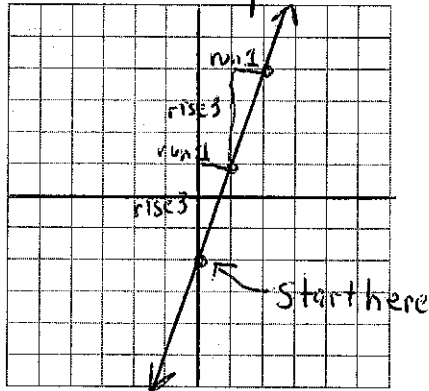
- Graph each linear equation on the grid provided. Be sure to label the units on the  $x$ - and  $y$ -axes.

1

~~$5x + 2y = 10$~~

$Y = 3x - 2$

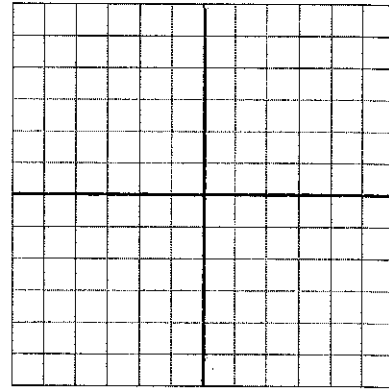
$m = 3, b = -2$



2

~~$200x - 300y = 600$~~

$Y = 2x + 1$

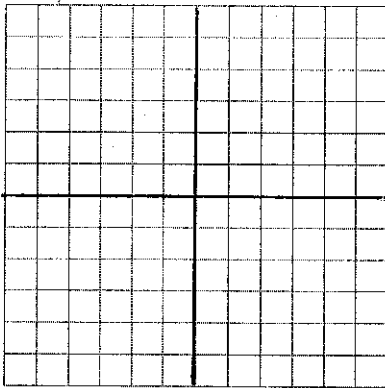


3

~~$\frac{1}{2}x - 2y = 4$~~

$Y = x + 5$

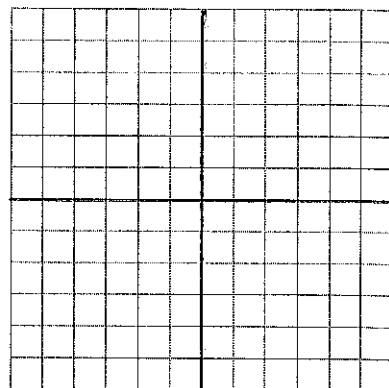
$m = 1, b = 5$



4

~~$6x - 12y + 24 = 0$~~

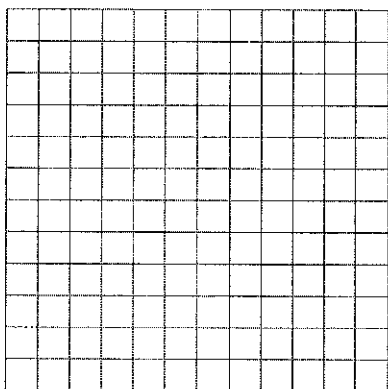
$Y = -2x - 4$



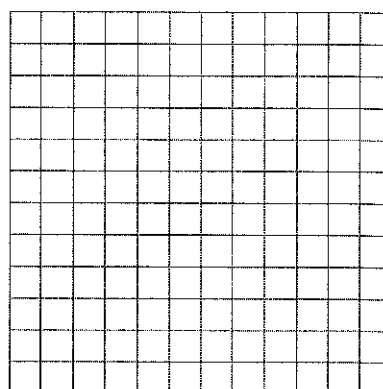


# Graphing a Linear Equation Given in Any Form *continued*

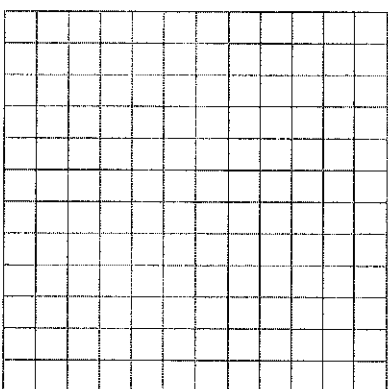
5  ~~$-150x + 5y = 300$~~   $Y = -2x + 4$



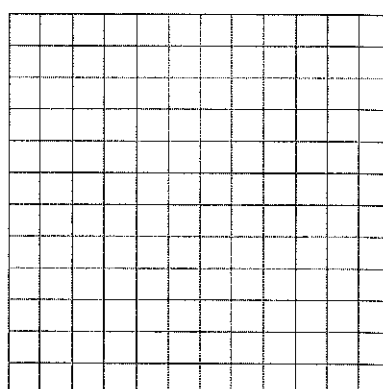
6  ~~$-4x - 40y = 80$~~   $Y = -x + 2$



7  ~~$-6x + 7y = 42$~~   $Y = \frac{1}{2}x + 2$



8  ~~$-10x + \frac{1}{3}y = 30$~~   $Y = -\frac{2}{3}x - 4$



9 Which method do you prefer for graphing linear equations that are not in the form  ~~$y = mx + b$~~ ?



MT 17

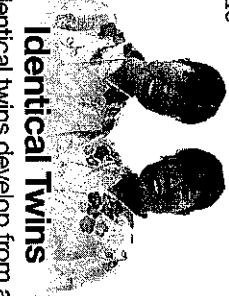
Jones Sh. Gal

# MEDICINE CONNECTION

## Differences Between Twins Start With Cells

You are a completely unique individual. No one is just like you. Yet what if there was an exact duplicate of you? Same hair, nose and size. You look exactly the same. No one can tell the two of you apart. You even have the same genes. There is only one way that can happen. If you and another person have the same genes, you are identical twins.

Out of every thousand births in the United States, about 25 will be twins. Of these, some are identical twins. The rest are fraternal twins. The difference comes from how the twins formed.



Identical Twins

Identical twins develop from an egg that has been fertilized by a single sperm. The zygote divides into two separate zygotes.



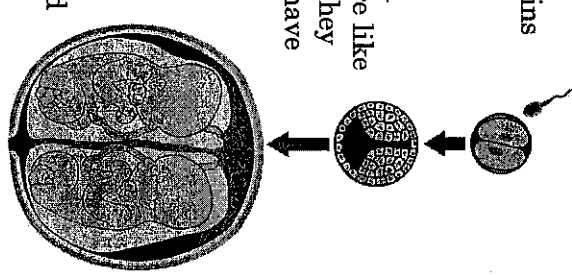
Fraternal Twins

Fraternal twins develop from two different eggs that have been fertilized by two different sperms.

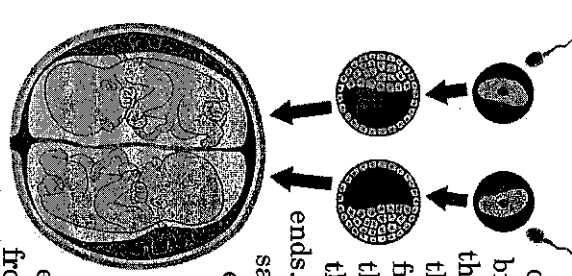
Fraternal twins are also called dizygotic twins. When an egg cell and a sperm cell join, the resulting cell is called a zygote. It is a fertilized egg. The prefix *di* means "two." Dizygotic twins develop from two zygotes, or two fertilized eggs. In other words, the mother has produced two eggs. Each joins with a sperm cell. Each becomes a fetus. The two babies are born one right after the other.

Identical twins start as one

**Fraternal twins start as two**  
The word fraternal comes from a word meaning "brother." Fraternal twins are like any brothers and sisters, except that they are born on the same day. They each have some the same genes as their parents. But they do not share an identical genetic makeup. Fraternal twins may resemble each other, but they usually will not be mistaken for each other. Fraternal twins might both be girls. They could both be boys, or one girl and one boy.



Fertilization



Fetal stage

Identical twins are not like other brothers and sisters. Other brothers and sisters share half of their genes. Identical twins have the same genetic makeup. Like fraternal twins, they are born on the same day. But that's where the similarity to fraternal twins ends. Identical twins are always the same sex. They will always be either two boys or two girls. The twins usually look very much the same. Many people cannot tell them apart at first.

Fraternal twins come from two eggs. Identical twins develop from a single fertilized egg. Shortly after the egg cell and sperm cell join, the zygote splits into two parts. Each new part is an identical copy of the original. Each has identical genetic material. After the split, each new part develops into an embryo. From that point on, each fetus grows just like fraternal twins.

How do fraternal twins happen? It's simple. Two different sperm cells fertilize two different eggs. Each fertilized egg develops into an embryo. Each embryo becomes a fetus. The mother gives birth to both babies on the same day.



Finally, two babies are born. With identical twins, the births are usually just minutes apart. The two babies have the same genes. As they grow, they usually appear to be identical to each other. People who know identical twins well can tell who is who, but a stranger may not be able to tell identical twins apart.

Identical twins are also called monozygotic twins. The prefix mono means "one." These twins develop from one zygote.

### The same genes

What does it mean to have the same genes? It means that identical twins have the same genetic potential. Other factors affect how individuals develop. The environment plays a part. For example, identical twins may have different weights at birth. This is because each fetus may develop in slightly different conditions inside the mother. Identical twins that grow up in different homes often develop differently. Their diets may be different and they might not get the same exercise. If these twins come together later in their lives, they may not look alike. They may not seem to be identical twins at all.

Scientists want to know more about how our environment affects the way we develop. For this reason, identical twins are often studied. They start out with the same genes. However, differences that occur may be caused by environmental factors.

### Transplants and tissue matching

Organ transplants save many lives. The science of transplants has benefited by the study of identical twins. In the early 1950s, scientists observed that most donated organs were rejected. Then in 1954, a kidney transplant was done between identical twins.

Richard Herrick was dying of kidney disease. Ronald, his identical twin brother gave one of his kidneys to him. Both twins had the same genetic makeup. Richard's body

recognized Ronald's kidney as being the same tissue as itself. It did not reject the kidney and the transplant was a success.

This case was very important in the understanding of organ transplants. It helped scientists know more about matching tissue. Since then, many of the problems of organ rejection have been



The Herrick twins and members of the first successful kidney transplant team after the 1954 surgery. Standing from left, Drs. Joseph Murray, John Merrill and J. Hartwell Henshaw. Seated, from left Richard (recipient) and Ronald Herrick (donor). Credit: Courtesy of Brigham and Women's Hospital





## Jones 8<sup>th</sup> grade Science

### NTI Day 17-Reproduction-Differences between twins.

#### Materials

- CPO life science Ebook that is uploaded into google classroom
- 5 question quiz

#### Task

- Students read pages 208-209 in chapter 10.
- Students complete a 5 question quiz.

#### Quiz-Section 10.1

1. A \_\_\_\_\_ is a fertilized egg.

- a) Fertilization
- b) Zygote
- c) Cytokinesis
- d) Reproduction

2. Identical twins come from \_\_\_\_\_ zygote.

- a) 1
- b) 2
- c) 3
- d) 0

3. Fraternal twins come from \_\_\_\_\_ zygotes .

- a) 1
- b) 2
- c) 3
- d) 0

4. Identical twins are either both boys or both girls.

- a) True
- b) False

5. The prefix di means \_\_\_\_\_ and the prefix mono means \_\_\_\_\_.

- a) 1;2
- b) Asexual reproduction and sexual reproduction
- c) Zygotes and sex cells
- d) 2;1

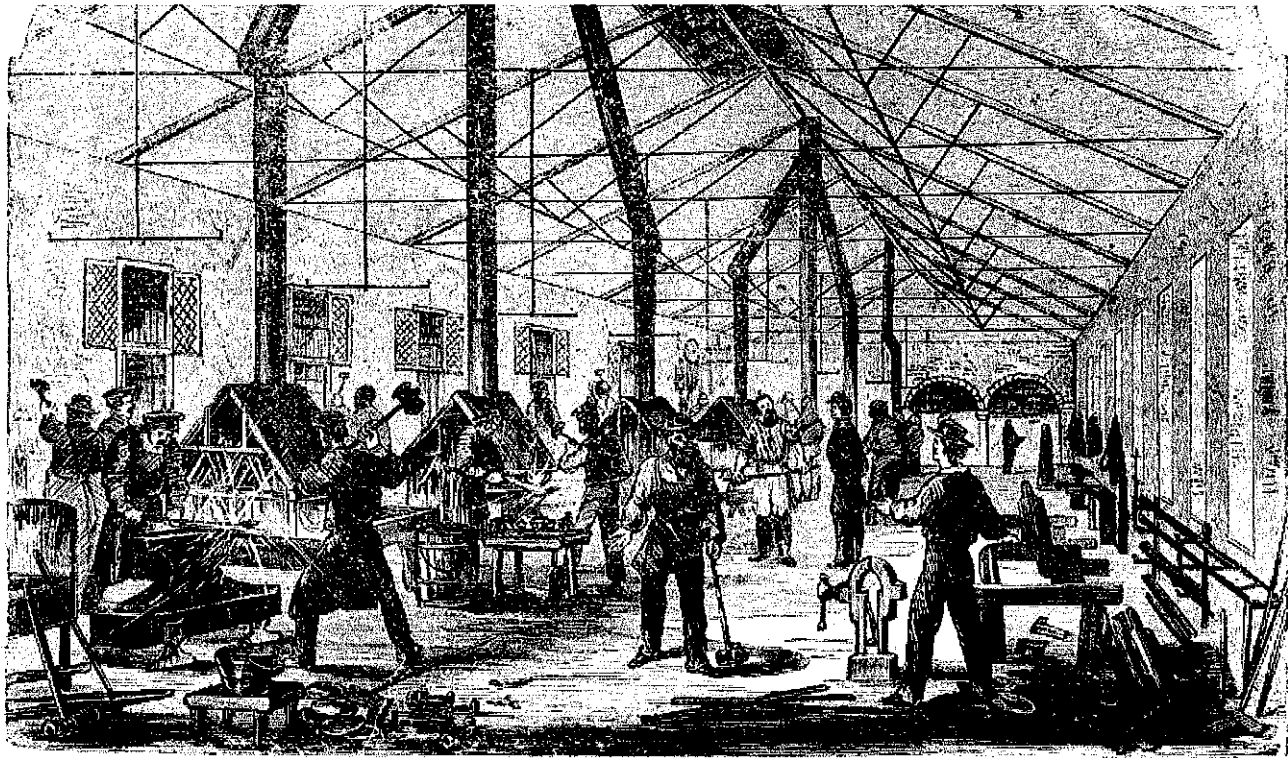


# The lack of an industrial base hurt the South during the Civil War

By National Park Service, adapted by Newsela staff on 10.16.19

Word Count 802

Level 940L



FORGING IRONWORK FOR THE GUN-CARRIAGES AT THE WATERVLIET ARSENAL, WEST TROY, N. Y.

Image 1. Forging Iron. Workers at the Watervliet Arsenal in West Troy, New York, forge ironwork for Union gun carriages during the American Civil War. Photo by Corbis via Getty Images.

The Civil War (1861–1865) was fought between the Northern states of the Union and the Southern states of the Confederacy. It began after the Southern states rebelled and split off from the Union. The war had many causes, but the biggest was the issue of slavery. The South wanted to keep its slaves, while the Northern states had ended slavery years before.

In the years before the war, big changes had been happening in the United States. An industrial revolution had begun that would eventually make the United States into one of the world's leading industrial powers. However, this transformation was almost completely limited to the Northern states. Much of the South was left far behind.

## The North's Economy Centered Around Manufacturing

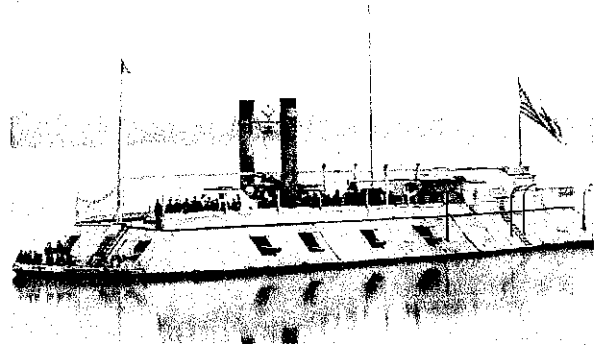
In 1860, the South was still mostly agricultural. It depended heavily on the sale of crops like cotton and tobacco. African-American slaves were used to grow and harvest these crops. By 1815, cotton



was the most valuable export in the United States, which made some Southerners very wealthy. Yet the South did little to develop beyond an agriculture-based system. It had few factories, little advanced machinery and only about 29 percent of the nation's railroad tracks. The South also had just 13 percent of the nation's banks.

By contrast, the North was industrializing quickly. By 1860, 90 percent of the nation's manufacturing output came from Northern states.

The North also had a significantly larger population than the South did. During the 19th century, fully seven-eighths of foreign immigrants settled in the North. As a result, the population of the states that stayed in the Union was around 23 million, compared to a population of 9 million in the states of the Confederacy. The Union had 3.5 million males of military age — 18 to 45. By comparison, the Confederacy had only 1 million.



The Confederacy's limited industrial capacity and smaller population hurt it greatly during the war. The Union's advantages in factories, railroads and manpower put the Confederacy at a great disadvantage.

### **Other Industries Expanded In The North**

In the North, the coming of war increased the pace of its industrialization. Even agriculture became far more productive. The mechanization of farming allowed farmers to produce much more in much less time. By 1860, for example, a threshing machine could thresh 12 times as much grain per hour as could six men. This mechanization became even more important as many farmers left home to fight in the Union military. Those remaining behind could continue to manage the farm through the use of labor-saving machinery.

Northern transportation industries boomed during the conflict as well. This was particularly true of railroads. The North's larger number of tracks and ability to quickly expand rail lines gave it a big advantage over the South. Union forces often rode to battle on trains traveling on freshly lain tracks. By war's end, the Union had built the world's largest railroad system.

Other Northern industries — including weapons manufacturing — also grew and improved as the war progressed. The same was not true in the South, which was never able to overcome its disadvantages.

### **The Confederate Army Was Overmatched**

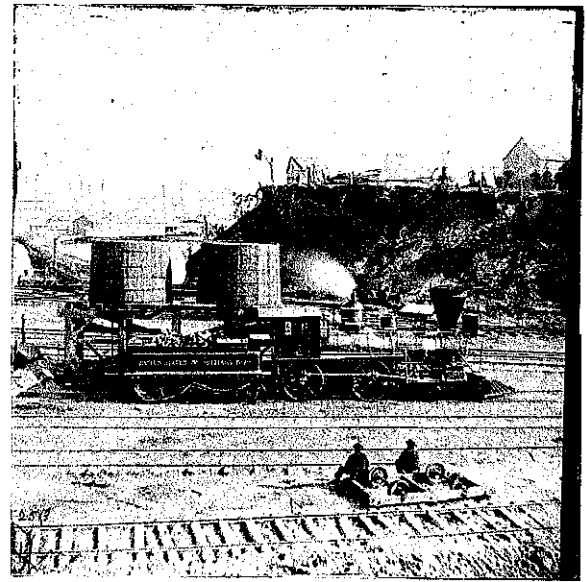
By 1864, the Confederate Army was in bad shape. Union forces led by General Ulysses S. Grant hammered away at Confederate General Robert E. Lee's increasingly desperate army. Grant took advantage of railroad lines and new, improved steamships to quickly move his soldiers. He had an apparently endless supply of troops and weapons. Grant used these resources to crush Lee's often ill-fed and undermanned army.

During the Atlanta Campaign, General William T. Sherman's Union troops caused huge damage to Georgia's factories and farms. His soldiers destroyed rail lines and bridges. They captured both the



important city of Atlanta and the critical seaport of Savannah. An already weakened Confederacy simply could not take such huge losses and survive.

In the end, the Confederacy simply did not have the ability to develop the kind of industrial productivity required to win a "modern" war. By contrast, the Union was able to speed up the industrialization that had already begun before the war. It thus had a powerful advantage that allowed it to win the war.







## Quiz

- 1 Read the selection from the introduction [paragraphs 1 and 2].

*In the years before the war, big changes had been happening in the United States. An industrial revolution had begun that would eventually make the United States into one of the world's leading industrial powers.*

What is the definition of "revolution" as it is used in this selection?

- (A) rolling spin
- (B) historic war
- (C) total destruction
- (D) rapid development

- 2 Read the sentence from the section "The Confederate Army Was Overmatched."

*Union forces led by General Ulysses S. Grant hammered away at Confederate General Robert E. Lee's increasingly desperate army.*

What does the phrase "hammered away" suggest as it is used in the sentence?

- (A) that Grant's forces used special tools to fight the Confederates
- (B) that Grant attacked the Confederate army without stopping
- (C) that Grant's soldiers used the railroads on a specific schedule
- (D) that Grant argued constantly with his soldiers about how to fight

- 3 How does the author build understanding of how the South was hurt by a lack of industrialization?

- (A) The author describes the South's economic assets in cotton and tobacco and outlines how the war hurt exports to other industrialized countries.
- (B) The author contrasts the focus of the North's and South's economies and gives examples of goods and industries that were useful for supplying troops.
- (C) The author lists the places in the South that failed to industrialize and outlines the way immigration helped to speed industrialization in the North.
- (D) The author provides anecdotes about the South's agricultural economy at the start of the war and demonstrates how it was damaged during the war.

- 4 Read the selection from the section "The North's Economy Centered Around Manufacturing."

*As a result, the population of the states that stayed in the Union was around 23 million, compared to a population of 9 million in the states of the Confederacy. The Union had 3.5 million males of military age — 18 to 45. By comparison, the Confederacy had only 1 million.*

Why did the author include this selection in the article?

- (A) to elaborate on the factors that gave the Union an advantage at the start of the war
- (B) to emphasize the small percentage of people in the North and South old enough to fight
- (C) to introduce how different the North and South became because of the war
- (D) to illustrate that men over the age of 45 and women were not allowed to fight

