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To Kill and to Heal: Weapons and Medicine of the Civil War **A Teacher Resource Guide**

***** The activities in this resource guide can be adjusted to correlate with the objectives of the National Common Core Standards to accommodate various grade levels and individual classrooms.*****

INTRODUCTION

Despite their sharp philosophical and moral divisions over the expansion of slavery and the election of Abraham Lincoln, Northerners and Southerners actually shared some common practical background as the Civil War approached. Both sides had similar weapons and military training, as well as medical knowledge and education. They also shared a lack of preparedness for a long and costly war. Although more than 620,000 soldiers died during the Civil War, countless others were sick and wounded, yet survived. Providing appropriate medical care was a complex challenge for both sides.



Project Gutenberg's The Civil War Centennial Handbook

While both the North and the South were inexperienced, ill-equipped and unprepared to fight a protracted war, the North had numerical and material advantages over the South before the Civil War began, including greater industrial capacity, a transportation network that integrated more than 22,000 miles of railroad track, canals and **macadamized roads**, and a population of 22 million that was augmented by a steady influx of immigrants.

The South, in comparison, had only 9,000 miles of inefficient, deteriorating railroad track and an 1860 population of just over 9 million people, 38.7% of whom were slaves. In addition, the southern economy was based on agriculture (cotton, tobacco, and sugarcane) and used slave labor to produce those commodities. Unlike plantation owners who grew cash crops, most southern farmers were **subsistence-based**. With so many adult men engaged in fighting away from home, the South did not have the manpower needed to produce sufficient foodstuffs and was unable to feed its military and civilian population causing severe hardship. What the South lacked in resources, they hoped to obtain from Europe; but the Union blockade effectively closed southern



Field slaves
Civil War Treasures from the New-York Historical Society

seaports. Another disadvantage the South faced was that transportation of supplies, munitions and soldiers was inefficiently managed, and their financial and industrial **infrastructure** was underdeveloped. While the South had the raw ingredients necessary to support their military, the Confederates lacked the strategic organization and decisive political and military leadership to plan, coordinate and maintain the fight. This combination of factors resulted in the Confederacy's inability to sustain a prolonged war effort.

North	South
22,000 miles of railroads, canals, and roads	9,000 miles of railroads
Population: 22 million	Population: 9 million (38.7% slaves)
Moving towards industry and a more urbanized population	Agriculture dominated (cotton, tobacco, sugarcane, subsistence farming)

Classroom Activities - Introduction

Activity #1

Topics of controversy can be challenging to address in the classroom. Some students may not feel comfortable having to express their feelings directly to other students. The use of writing activities and poetry can offer students a means of self-expression that is uniquely their own. See the student activities below that utilize student writing.

- Display an image depicting some aspect of Civil War weapons or medicine for students to study. Instruct students to write a Haiku or other form of poetry to describe the image or their feelings about what they see in the image. Share and Discuss. ***(See available images in the Photo Gallery included in this teacher resource guide.)***
- Display an artifact or image representative of Civil War weapons or medicine. Discuss artifact briefly. Instruct students to put themselves in the place of that artifact and become the artifact. Students write a paragraph from the standpoint/viewpoint of the artifact and share with class. ***(See available images in the Photo Gallery included in this teacher resource guide.)***

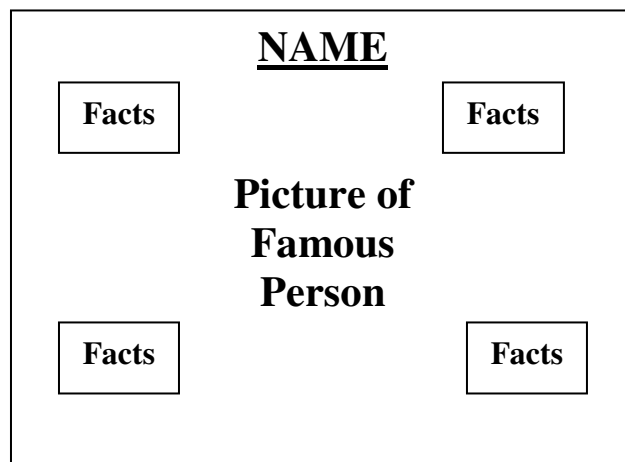
Activity #2

Numerous people played prominent roles and their contributions had lasting effects on Civil War weapons and medicine. Review the following list and have students choose one person to research. Write about that person's role in the war or the affect that person had on the war. Include personal experiences that may have shaped them and/or led to their wartime contribution. Students can also create a poster biography instead of a research paper. Students will research and condense their findings onto poster board fact blurbs with their figure's name and photograph if possible.

James Baxter Bean
John H. Brinton
Major Dr. Christopher Goodbrake
Herman Haupt
Jonathan Letterman
Samuel Preston Moore
Sally Louisa Tompkins
Alexander T. Augusta

Clara Barton
Richard J. Gatling
William Alexander Hammond
Joseph Jones
Montgomery C. Meigs
Francis Peyre Porcher
Joseph Janvier Woodward
Susie King Taylor

EXAMPLE



GLOSSARY

Subsistence-based agriculture: farming only the food that is necessary for a family to survive; the crops are not sold for a profit

Macadamized roads: roads made from three layers of broken rock and stone

Infrastructure: the fundamental facilities and systems serving a country, city, or area, as in transportation and communication systems

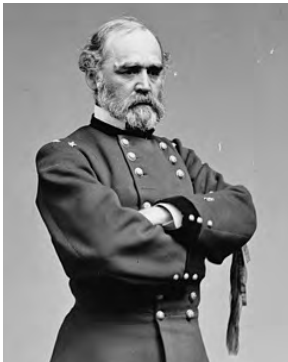


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Civil War Quartermaster Department

Soldiers can not fight without supplies; they need the fundamental necessities of meals, medicine and **munitions**. In 1775, Commander George Washington created the first Quartermaster General of the Continental Army who was responsible for acquiring provisions and distributing them to the troops.

At the beginning of the Civil War, the Quartermaster Department, charged with supplying the army troops with needed supplies and equipment, was small and inadequately prepared to meet the demands placed upon it. In addition, this department was hampered by lack of funds, staff, and supplies on hand. The urgent need of shoes, clothes, blankets, tents, weapons, horses and mules, **forage**, and transportation led to fraud and abuse in the early awarding of military contracts. But the mistakes and inexperience that characterized the emergency **procurement** of supplies in the *early* days of the war subsided as the war progressed and the Department was centralized and streamlined. Contracts had to be approved by the Quartermaster General and vendors were required to guarantee the quantity, quality and terms of delivery of their orders. Appointed Quartermaster General by Abraham Lincoln in 1861, Montgomery C. Meigs led a staff of experienced senior officers in procuring, outfitting and sustaining the Union troops.



Montgomery C. Meigs
Library of Congress

Faced with a herculean task of supplying the war effort, the Quartermaster's Department spent more than \$1 billion supplying the army with unprecedented levels of provisions. An estimated one billion rounds of small arm ammunition, one million horses and mules, 1.5 million barrels of pork, 100 million pounds of coffee, six million wool blankets, and ten million pairs of pants were distributed to Union soldiers over the course of the war. The ability to distribute those kinds of massive quantities required a highly organized logistical system that included procurement, storage, security, communications and mobility.

Initially, Philadelphia, New York, and Cincinnati were the main procurement depots maintained by the Quartermaster's Department. As more men enlisted in the army and the workload of the Department increased,



Staff of the Quartermaster
Department
Library of Congress

additional depots were added in St. Louis, Louisville, and Washington.

The Quartermaster Department managed the transportation of supplies and troops by way of wagon, rail, river, canal, and sea. Supplies were stored in depots—general, advance and temporary. General depots were large **repositories** in major cities, advance depots were with the armies in the field and could be dismantled when operations were over or operations changed locations, and temporary depots were for specific operations.



*Federal wagon train
Library of Congress*

The railroad played a pivotal role in distributing supplies, arms, ammunition, food, equipment and troops to the battle fronts. They also took wounded soldiers and nonfunctioning equipment away from the fighting. In 1862, Congress passed the Railways and Telegraph Act which allowed the War Department to take control of all eastern railroads and telegraph lines for military purposes and public safety. Created in 1862, the United States Military Railroad (USMRR) became the organization that centralized, coordinated and supervised the construction, repair, operation, and maintenance of rolling stock, track, bridges, and trestles of all railroad facilities in Union controlled territory. The Quartermaster's Department procured all the equipment and supplies needed for the USMRR. The



*Railroad depot
Library of Congress*

USMRR gave birth to the Construction Corps, an organization made up of professional civil engineers and skilled and semi-skilled workers who built railroad track and bridges, wharves, storehouses, and hospital facilities as needed.



*Landing supplies at City Point
Library of Congress*

Linking the rail network was a considerable **fleet** of steamboats, especially in the Western Theater of war that carried supplies down rivers to ports where they were transferred to storage warehouses or moved further to the battle lines.

Services of the Quartermaster Department are vital at all times, but none more important than in times of war. Careful insight and foresight are paramount to an organized and efficient procurement system.

The function of the Confederacy's Quartermaster Department was the same as the Union's Quartermaster Department. Through the first year of the war, the department was able to clothe and supply Confederate soldiers. But as the war lengthened and their depots were seized and ports blockaded by federal forces, supplies became harder to obtain. During the war the

South had two Confederate Quartermaster Generals, Abraham C. Myers and Alexander Lawton.

Classroom Activities – Quartermaster Department

- Investigate some of the problems the Quartermaster's Department experienced with procuring supplies early in the war AND research government contract scandals/swindles/fraud that occurred early on
- Explore how the Union Quartermaster Department became an efficient and centralized department AND determine the deficiencies of the Confederate Quartermaster Department
- Compare and contrast the railroads in the North to those in the South AND explain how one had the advantage over the other
- What types of provisions/supplies were needed by troops in the Civil War? How did Civil War soldiers in the field receive supplies? Research this procedure.



*Confederate Quartermaster allowance
Civil War Treasures from the
New York Historical Society*

Glossary

Munitions: war materiel, especially weapons and ammunition

Procurement: to get by special effort; obtain or acquire often by the use of wealth or capital

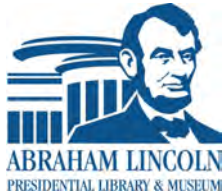
Repository: a place, such as a warehouse, that is used for storage, safekeeping, and/or distribution

Fleet: a group of ships working as one unit often under one command

Forage: food for horses and cattle; fodder

Western Theatre: the area east of the Mississippi River and west of the Appalachian Mountains

Eastern Theatre: includes the states of Virginia, West Virginia, Maryland, and Pennsylvania, as well as the District of Columbia and the coastal ports along North Carolina and Georgia



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Civil War Army Medical Department

At the onset of the Civil War, the Medical Department of the U.S. Army had just 30 surgeons and 83 assistants and many of these staff people resigned and joined the Confederacy, leaving the Department with an inadequate ability to meet the crisis of the war. Regular army surgeons who had been serving in the western United States joined new, younger and inexperienced physicians and attendants in caring for wounded soldiers. Led by a Surgeon General, the medical department was comprised of regular medical officers, volunteer surgeons, assistant surgeons, and civilian physicians who were employed under contract in general hospital wards established in the vicinity of the national capitol and large cities. Assisting the Medical Department in the care of soldiers was the U.S. Sanitary Commission, a volunteer auxiliary service authorized by the Federal government, that provided **humanitarian aid** in the way of care, food, medical advice, assistance and supplies, clothing, shelter, and male and female nurses to the Union volunteer forces during the war. Other **commissions** established were the Western Sanitary Commission and the Christian Commission.



*Nurses and officers of U.S.
Sanitary Commission
Library of Congress*

The nursing profession was dominated by men who lacked specialized training and whose basic method of instruction was “learn as you go.” Women, who comprise the majority of nurses today, were considered in the Victorian era as too timid and delicate to cope with the demands of the profession. Also, their families objected to having them exposed to the intimate needs of men they were not related to. Before the war, caring for the sick was done at home; but as the war escalated, the overwhelming numbers of men needing hospital care increased. Coming from different backgrounds and ethnicities, women who volunteered in the nursing services spent their time in hospitals dispensing medicine, attending to visitors, writing letters, distributing food and supplies, entertaining soldiers by singing, playing music, or reading to wounded soldiers.



*Ministering to the needs of soldiers
Library of Congress*

The Civil War was fought in an era that had rudimentary knowledge of **preventative medicine**. Disease, not battle, caused the majority of deaths among both Union and Confederate soldiers. Intestinal **disorders** including typhoid fever, diarrhea, **dysentery**, exposure to the elements, filthy and unsanitary camp conditions, **communicable diseases**



(measles, mumps, scarlet fever, chicken pox), and poor diet and hygiene all contributed to the spread of disease. In addition, respiratory diseases, including influenza, bronchitis and pneumonia incapacitated and led to the deaths of thousands of soldiers. In camp, when soldiers became mildly sick they were assigned to their **quarters**. Soldiers with more serious illnesses were admitted to the camp hospital tent until they were better.



*Crowded camp conditions
Civil War Treasures from the New York
Historical Society*

Early in the war after battle, wounded soldiers who could not walk on their own were removed from the battlefield by untrained and disorganized **litter bearers**. During the First

*Treating the wounded
Library of Congress*

Battle of Bull Run, untrained civilian ambulance and wagon drivers fled the



*Searching for the wounded
Library of Congress*

scene leaving some wounded soldiers on the battlefield for a week. As the war progressed, specially trained ambulance **corps** members transported soldiers to ambulance **depots** near the battle lines, and then to field hospitals where they were treated by a **regimental** surgeon. If an amputation was needed, patients stood a better chance of recovery if the surgery was done shortly after being wounded. Men who required serious medical attention were taken to more permanent general hospitals where they could receive extended care. However, not every soldier made it off the battlefield. Some, within reach of ambulance attendants, died from lack of care.

Classroom Activities – Army Medical Department

- Explore the role and affects of the U.S. Sanitary Commission
- Research Civil War hospitals, where they were located, and how they were staffed
- Examine how battlefield wounds were treated and what were patient survival rates?
- What happened to physicians when they were captured?
- Research supplies and medicines used during war to treat patients
- Compare common illnesses that affected soldiers and how they were contracted and cured
- Scrutinize the medical revolution that occurred in the late 1860s that could have saved many of the men who died from disease in the Civil War
- Compare and contrast roles of male and female nurses
- It has been said that the Civil War was a much needed “classroom” for doctors and medical staff. What are the implications of this statement?
- Focus on the importance of women’s involvement in medicine and nursing AND how the medical field was changed during and after the Civil War. This could be

team taught with a science or health educator in conjunction with the social studies/history teacher

- Read biographies on famous women nurses and write a book report OR deliver oral presentation to the class
- Invite a guest speaker such as a nurse, doctor, or historian to talk to students

GLOSSARY

Humanitarian Aid: material or logistical assistance providing food, clothing, shelter

Commission: a group of people officially authorized to, or granted power to, carry out a particular task or duty

Preventative Medicine: measures taken to prevent diseases or injuries rather than curing them or treating their symptoms (example: Vaccines)

Disorder: an ailment or illness that affects the function of mind or body

Typhoid: bacterial disease causing fever, diarrhea, headache, enlargement of the spleen, and extreme physical exhaustion and collapse

Dysentery: intestinal disease causing severe diarrhea. Dysentery was a leading cause of death among Civil War soldiers

Communicable disease: a disease that is contagious and spreads easily through people or species exposed to it

Quarters: a place of residence, especially the buildings, barracks used to house military personnel or their dependents

Litter bearer: a person who carries a stretcher used to transport wounded soldiers

Corps: a group of soldiers, amounting to two or more divisions, led by a major general for the Union or a lieutenant general for the Confederates; a body of persons acting together or associated under common direction, such as the Ambulance Corp

Regiment: basic unit of the Civil War soldiers usually made up of 1,000 to 1,500 men

Depot: a place, temporary or permanent, used to house supplies, units, or people for a specific purpose

Supply Depot: a depot with the specific purpose of housing and distributing supplies

about the medical advancements made during the American Civil War.



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Civil War Ordnance Department

During the Revolutionary War, the Commissary of Military Stores was established and responsible for purchasing and supplying weapons for the United States Army. Two federal **armories** manufacturing **small arms** were established by George Washington: the Springfield **Arsenal** in Massachusetts, originally established in 1777, and the United States Armory at Harpers Ferry, Virginia. At this time all weapons were hand made and the production and repair of these one-of-a-kind items was time consuming.

As a means of organization, the Commissary of Military Stores was renamed the Ordnance Department in 1812 and was charged with providing military supplies to the army and militias. Other responsibilities included design and adoption of new weapons, inspection of arms and other ordnance produced by contractors, storage, distribution, upkeep and repair of weapons, and supplying units in the field with ordnance.

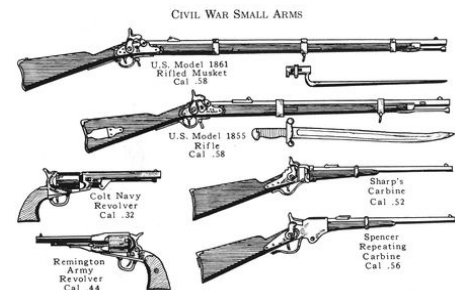


*Soldier with flintlock
musket
Library of Congress*

When the Civil War broke out, the government couldn't supply enough guns for its early recruits, although the United States government had weapons left over from the Mexican War. Many volunteer soldiers brought their weapons from home. Old-fashioned muskets, shotguns, handguns (pistols and revolvers), and rifles are examples of the different kinds of guns that were used to fight the war. This lack of uniformity in small arms required different sizes of ammunition, creating confusion and a supply and standardization nightmare.

The Ordnance Department early in the Civil War issued guns to soldiers that were primarily **smoothbore** muskets stored in arsenals across the country. Smoothbore muskets, very effective for mass volley shooting during frontal assaults by the **infantry**, were the standard guns used during the Revolutionary War. Smoothbores had an advantage of quick and easy loading (up to 4 shots a minute), but their effective range was only 100 yards and their ability to hit a single target was negligible.

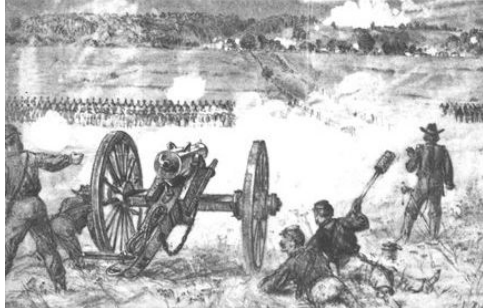
Rifled muskets had greater range and accuracy and made superior weapons, but there were not enough on hand to furnish the troops. During the war, experiments, alterations, and innovations were frequently made to the technology of firearms and eventually the U.S. Army adopted a standard **muzzle-**



*Project Gutenberg's The Civil War Centennial
Handbook*

loading rifled musket and upgraded ammunition with the adoption of the conical-shaped **minié ball**.

After the first Battle of Bull Run proved to be a disaster for the Union, the United States government beefed up its **procurement** of weapons by purchasing firearms from



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Europe while also contracting with private companies to manufacture weapons, and ramping up production at government-run armories.

Initially, the Confederacy's Ordnance Department was hampered by lack of skilled manpower, procurement and distribution problems. Not able to produce enough guns and ammunition for their soldiers, the Ordnance Department relied upon three supplemental methods for obtaining weapons: battlefield capture, imports from blockade runners, and domestic production. The Confederacy's chief

of Ordnance was Josiah Gorgas. He was instrumental in increasing the South's industrial capacity that supplied munitions to the army.

Firearms larger than those that were carried by soldiers (small arms) were referred to as **artillery** and divided between smoothbore and rifled cannon. Most artillery was classified by the type of service it performed and the ease of mobility:

- **Light Artillery:** light and mobile enough to maneuver in battle and through difficult terrain, easily assembled and ready to use quickly, transported by mules and horses. Artillery guns were grouped into **batteries** and the number and types of guns in a battery varied.
- **Heavy Artillery:** Guns were heavier in weight and designed for stationary defense of key positions (cities, ports, and harbors), but would be transported to different positions on **siege lines** or mounted in fortifications used to batter **earthworks** and **fortifications**. They were transported with difficulty.



*24 pound siege gun
Library of Congress*

For further information visit:

[Firing a Civil War Rifle – With Commands](#)

[What Happens when a .58 caliber Minnie bullet is fired](#)

[America the Story of Us – The Civil War – The Minie Ball](#)

Classroom Activities – Ordnance Department

- The Civil War is often referred to as the first modern war. Why?
- Research the manufacturers of weapons and ammunition such as the Springfield Armory, U.S. Armory at Harper's Ferry, Tredegar Iron Works, and the Augusta Powder Works

- Uncover some of the problems the Ordnance Department experienced with procuring weapons early in the war
- Research and discuss how the evolution from hand-made weapons to mass produced weapons came about (Industrial Revolution)
- Explore individual types of weapons and ammunition used in the Civil War and the affects they had in battle
- What was the purpose of Lincoln's Balloon Corps? What contributions did it make to modern-day military aviation? Learn more at the National Air and Space Museum at: <https://airandspace.si.edu/stories/editorial/mr-lincolns-air-force-top-10-reasons-visit-museum-june-11th>.

Extended Discussion Topics:

Read and Discuss the 2nd Amendment to the Constitution

**These questions can be addressed in a student debate. The teacher can select groups and which position they will be arguing (in favor of, against, compromise). This will help prevent some bias from students. Teach respect and tolerance of other student's opinions and arguments.

- What does the Second Amendment guarantee? Does historical evidence support this? How has this Amendment been regulated throughout history?
- What is the interpretation of the Second Amendment by the following groups? What federal legislation has been proposed or enacted to uphold these interpretations?
 - The Federal Government
 - National Rifle Association
 - Gun control advocates
 - Constitutional Rights Foundation
 - Brady Campaign to Prevent Gun Violence
- If the authors of the Amendment could have foreseen the debate that has evolved over time as to the purpose of the Amendment, might they have phrased the Amendment differently? If so, how?
- Is the Second Amendment extinct? Is the Constitution still the leading source for social behavior with regards to the rights of the people? Should the Constitution be adapted with the times?
- What is meant by the term "Original Intent" method of interpretation?
- Research *District of Columbia v Heller*. Concealed carry laws and laws prohibiting guns in public buildings have been ruled constitutional by the Supreme Court. How do you justify this interpretation of the Second Amendment?
- Does the Second Amendment apply to the states? How is the Second Amendment affected by the Due Process Clause of the 14th Amendment? (It protects citizens rights in their respective states)
- Has the Constitution become a "make it fit" document?

GLOSSARY

Armories: a storage place for weapons and other war equipment

Small arms: any weapon smaller than a cannon that could be carried by a soldier

Arsenal: a government establishment where military equipment or munitions are manufactured

Ordnance: the branch of an army that procures, stores, and issues weapons, munitions, and combat vehicles and maintains arsenals for their development and testing

Smoothbore: a gun with an unrifled inside (bore)

Infantry: soldiers or military units that fight on foot

Rifled: a series of evenly-spaced spiral grooves cut into the inside of a gun's barrel

Muzzle-Loading Musket: a gun in which the projectile and propelling charge is loaded through the muzzle (i.e. front end of the gun)

Minié Ball: a conical lead rifle bullet with a hollow base and several grooves that made the bullet spin upon exiting the gun barrel

Procurement: the acquisition of goods or services

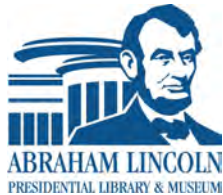
Artillery: mounted projectile-firing guns or missile launchers, mobile or stationary, light or heavy, as distinguished from small arms

Batteries: two or more pieces of artillery used for combined action

Siege Lines: the front line of a military blockade of a city or fortress with the intent of conquering by attrition or assault

Earthworks: an earthen structure, such as trenches and breastworks, erected for military purposes against enemy fire, used in both offensive and defensive operations

Fortification: military works constructed for the purpose of strengthening a position



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Civil War Subsistence Department

In 1775 the Continental Congress created a Commissary General of Stores and Provisions used to provision the Continental Army; however, few funds were allocated to feed the army. Therefore, in 1818 Congress reorganized the Quartermaster Department and provided for a Subsistence Department under a Commissary General



*Provisions await distribution at a Commissary depot
Library of Congress*

of Subsistence. Responsible for provisioning the Army, the **Subsistence** Department controlled the procurement of all rations. When the Civil War broke out there was a staff of twelve, four of whom left to join the Confederacy. Joseph P. Taylor headed the Department for most of the war.

As **Commissary General**, Taylor drew up **specifications** for the various foodstuffs that made up Union rations. Private contractors submitted bids based upon those specifications. The lowest **bid** was chosen. Bulk food supplies were then packaged and delivered to depots and warehouses in major metropolitan centers including Boston, New York, Philadelphia, Cincinnati, and St. Louis.

When foodstuffs reached their point of distribution it became the responsibility of the Quartermaster's Department to get the food to the Army's field of operations by various methods including steamboats, barges, and railroads.

Quartermasters stored food temporarily in warehouses, sheds, or out in the open until it was shipped, usually by rail, to the army's advance depots. From there, army supply wagons carried the rations to temporary depots in preparation for ultimate distribution to soldiers.



*Supply wagons
Library of Congress*

The Subsistence Department not only purchased enormous amounts of pork, coffee, and **hardtack**, but they also provided flour to government run bakeries where vast amounts of bread were baked each day. A soldier's diet lacked fresh vegetables. Without the vitamin C that vegetables provide, many soldiers developed **scurvy** and other vitamin **deficiencies**. By the end of the war the U.S. Army required 3 million pounds of rations per day for its soldiers throughout the country.



Company mess
Abraham Lincoln Presidential Library

Providing enough food for the Confederate Army was a considerable problem for the southern Subsistence Department. Commissary General, Lucius B. Northrop, an inexperienced officer, preferred to centralize all purchasing details from his office, hampering his subordinate's ability to buy locally. Northrop's policy was to purchase large amounts of raw materials and transport and store them for future distribution. Rampant inflation caused prices to escalate and the Confederacy was forced to **impress** food, crops, fuel, and other commodities to support their army.

Classroom Activities – Subsistence Department

- What types of provisions/supplies were needed by troops in the Civil War? How did Civil War soldiers in the field receive supplies?
- Research and discuss food items provided in soldiers' rations and explore the affects of nutritional deficiencies that occurred (example: scurvy)
- Investigate how the Civil War transformed local markets into nationalized food suppliers and influenced the development of the Northern canning industry
- Research the evolution of the U.S. Army Subsistence Department
- Explore how the wartime shortages of food in the South affected the civilian population
- Discuss the distinction between diets of Union and Confederate soldiers
- Study how the wartime demand for meat fueled the growth of western beef industry
- Teacher/Class makes hardtack (See recipe included in this lesson)
- Research and assemble a ration kit that soldiers used during the war and compare it to a modern day ration kit.

Army Hardtack Recipe

Ingredients:

- 4 cups flour (preferably whole wheat)
- 4 teaspoons salt
- Water (about 2 cups)

Preheat oven to 375. Mix the flour and salt together in a bowl. Add just enough water (less than two cups) so that the mixture will stick together, producing a dough that won't stick to hands, rolling pin or pan. Mix the dough by hand. Roll the dough out, shaping it roughly into a rectangle. Cut into the dough into squares about 3 x 3 inches and ½ inch thick.



Clerks of the Commissary depot with boxes of hardtack
Library of Congress

After cutting the squares, press a pattern of four rows of four holes into each square, using a nail or other such object. Do not punch through the dough. The appearance you want is similar to that of a modern saltine cracker. Turn each square over and do the same thing to the other side.

Place the squares on an ungreased cookie sheet in the oven and bake for 30 minutes. Turn each piece over and bake for another 30 minutes. The crackers should be slightly brown on both sides. Makes about 10 pieces.

GLOSSARY

Subsistence: the Subsistence Department was responsible for purchasing, issuing, and accounting for rations of all kinds for the men in the Army

Commissary General: a commissary is a store that provides equipment and provision. A **Commissary General** is a person who is delegated by a superior to manage the commissaries of the military

Specification: a detailed description or set of requirements for materials, inventories, and other items

Bid: an offer of a specific sum of money in an exchange for products or services

Ration: a soldier's daily allowance of food

Hardtack: hard crackers issued to Union and Confederate soldiers during the Civil War. They were made from flour, water, and salt, and very simple and inexpensive to make, but became almost rock solid once they went stale

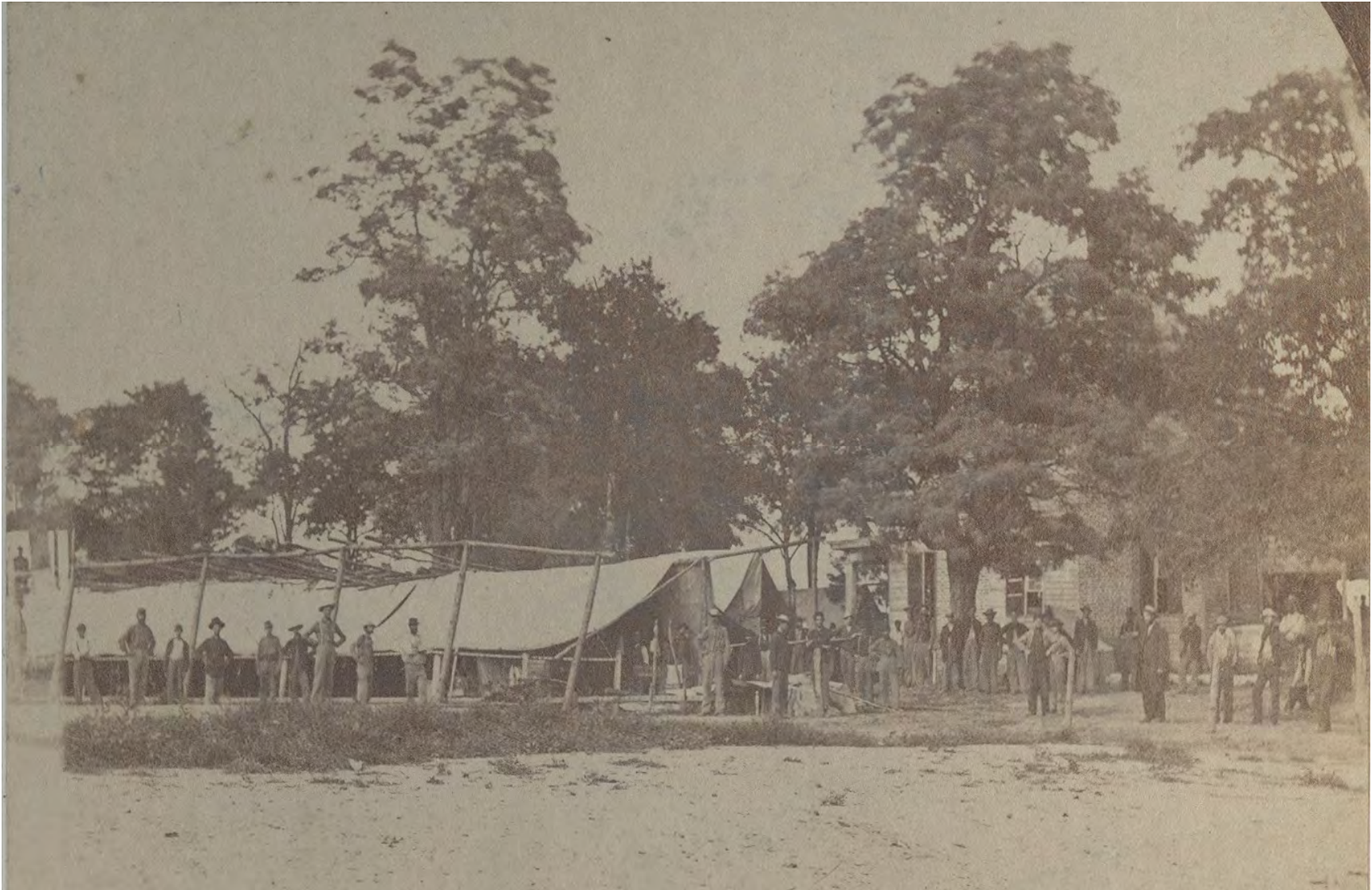
Scurvy: a disease caused by lack of ascorbic acid (vitamin C) that is found in fresh fruits and vegetables. Its symptoms include spongy gums, loose teeth, and bleeding into the skin and mucous membranes

Deficiency: a lack or shortage of substances necessary to health

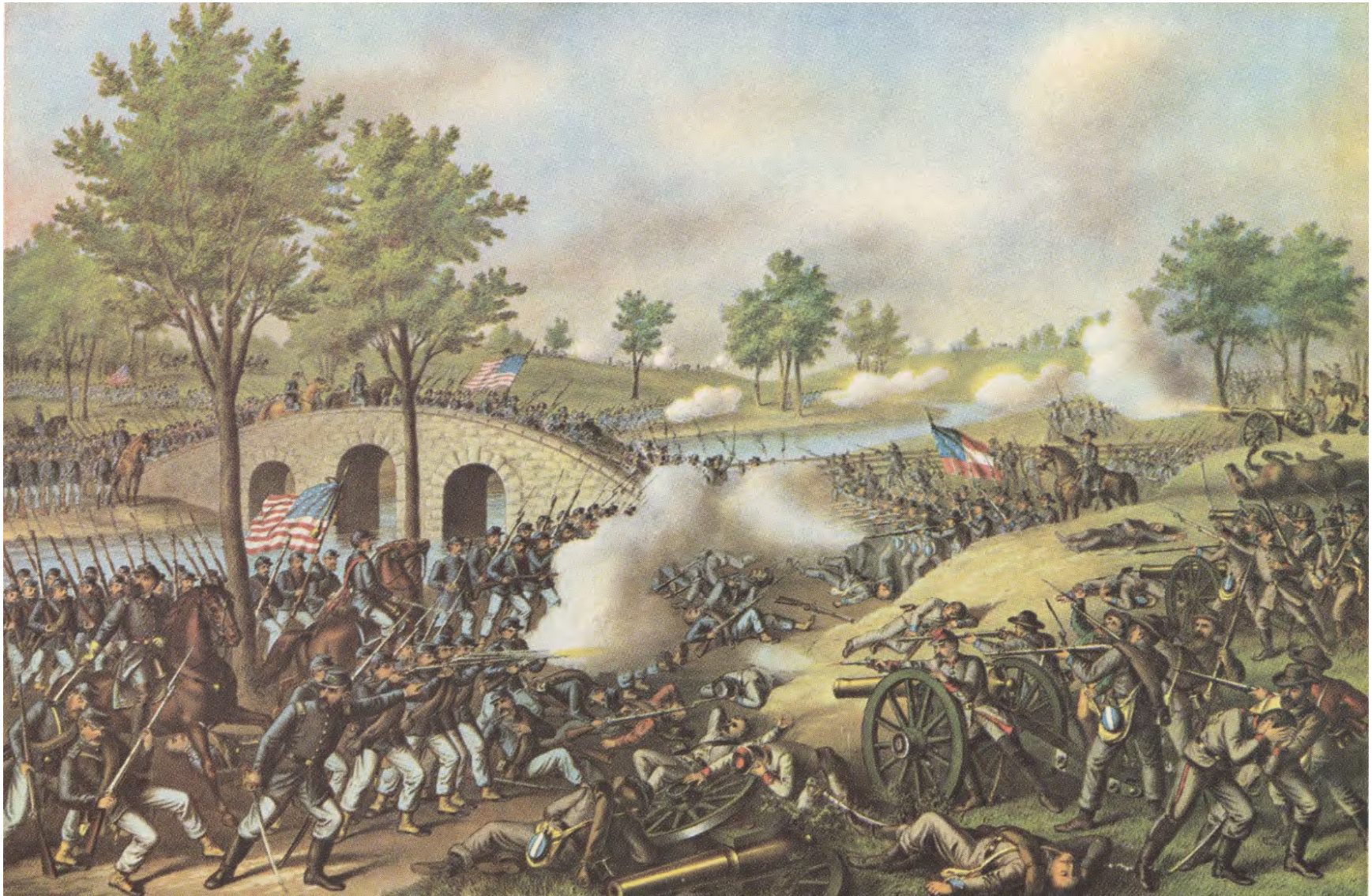
Impressment: the act or policy of confiscating people or property for public service or use



57th New York Infantry removing wounded after the battle near Weldon Railroad, August 1864
Abraham Lincoln Presidential Library



18th Army Corps Hospital near Pitkin Station, City Point Railroad, Virginia
Abraham Lincoln Presidential Library



Battle of Antietam, September 1862
Abraham Lincoln Presidential Library



Arsenal at Charleston, South Carolina
Abraham Lincoln Presidential Library



Distant view of Belle Plain Landing, Virginia
Abraham Lincoln Presidential Library



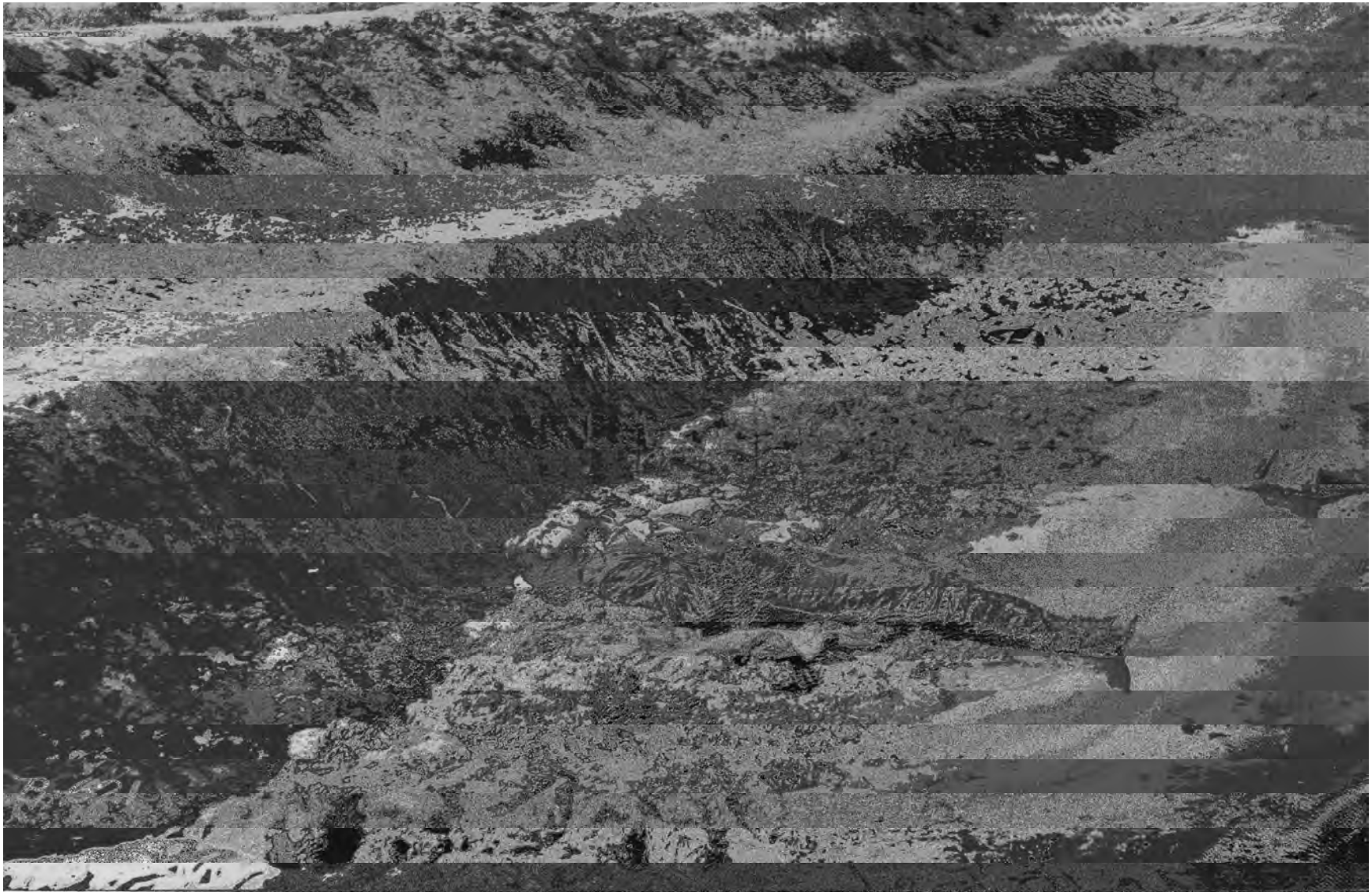
Burying the dead at Fredericksburg, Virginia
Abraham Lincoln Presidential Library



Unidentified camp Life
Abraham Lincoln Presidential Library



Wreck of a battery of light artillery at Gettysburg, Pennsylvania, 1863
Abraham Lincoln Presidential Library



Confederate soldier killed in trenches of "Fort Hell" at Petersburg, Virginia, April 1865
Abraham Lincoln Presidential Library



Unidentified soldier
Abraham Lincoln Presidential Library



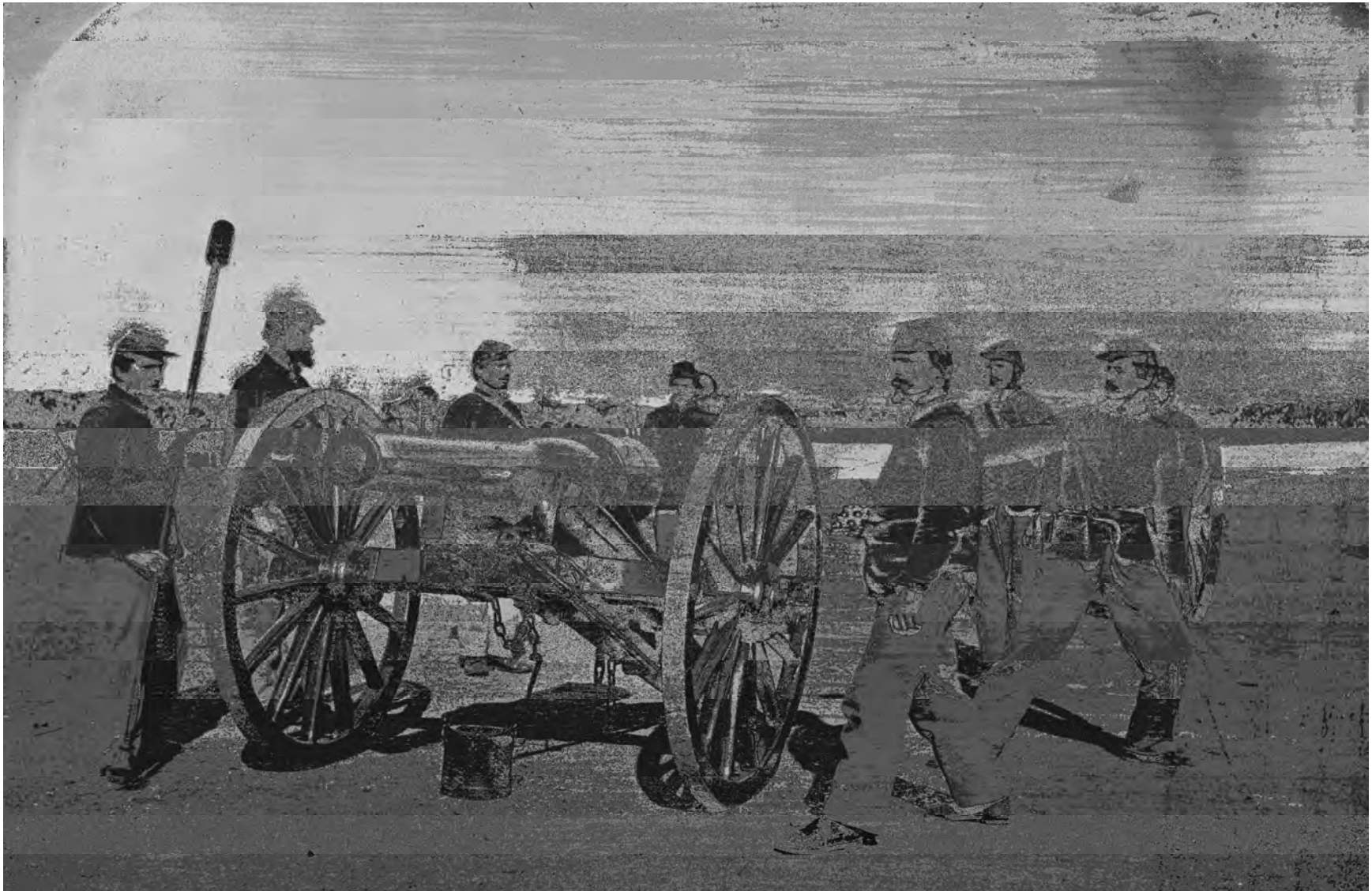
Old frame house used as hospital on Fair Oaks battlefield, Virginia
Abraham Lincoln Presidential Library



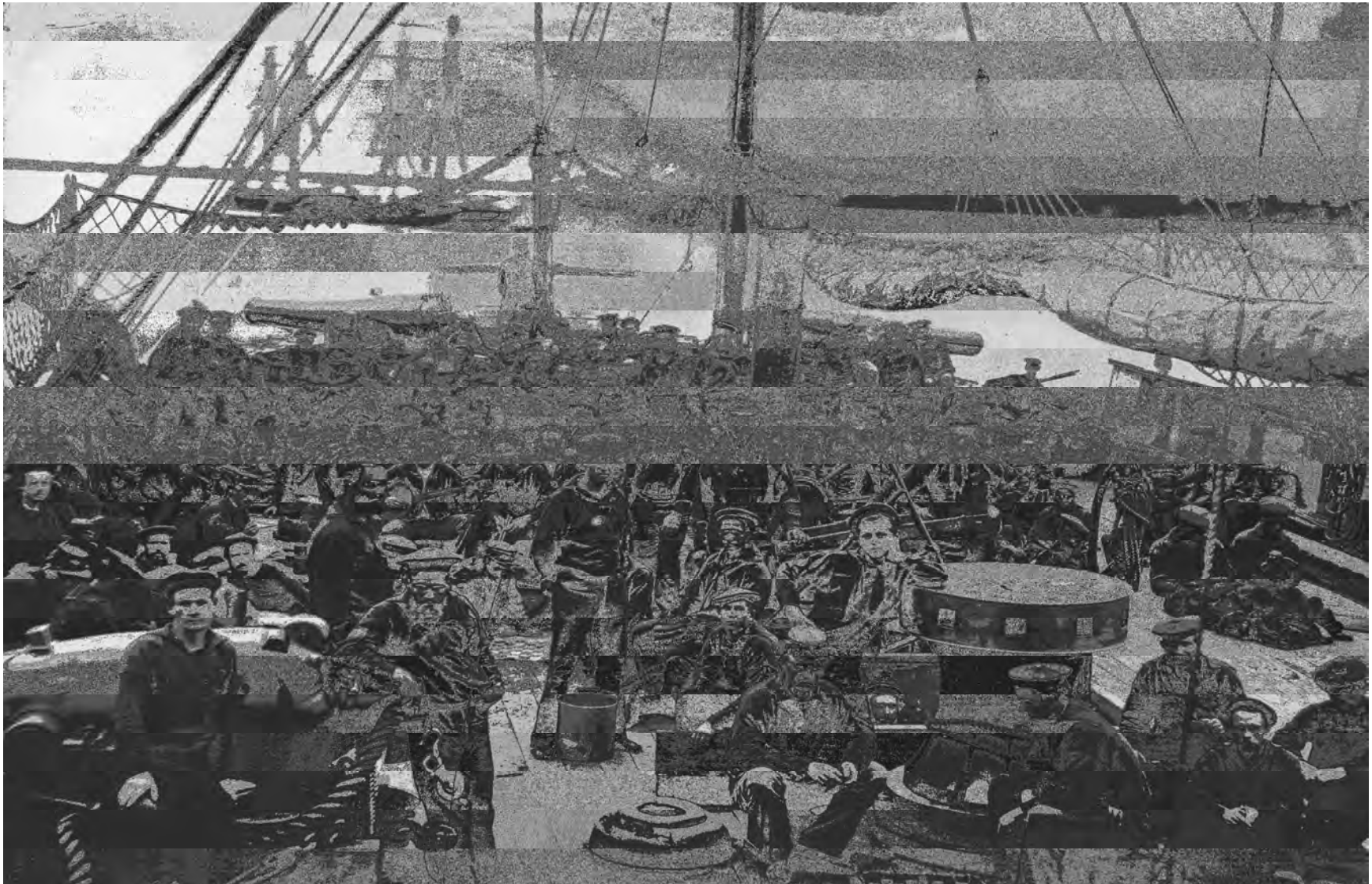
Wounded after battle at Fredericksburg, Virginia
Abraham Lincoln Presidential Library



A Harvest of Death on the battlefield of Gettysburg, July 1863
Abraham Lincoln Presidential Library



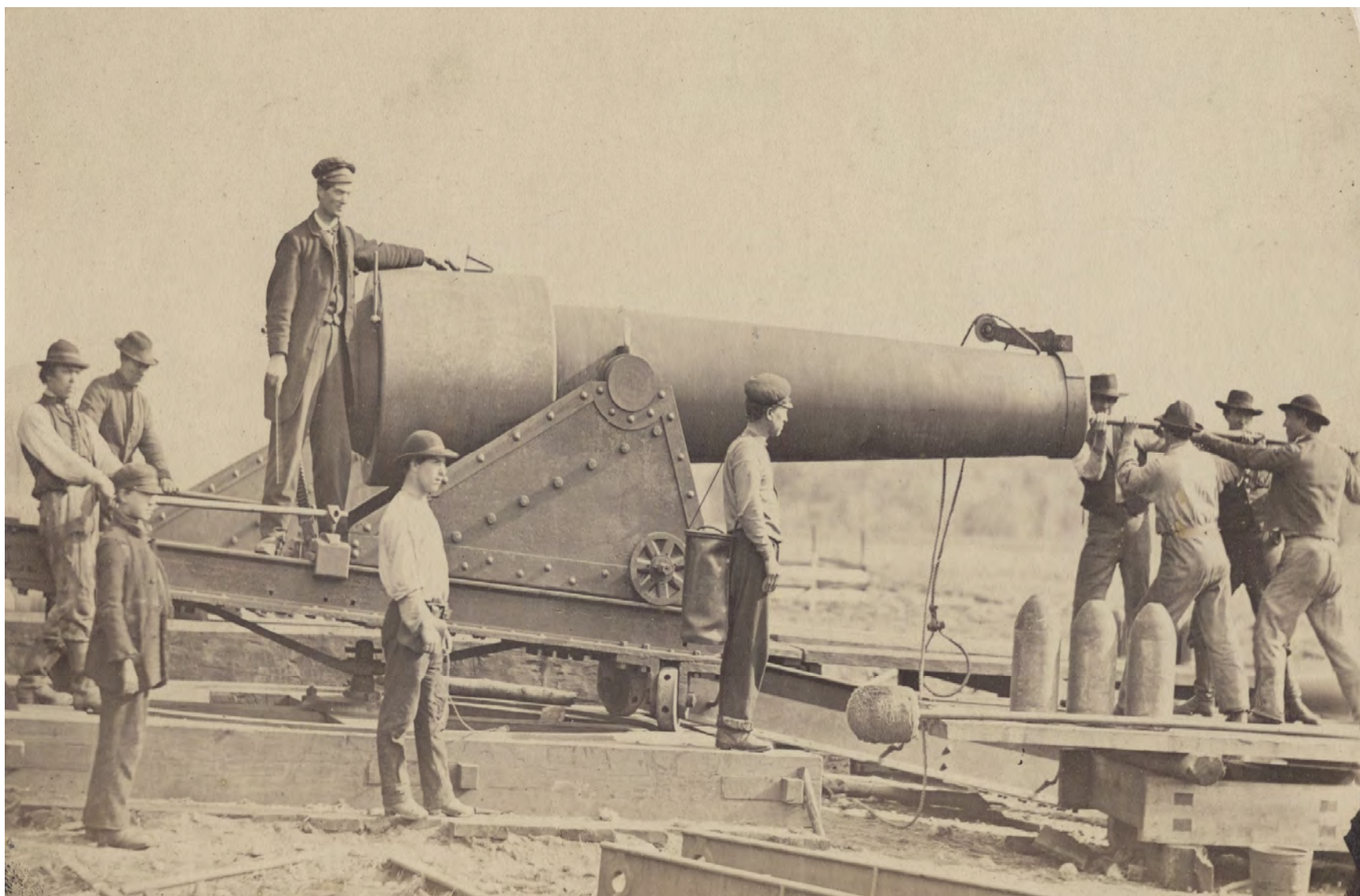
Gun squad on drill
Abraham Lincoln Presidential Library



Commodore Barney gun boat
Abraham Lincoln Presidential Library



Armory Square Hospital ward, Washington, D.C.
Abraham Lincoln Presidential Library



Foundry workers with a 300 pound Parrott gun
Abraham Lincoln Presidential Library



Hospital 1, Chattanooga, Tennessee 1864 - 1865
Abraham Lincoln Presidential Library



Deserted camp and wounded Zouave soldier after battle of Chancellorsville, May 1863
Abraham Lincoln Presidential Library



Fort Burnham, formerly Confederate Fort Harrison, Virginia
Abraham Lincoln Presidential Library



Union soldiers in the trenches before Petersburg, Virginia
Abraham Lincoln Presidential Library



Shiloh, April 1862
Abraham Lincoln Presidential Library



Wounded soldiers at Fredericksburg, Virginia
Abraham Lincoln Presidential Library



Soldiers beside cannon
Abraham Lincoln Presidential Library



Confederate lines southeast of Atlanta
Abraham Lincoln Presidential Library



To Kill and to Heal: Weapons and Medicine of the Civil War
A Teacher Resource Guide
Suggested Readings for ages 8-18

FICTION

Abnett, Dan. *Gamble for Victory: Battle of Gettysburg.* 48p. Osprey, 2006. Ages 9+
A graphic novel about the story of the Battle of Gettysburg.

Alphin, Elaine Marie. *Ghost Soldier.* 224p. Henry Holt, 2001. Ages 10-15
The ghost of a young soldier from the Civil War haunts a troubled teen.

Clifton, G. Wisler. *Red Cap.* 176p. Puffin, 1994. Ages 10+
Thirteen-year-old Ransom (later dubbed "Red Cap") thought fighting in the Civil War would be an adventure--until the day of his first battle. "A sober but important contribution to the growing number of Civil War novels". *Booklist*

Crane, Stephen. *The Red Badge of Courage.* 112p. Dover Publications, 1990 (1895).
Ages 13-17
Stephen Crane's classic 1895 Civil War novel continues to be read, studied, and discussed, generation after generation. Its searing images of war, destruction, and fear endure in the collective American mind.

Crist-Evans, Craig. *Moon Over Tennessee: A Boy's Civil War Journal.* 64p. Houghton Mifflin Company, 2003. Ages 8-10
A thirteen-year-old boy sets off with his father from their farm in Tennessee to join the Confederate forces on their way to fight at Gettysburg. Told in the form of diary entries.

Elliot, Laura Malone. *Annie, Between the States.* 544p. Katherine Tegen Books, 2006.
Ages 13+
Annie Sinclair's Virginia home is in the battle path of the Civil War. Her brothers, Laurence and Jamie, fight to defend the South, while Annie and her mother tend to wounded soldiers. When she develops a romantic connection with a Union Army lieutenant, Annie's view of the war broadens. Then an accusation calls her loyalty into question. A nation and a heart divided force Annie to choose her own course.

Harold, Keith. *Rifles for Watie.* 332p. Perfection Learning, 1987. Ages 9+
Sixteen-year-old Jeff Bussey is captured by the Confederate forces led by Stand Watie, a Cherokee Indian. In order to discover who is smuggling Union rifles to Confederates, Jeff volunteers to join Watie's rebel army.

Lyon, George Ella. *Here and Then.* 104p. Motes, 2009. Ages 10+
Through ghostly visitation and a diary that seems mysteriously to write itself with twelve-year-old Abby's hands, a Civil War nurse asks for help with medical supplies across an abyss of 133 years.

Schwabach, Karen. *The Storm before Atlanta.* 320p. Yearling, 2011. Ages 13-18
"The depictions of medicine and nursing are grim and believable, and the cruel treatment of slaves is evident, although graphic descriptions are kept to a minimum." *School Library Journal review*

NON-FICTION

Allen, Thomas B. and Roger MacBride Allen. *Mr. Lincoln's High-Tech War: How the North Used the Telegraph, Railroads, Surveillance Balloons, Ironclads, High-Powered Weapons, and More to Win the Civil War.* 144 p. National Geographic, 2009. Ages 10-15

Thomas B. Allen's expertise in military history and strategy is combined with Roger MacBride Allen's knowledge of technology to reveal a lesser-known yet fascinating side of the 16th president of the United States. Their authoritative narrative reveals Lincoln as our nation's first hands-on Commander-in-Chief, whose appreciation for the power of technology plays a critical role in the North's Civil War victory over the less developed South.

Bauer, Patricia. *B is for Battle Cry: A Civil War Alphabet.* Sleeping Bear Press, 2009. Ages 7-11

B is for Battle Cry brings to life historic battles (Antietam and Gettysburg), renowned leaders (Abraham Lincoln and Robert E. Lee), inventions (ironclad ship and Gatling gun), and inspiring events and documents (the Gettysburg Address and the Emancipation Proclamation).

Beller, Susan Provost. *Billy Yank and Johnny Reb: Soldiering in the Civil War.* 112p. Twenty-First Century, 2007. Ages 12-17

Many aspects of soldiering in the Civil War are covered in this excellent history of the War Between the States. The author uses quotes from Billy Yank and Johnny Reb, so that the reader feels immersed in the fighting between soldiers from the North and the South.

Freemon, Frank R. *Gangrene and Glory: Medical Care during the American Civil War.* 254p. University of Illinois Press, 1998. Ages 14+

This unusual, lavishly illustrated history of the Civil War takes a close look at the battlefield doctors in whose hands rested the lives of thousands of Union and Confederate soldiers and at the makeshift medicine they were forced to employ.

- Herbert, Janis.** *The Civil War for Kids: A History with 21 Activities.* 160p. Chicago Review Press, 1999. Ages 9+
History explodes in this activity guide spanning the turmoil preceding secession, the first shots fired at Fort Sumter, the fierce battles on land and sea, and finally the Confederate surrender at Appomattox. Making butternut dye for a Rebel uniform, learning drills and signals with flags, decoding wigwag, baking hardtack, reenacting battles, and making a medicine kit, bring this pivotal period in our nation's history to life.
- Jones, Carrie.** *Sarah Emma Edmonds Was a Great Pretender: The True Story of a Civil War Spy.* Carolrhoda, 2011. Ages 7+
In 1861, during the U.S. Civil War, Sarah pretended her way into the Union Army, becoming a male nurse named Frank Thompson.
- Kann, Bob.** *Cordelia Harvey: Civil War Angel.* 128p. Wisconsin Historical Society Press, 2011. Ages 7+
Newly widowed and alone, Cordelia Harvey takes up the cause for wounded Civil War soldiers, volunteering as a sanitary agent for Wisconsin and traveling across the country to visit soldiers in military hospitals and petitioning the president to create a Soldier's Home hospital in Wisconsin.
- Morrison, Taylor.** *Civil War Artist.* 32p. Houghton Mifflin/Walter Loraine Books, 1999.
An historical account of William Forbes, a newspaper artist who traveled and documented the battles and soldiers in the Civil War, in an era before photographs.
- Moss, Marissa.** *Nurse, Soldier, Spy: The Story of Sarah Edmonds, a Civil War Hero.* Abrams, 2011. Ages 8+
This fast-paced, high-energy picture book tells the true story of Sarah Emma Edmonds, who at age nineteen disguised herself as a man in order to fight in the Civil War. She took the name Frank Thompson and joined a Michigan army regiment to battle the Confederacy. Sarah excelled as a soldier and nurse on the battlefield. Because of her heroism, she was asked to become a spy. Her story comes to life through the signature illustrations and design of John Hendrix and the exciting storytelling of Marissa Moss.
- Murphy, Jim.** *The Long Road to Gettysburg.* 128p. Sandpiper, 2000. Ages 11+
"Excerpts from the diaries of two young officers, Lt. John Dooley of the Confederacy and Cpl. Thomas Galway of the Union army, are at the heart of this compelling account of the Civil War's bloodiest battle. Expertly blending details about the battle and each side's plans with the diaries, Murphy conveys all of the tension, tedium and excitement of the battlefield. Archival photographs of the site powerfully present young readers with a grim reminder of the high cost of waging this conflict." *Publishers Weekly*

Paulsen, Gary. *Soldiers Heart: Being the Story of the Enlistment and Due Service of the Boy Charley Goddard in the First Minnesota Volunteers.* 128p. Laurel Leaf, 2009. Ages 12+

Eager to enlist, fifteen-year-old Charley has a change of heart after experiencing both the physical horrors and mental anguish of Civil War combat.

Ray, Delia. *Behind the Blue and Gray: The Soldier's Life in the Civil War.* 112p.

Penguin Group, Inc., 1996. Ages 8-12

In this sequel to *A Nation Torn: The Story of How the Civil War Began*, author Delia Ray reveals how ordinary Union and Confederate soldiers experienced the Civil War.

Stanchak, John E. *Eyewitness Civil War.* 72p. DK Publishing, 2011. Ages 8+

Rich, full-color photographs of rare documents, powerful weapons, and priceless artifacts plus stunning images of legendary commanders, unsung heroes, and memorable heroines combine with stories of courage, adventure, and defiance to paint an unforgettable portrait of the Civil War.

Warren, Andrea. *Under Siege! Three Children at the Civil War Battle for Vicksburg.*

176p. Farrar, Straus and Giroux, 2009. Ages 11-15

In 1863, Union troops intend to silence the cannons guarding the Mississippi River at Vicksburg – even if they have to take the city by siege. To hasten surrender, they are shelling Vicksburg night and day. Terrified townspeople, including Lucy and Willie, take shelter in caves – enduring heat, snakes, and near suffocation. On the Union side, twelve-year-old Frederick Grant has come to visit his father, General Ulysses S. Grant, only to find himself in the midst of battle, experiencing firsthand the horrors of war.

Weber, Jennifer. *Summer's Bloodiest Days: The Battle of Gettysburg as Told from All Sides.* 64p. National Geographic, 2010. Ages 10+

Gripping eyewitness accounts, archival photographs, and dramatic artwork combine with the latest research to portray the Battle of Gettysburg from all sides—Yankees and Rebels, officers and foot soldiers, men and women, townspeople and outside observers. Through their eyes, today's students get a real sense of how a chance meeting on a dusty road exploded into three days of intense combat.

Developed with the assistance from the Center for Study of Children's Books, University of Illinois, Urbana Campus

Suggested Web site:

<http://civilwaranimated.com>

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Fisher, Carol. *Food in the American Military: A History*.

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