

A Time of Great Change

Grade Level: Sixth Grade

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Length of Unit: Seven Lessons – approximately 16 days long

I. ABSTRACT

Students will understand the importance of the past in terms of work, housing, and technology. They will familiarize themselves with events leading up to and during the Industrial Revolution. This will include being familiar with important people and understanding their importance to history. The students will learn the importance of how events and people in history shaped how we are and live today.

II. OVERVIEW

A. Concept Objectives

1. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships. (Jefferson County Public Schools Standards #1)
2. Students know how to use various processes and resources of historical inquiry. (Jefferson County Public School Standards #2)

B. Content from the *Core Knowledge Sequence* - 6th grade

1. Industrial Revolution (page 107)
2. English Textile Industry (page 108)
3. Steam Engine (page 109)
4. Railroad (page 110)
5. Plight of Factory Workers (page 111)
6. Child Labor (page 112)
7. Inventors and Inventions

C. Skill Objectives

1. The students will use chronology to examine and explain historical relationships.
2. The students will be able to obtain and analyze historical data to answer questions.
3. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
4. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
5. The students will be able to identify and match the invention to their inventor.
6. The students will be able to analyze and evaluate how transportation improved during the Industrial Revolution for the rapid movement of goods.
7. The students will be able to relate the daily life of children and families during the Industrial Revolution.

III. BACKGROUND KNOWLEDGE

- A. For Teachers
 - 1. *What Your Sixth Grader Needs to Know*, by E.D. Hirsch
 - 2. *Human Heritage* by M. Greenblatt and P. Lemmo
 - 3. *The Industrial Revolution* by Andrew Langley
 - 4. *The Industrial Revolution* by M. Collins
- B. For Students
 - 1. Westward Expansion from Core Knowledge Sequence – 5th Grade
 - 2. Slavery Issues – Civil War from 5th Grade
 - 3. Inventions – Simple Machines from 2nd Grade

IV. RESOURCES

- A. *The Industrial Revolution* by D. Graber
- B. *Kids at Work* by Russell Freedman
- C. Kids Discover Magazine on Thomas Edison by Lois Markham

V. LESSONS

Lesson One: Introduction to the Industrial Revolution (three lessons, 35-45 minutes each)

- A. *Daily Objectives*
 - 1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
 - 2. Lesson Content
 - a. Industrial Revolution
 - b. English Textile Industry
 - c. Steam Engine
 - d. Railroads
 - e. Plight of Factory Workers
 - f. Child Labor
 - 3. Skill Objective(s)
 - a. The students will be able to obtain and analyze historical data to answer question.
 - b. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - c. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
- B. *Materials*
 - 1. Vocabulary worksheet (Appendix B)
 - 2. Paper for note taking

C. *Key Vocabulary*

1. Revolution - a period of dramatic changes and new inventions
2. Macadam Road - a road made of layers of crushed rock
3. Flying Shuttle - a weaving device that carries thread quickly back and forth across the piece being woven
4. Spinning Jenny - a machine for spinning that uses many spindles
5. Tenants - people who live and work on someone else's land
6. Industrialized - developed industry

D. *Procedures/Activities*

1. Begin lesson by saying, "We are going to start our next unit, which is on the Industrial Revolution. Does anyone know what the Industrial Revolution is?" No. The word revolution means dramatic change. The teacher will write revolution on the board and write the definition. Revolution means a period of dramatic changes and new inventions. The teacher will ask the students if we have changes in our every day world? Yes, all of the time. New cars, planes, CD players, new phones, etc. The students will begin by getting out a piece of paper and entitling it "Industrial Revolution." The students will be responsible for taking accurate notes for the next three days while the teacher is lecturing. The students will begin taking notes as the teacher lectures on the changes that were being made in the 1700's. The teacher is going to briefly touch on these areas: Textile Industry, Railroad, Transportation, Factory Workers, Changes in Society, Child Labor, see Appendices A1-A6 for teacher lecture notes. The teacher will begin lecturing on the introduction to the Industrial Revolution time period, Appendix A.
2. The teacher will hand out a worksheet (Appendix B) that has several vocabulary words that the students need to define after they have been talked about. The words will be talked about in the daily lectures or from the information that they will hear later from the information presented by the students. The students should become familiar with the words and be able to tell the teacher what the words mean at any given time. It is the student's responsibility to keep the vocabulary worksheet and work on it throughout the unit. The definitions need to be clear and relate to the subject that we are talking about. Each definition needs to be in a complete sentence. The teacher will collect the vocabulary worksheet at the end of the unit.

E. *Assessment/Evaluation*

1. The teacher will periodically check to see if the students are writing the definitions for the vocabulary worksheet.
2. The teacher will observe the class and evaluate them on their participation in-group discussion.

Lesson Two: The Research of Industrial Revolution Continues!

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
2. Lesson Content
 - a. Industrial Revolution
 - b. English Textile Industry
 - c. Steam Engine
 - d. Railroad
 - e. Plight of Factory Workers
 - f. Child Labor
3. Skill Objective(s)
 - a. The students will use chronology to examine and explain historical relationships.
 - b. The students will be able to obtain and analyze historical data to answer questions.
 - c. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - d. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
 - e. The students will be able to analyze and evaluate how transportation improved during the Industrial Revolution for the rapid movement of goods.
 - f. The students will be able to relate the daily life of children and families during the Industrial Revolution.

B. *Materials*

1. Encyclopedia
2. Text book
3. Computer
4. Library books
5. Class books
6. Research Information (Appendices C-1-C-6)
7. Internet

C. *Key Vocabulary*

Review from previous lesson

D. *Procedures/Activities*

1. Begin the lesson by saying, “We are going to begin with a review over the last three days on the information that has been covered and the notes that the students have taken.” Questions that can be asked to the students include:
 - a. Where did the Industrial Revolution begin?

- b. What did children go through during these times?
- c. Why was the railroad so important?
- d. What is the Macadam Road?
- e. Why were people moving into the cities?
- f. What is the Flying Shuttle?

These are a few questions to review with the students. If the students are having trouble answering any of the questions, they need to be encouraged to use the previous day's notes to find the answers.

- 2. The teacher will continue by explaining the next activity. Today and tomorrow the students will have a research topic that they have to research in detail and then present the information to the class (Appendices C1-C6). The teacher will already have the class divided into groups of four. The teacher will show the class the research topic for group number one and explain in detail what is expected of each group. Group one's first topic is railroads. Who built them? The group needs to give the name of who invented the railroads and how improvements were made. Why were they so important to people and at this time of the Industrial Revolution? What was the date of when they were invented and where were the first railroads built? How were they used and what were the tunnels for? Did they have to build the bridges and tunnels? Who built the railroads? Who was George Stephenson? The groups will have several resources available: encyclopedia, textbook, computer, Internet, and the library books that we have available in the classroom. Tell the students to keep the topics in order, so the class can follow along when they present the information. The students will all have to have notebook paper out and be writing information down.

E. *Assessment/Evaluation*

- 1. The teacher will observe student's participation throughout the next two days on their group involvement.
- 2. The teacher will continuously be walking around to see what progress they are making and writing down.

Lesson Three: Industrial Revolution Research Information

A. *Daily Objectives*

- 1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
- 2. Lesson Content
 - a. Industrial Revolution
 - b. English Textile Industry
 - c. Steam Engine
 - d. Railroad

- e. Plight of Factory Workers
 - f. Child Labor
3. Skill Objective(s)
- a. The students will use chronology to examine and explain historical relationships.
 - b. The students will be able to obtain and analyze historical data to answer questions.
 - c. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - d. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
 - e. The students will be able to analyze and evaluate how transportation improved during the Industrial Revolution for the rapid movement of goods.
 - f. The students will be able to relate the daily life of children and families during the Industrial Revolution.

B. *Materials*

- 1. Industrial Revolution Research Notes worksheet (Appendices D1-D3)
- 2. Vocabulary Worksheet (Appendix B)
- 3. Research Information (Appendices C1-C6)
- 4. Comparing Periods in History Worksheet (Appendix E)
- 5. Overhead projector
- 6. Markers

C. *Key Vocabulary*

- 1. Cotton Gin - cotton-cleaning machine
- 2. Tenements - apartments that meet minimum standards
- 3. Interchangeable Parts - machine parts made to a uniform size so they could be easily replaced
- 4. Automation - process in which machines replace workers
- 5. Trade Unions - association of workers
- 6. Internal Combustion Engine - engine that is fueled by gasoline

D. *Procedures/Activities*

- 1. The students have had the previous two days researching information on their given topic. The class will have an Industrial Revolution research notes worksheet (Appendix D1-D3) that has been divided up into all the topics that the class has researched. Every student in the group needs to explain one part of the information that has been researched. Example: the first section is conditions of labor, one student will talk about factories and another student will discuss unions, etc. Every member of the group needs to participate. The teacher will have an overhead (Appendices D1-D3) and will fill in the overhead with information as the student is presenting the topic that has been researched. Each group will present information on topics. The presentations will last over a two-day period. After all of the presentations have been given a quiz

will be given, to the students over the information that has been presented. (Appendix F)

2. The teacher will now have the students compare periods in history. The teacher will do this by talking to the students about how times have been different between parents, grandparents and children now. The students will be given a worksheet on comparing periods throughout history (Appendix E). The students need to go home and visit with either their parents and/or grandparents and ask what things have changed since their childhood. For example, one might compare carts pulled by horses to the cars of today. Students may want to ask if technology was prospering and if they had CD players or microwaves, and if not, what things were used or popular. Students will also need to compare similarities, for example, roads have always been present.

E. *Assessment/Evaluation*

1. The teacher will grade the student's research notes for accuracy, participation and completion (total points 20).
2. The teacher will check the student's Comparing Periods in History worksheet for completion and understanding (total points 15).

Lesson Four: Thomas Edison

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
2. Lesson Content
 - a. Industrial Revolution
 - b. Inventors and Inventions
3. Skill Objective(s)
 - a. The students will know the general chronological order of people and events in history.
 - b. The students will be able to chronologically organize historical events and people.
 - c. The students will use chronology to examine and explain historical relationships.
 - d. The students will be able to obtain and analyze historical data to answer question.
 - e. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - f. The students will be able to identify and match the invention to their inventor.

B. *Materials*

1. Thomas Edison Lecture Notes (Appendix G)

2. Paper to take notes
 3. Industrial Revolution A-Z worksheet (Appendix H)
- C. *Key Vocabulary*
1. Patent - a legal document giving the inventor of some items sole rights to manufacture or sell the item
 2. Trademark - a word, picture, or design that shows that a product is made by a particular company
- D. *Procedures/Activities*
1. The teacher will begin by talking to the class about all of the inventions that were being invented during this time and how inventions were changing our world. Example: Spinning Jenny, Cotton Gin, Flying Shuttle, etc. Inventors were a large part and many of them became famous for the inventions that they patented. Ask the students to recall some of the inventors that they have heard about through the unit. The students should give the names of James Watt, Samuel Morse, Eli Whitney, etc. Tell the students that today we are going to learn about another famous inventor of this time that we haven't talked about yet. Can anyone think of who this inventor maybe? No. What if I give you a hint? He invented the light bulb. Everyone's hands are raised. Yes, Thomas Edison.
 2. The teacher is now going to have the students shut their eyes for a minute and think about what they already know about Thomas Edison. While they are thinking, the teacher will tell them that the next activity is going to be a mapping activity about Edison on the board. Remind them that they have done a mapping activity before and that they are going to raise their hand and give any prior knowledge that they have on Thomas Edison. The teacher will ask the students, "Where do you think we should begin?" Let the students do the talking, but if the teacher needs to help or guide, here are some questions that may help them remember important information on Edison. What has Edison invented? Why is he so famous? Does anyone know when he was born or died? Where did his first invention take place? Did he only invent the light bulb? After you have had the students brainstorm, tell them that we are now going to have a lecture on Thomas Edison and that we can add information to the mapping activity after we have learned some more interesting facts.
 3. The teacher will now continue with a lecture on Thomas Edison (use Appendix G). Remind students that they should continue to take notes to put with their other notes on Industrial Revolution and also watch for vocabulary words that may need to be added to their vocabulary worksheet. After the teacher is done lecturing, the class will finish up the mapping activity.
 4. The teacher will tell the students that there will be a quiz over Thomas Edison tomorrow. The teacher will also tell the students that tomorrow they will be researching more on important inventors during the Industrial Revolution. The teacher will go ahead and tell the students

what group they are in and what inventor they will be researching more about. The teacher will tell them that they may want to explore the Internet or see what other resources they may be able to find for tomorrow's activity. Students should be grouped in the following groups: Group #1 – James Watt, Group #2 – Samuel Morse, Group #3 – Jethro Tull, Group #4 - Eli Whitney, Group #5 – John Kay, and Group #6 – Cyrus McCormick.

5. The teacher will end the day by handing out an A-Z worksheet (Appendix H). This assignment will allow the students to list facts, inventions, inventors, or any relative information about the Industrial Revolution. They need to fill in all of the letters from A-Z.

E. *Assessment/Evaluation*

1. The teacher will check the student's A-Z worksheet (total points 26).
2. The teacher will observe student participation in class discussion.

Lesson Five: Inventions, Inventions!!!!

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
2. Lesson Content
 - a. Industrial Revolution
 - b. Inventors and Inventions
3. Skill Objective(s)
 - a. The students will know the general chronological order of people and events in history.
 - b. The students will be able to chronologically organize historical events and people.
 - c. The students will use chronology to examine and explain historical relationships.
 - d. The students will be able to obtain and analyze historical data to answer questions.
 - e. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - f. The students will be able to identify and match the invention to their inventor.

B. *Materials*

1. Overhead Projector
2. Inventor list: Cyrus McCormick, Samuel Morse, James Watt, Eli Whitney, John Kay
3. Poster Board
4. Markers

5. Magazines
 6. Construction paper
 7. Scissors
 8. Glue
 9. Encyclopedia
 10. Internet
 11. Text book
 12. Resource books
 13. Thomas Edison Quiz (Appendix I)
- C. *Key Vocabulary*
Review from previous lessons
- D. *Procedures/Activities*
1. The teacher will begin by saying, “We are going to start by reviewing important concepts from yesterday’s lessons. What was one of Thomas Edison’s most successful inventions? Why were so many inventions being patented during this time? What caused the death of Edison?” The teacher will then give the students a quiz over the information that was presented on Thomas Edison yesterday (Appendix I).
 2. After the quiz the students will begin brainstorming on other inventors that were a large part of this time period. Tell the students to think about the inventors that we have briefly discussed throughout the unit. Questions will be asked such as: What things were being invented, how long did it take for inventors to make an invention successful? After the discussion on inventors, tell the students that they are going to do research on an inventor of this time period. You have already been assigned your group and the inventor that you will be researching.
 3. The students will increase the knowledge on how the inventions and inventors affected their own lives and lives of others. The teacher will explain that each presentation/poster has to promote the invention and inventor. The teacher will present the requirements that the students need to have on their poster: name and picture of inventor, why they are famous, when was the invention invented, how has the invention affected our lives, fun fact and any other information that you would like to add. If the inventor has had several inventions, focus on one or two and just mention the other ones. The teacher will add that all of the group members have to present a part of the poster and show that they have contributed with the poster.
 4. The students will work cooperatively for a period and a half to complete the poster. Remember that the poster should be a reflection of the inventor and their invention or inventions.
 5. The students will spend the rest of the day presenting and the next day as well.
- E. *Assessment/Evaluation*
1. The teacher will use the quiz to assess each student’s progress (total points: 10).
 2. The teacher will observe student participation in the group activity.

3. The teacher will grade the poster presentation on the information presented (total points: 25 per student).

Lesson Six: How the Workers Really Lived!

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
2. Lesson Content from *Core Knowledge Sequence-6th grade*
 - a. Industrial Revolution
 - b. Plight of Factory Workers
 - c. Child Labor
 - d. Inventors and Inventions
3. Skill Objective(s)
 - a. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - b. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
 - c. The students will be able to relate the daily life of children and families during the Industrial Revolution.

B. *Materials*

1. Cup for each pair of students
2. Bowl of pinto beans for each student
3. Spoon for each pair of students

C. *Key Vocabulary*

Review the previous lessons

D. *Procedures/Activities*

1. The teacher will start off by saying, "During this unit we have been studying the Industrial Revolution and the effect that it had on the world. We are going to get a first hand idea of what hardships the factory workers and children faced everyday in their work environments."
2. The teacher will have the students paired up for the activity. The teacher will then ask the students to recall prior knowledge given on what consequences the workers suffered for talking or showing up late to work. Students should come to the conclusion that with either of these factors that the worker was often fined or fired. Today we are going to go back in time and pretend that we are in the work force during this time period.
3. The teacher will explain that each pair of students will have a cup, a bowl of pinto beans, and a spoon. The purpose of this activity is to show how repetitious and tedious the work was in the factories. Students will be expected to take three beans from the bowl, using the spoon, and

hand the spoon to their partner. The partner will then have to place the three beans, without dropping them, in the cup. Each bean placed in the cup shall be counted and kept track of. The students must also choose only firm, well-uniformed beans to place in the cup. The end result is for students to get the cup filled with 250 beans. However, keeping in mind the work conditions of the past, students will not be allowed to come to class tardy the day of the activity, sing, talk, move around etc. If they do, the students will be “fired” and not allowed to work any longer. Students who fail to follow the job requirements will have to complete a two-page paper on why they are no longer employed and how they will now provide for themselves and their families. Students will be competing against each other for a higher “salary.” The pair to complete the most filled cups with 250 beans each and have the highest quality beans within the specified time limit of 30 minutes, will be given the raise in pay.

4. After the activity is done the teacher will pay every employee who qualified five cents for the day. Then the teacher will give a raise to the employees who filled the most cups.
5. The teacher will then reinforce the fact that it is almost unimaginable to have the conditions that were in affect in the past. A discussion will be held to see how the students felt and why.

E. *Assessment/Evaluation*

1. The completion of filled cups in the activity.
2. The participation of the students in the activity
3. The discussion on what the students learned and how this activity made them feel.

Lesson Eight: Unit Test

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students know and understand chronological organization of history and are able to group people and events into major eras to identify and explain historical relationships.
 - b. Students know how to use various processes and resources of historical inquiry.
2. Lesson Content
 - a. Industrial Revolution
 - b. English Textile Industry
 - c. Steam Engine
 - d. Railroad
 - e. Plight of Factory Workers
 - g. Child Labor
 - h. Inventors and Inventions
3. Skill Objective(s)
 - a. The students will use chronology to examine and explain historical relationships.

- b. The students will be able to obtain and analyze historical data to answer questions.
 - c. The students will be able to apply knowledge of the past to analyze present-day issues and events from multiple perspectives.
 - d. The students will be able to discuss and describe the effects and the development of the Industrial Revolution.
 - e. The students will be able to identify and match the invention to their inventor.
 - f. The students will be able to analyze and evaluate how transportation improved during the Industrial Revolution for the rapid movement of goods.
 - g. The students will be able to relate the daily life of children and families during the Industrial Revolution.
- B. *Materials*
- 1. Unit Test over Industrial Revolution (Appendices J1-J4)
- C. *Key Vocabulary*
- All of the previous vocabulary
- D. *Procedures/Activities*
- 1. The teacher will begin by saying, “We have been studying the Industrial Revolution for the past couple of weeks and now we are going to take the final examination.” Make sure you read all of the directions and remember what we have been talking about. You have all hour to complete the test.
- E. *Assessment/Evaluation*
- 1. The final examination will check for understanding on this unit (total points possible: 75).

VI. HANDOUTS/WORKSHEETS

- A. Appendix A-1: Introduction to the Industrial Revolution (two pages)
- B. Appendix A-2: Social Classes
- C. Appendix A-3: Railroad and Transportation
- D. Appendix A-4: Child Labor
- E. Appendix A-5: Textile Industry (two pages)
- F. Appendix A-6: Factory Workers
- G. Appendix B-1: Industrial Revolution Vocabulary Words (two pages)
- H. Appendix C-1: Group #1 Assignment
- I. Appendix C-2: Group #2 Assignment
- J. Appendix C-3: Group #3 Assignment
- K. Appendix C-4: Group #4 Assignment
- L. Appendix C-5: Group #5 Assignment
- M. Appendix C-6: Group #6 Assignment
- N. Appendix D-1: Industrial Revolution Research Notes
- O. Appendix D-2: Industrial Revolution Research Notes, continued
- P. Appendix D-3: Industrial Revolution Research Notes, continued
- Q. Appendix E: Comparing Periods in History

R.	Appendix F:	Research Quiz
S.	Appendix G:	Thomas Edison (two pages)
T.	Appendix H:	Industrial Revolution A-Z
U.	Appendix I:	Thomas Edison Quiz
V.	Appendix J-1:	Industrial Revolution Final Exam
W.	Appendix J-2:	Industrial Revolution Final Exam, continued
X.	Appendix J-3:	Industrial Revolution Final Exam, continued
Y.	Appendix J-4:	Industrial Revolution Final Exam, continued

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Introduction to the Industrial Revolution

In the early 1700's, life in the European countries was slow, quiet and simple. Mostly everyone lived in the country, farmed and made almost everything that they needed themselves. This included food, furniture, clothes and much, much more. Most of these farmers did not own their land/property; but they were poor peasants who paid rent to landowners. Everything around them was natural, including power sources. The only power sources available were carts pulled by horses, mules or oxen. When one had to seed or harvest crops; they did it themselves, by hand. However, many did use mills powered by water and wind. Everyday objects were made by hand or craftsmen, as industries were still few and far between. Some examples of every day objects used were sickles used to cut grasses and harvesting crops, and hand-crafted tools used for everyday farm life.

Then around the 1750's, Great Britain started to change. The population grew by three times. More staples of life were needed for survival including food, clothing, etc. Many new inventions were beginning to take the place of hand-done craftsmanship. And farming was very closely scrutinized i.e. better soil, better systems of planting and harvesting, and irrigation processes. For the most part, this change was positive and accepted by the people of the land. A few of the major negative changes were that the smaller farmers could no longer survive in a world expanding so fast and factories becoming so powerful. This in turn forced many workers out of their homes and from the jobs they enjoyed. Workers, including women and children, were now expected and often forced to work hard, long hours in unsafe and unbearable environments. However, the Industrial Revolution brought on many positive changes that stimulated the growth in our country. A few of these changes included the flourishing of factories and industries, more efficient farming techniques and better power sources. Good or bad, all changes lead to the change of our world from rural to urban America.

Questions

What started the Industrial Revolution? Answers will vary

What were some of the positive effects during the Industrial Revolution? More efficient farming, better power sources, etc.

Where did the Industrial Revolution begin? Great Britain

Appendix A-2-A Time of Great Change

Social Classes

England had two major social classes, the nobles and the peasants. The nobles were considered the upper class people and the peasants were the lower class. However, during the Industrial Revolution a new middle class evolved and flourished. This class was composed mainly of merchants. This class grew in numbers and wealth quickly. It was during the Industrial Revolution that the middle class, railroad, factory and mine owners, not only became wealthy, but they became as wealthy as the nobles. They began dressing like the nobles in lacy coats, hooped skirts, dark suits, stiff straw hats and top hats. The middle class also began cooking like the nobles and having classy, expensive dinner parties. This new middle class changed many things in England, but of them all, the most important may have been the gaining of political power. Male members of this middle class gained the right to vote and be represented in Parliament.

However, the Industrial Revolution did not benefit everyone. The Revolution not only created a middle class, but it created an industrial working class. This class was comprised of peasants who could no longer support themselves or their families by farming. The peasants did not own any land so they had nothing to sell when times turned so tough. This, in turn, evolved into the peasants selling their labor in order to live. The Industrial Revolution was a nightmare for these people. They had to work up to sixteen hours a day, six days a week, for low wages. The peasants were also fined or fired if they could not keep up with their expected and often unrealistic, work duties. Many were injured and killed due to unsafe working conditions. Even more devastating during this period was the fact that children were often injured and killed while doing difficult and unsafe work.

Questions

What were the two major social classes? Nobles and Peasants

What changes were being made to the different social classes? Answers will vary

What was the working class? This class was made up of peasants who could no longer support themselves or their families by farming.

Appendix A-3-A Time of Great Change

Railroad and Transportation

The rapid growth of production was steadily growing and production was getting faster with each new development. But, wait they had another problem. Products were being produced faster than people could get them delivered. They needed the finished products to be moved quicker and cheaper. In the late 1700's the British began to make improvements on their roads. Thomas Telford was one engineer who designed roadbeds so that water would drain off the roads. John L. McAdam developed a **Macadam Road** which was a surface made of layers of crushed stone. Other improvements that were being made included rivers, which were being constructed wider and deeper, and canals were being built to connect navigable rivers to factory and mining center. The most important improvement was the railroad. Why? Do you think this helped transporting goods faster? How were railroads built? Do you think they were like the railroads today. Answers will vary. This improvement was dramatic. Soon the production of iron grew, and iron railways were replacing wooden railroads. Did iron make a big difference over wooden railroads? Why? This made it easier to carry heavy loads. Soon after the railroad was a big success, the biggest improvement for transportation was in the waterways. Does anyone have any ideas? It was the invention of the steamboat. Robert Fulton was the inventor of the steamboat.

Questions

What is Macadam Road? It's a surface of layers of crushed stone

Who was the inventor of the steamboat? Robert Fulton

Ask the students if all of these changes were necessary? Yes, they were needed to make productivity faster and more successful.

Do we still use the railroad system? Yes. How? Answers will vary.

What other ways have we made transportation faster? Answers will vary.

Do you think that inventors will keep making inventions to transport goods and people to places faster. Yes

Appendix A-4-A Time of Great Change

Child Labor

The teacher is going to begin by asking the students what they consider a hard day's work? What kind of chores do their parents expect of them? Do they get paid? How many hours/minutes do they work a day? What age did you begin working? We are going to now talk about the hardships that children face at a very young during this time period. Children did not have it easy back then. Children worked in dangerous factories, coalmines and other hard labor jobs. Children would start working as young as five years old and some times even younger. They had very long working hours, which would start as early as 3:00 a.m. and they were expected to work 12-16 hours a day. They were paid very little. Factories wanted children to work because they were cheaper labor than adults. The jobs that were expected of them were often very dangerous and difficult. Many boys had to guide ponies and donkeys through the mines. There were many dangers involved in working in the mine, such as explosions, floods, cave-ins and black lung. Black lung was a respiratory disease caused by breathing coal dust. Many girls worked hard in the factories. Most women worked in the textile industry. Children did not have the opportunity to attend school or even get to play with other children. The teacher will ask the students how they feel about this. Does school look so bad? Do you still feel like you are overworked and under paid? How do you think you would have enjoyed being a child during these times?

Questions

Why did children have to work in factories? Cheap labor and they were expected to.

How many hours a day did they work? 12-16 hours

Describe life in the factories for a typical child worker. Varied answers

Textile Industry

Does anyone know what the word “textile” means? The word textile is Latin, which means, “to weave”; which was originally meant to describe a fabric that was made of woven fibers. That is not what it is today. Ask the students how many of their great-grandmothers sewed. You will see that most of the students will raise their hands; then, ask them how many of their grandmas and mothers sew. You will notice that the number of hands will be less each time. Now ask the students how many of them know how to sew. Why? Ask the students why sewing isn’t a big deal anymore. Our mothers and grandmothers no longer spend endless hours sewing. If you and your family aren’t making your clothes, then where are you getting your clothes? Most of the students will say from a department store, Wal-Mart, the mall, etc. They are very correct. Today a large number of fabrics are used and produced at a very fast pace. This process began back in England during the Industrial Revolution. In the past, production of clothing was being done in cottages, where families worked together. As technology advanced, the production of clothing needed to advance as well. How would we make the production faster? Well, first you have to spin cotton to make yarn; and something was needed to make this happen. Inventor John Kay invented the flying shuttle in 1733. The workers would use hand-powered spinning wheels and looms; the workers would spin the threads and weave it into wool and cotton cloth. In the 1760’s, inventors had come up with a new machine to make cotton spin much faster. This helped weavers turn yarn into cloth. But, this was just the beginning of inventions. The **Flying Shuttle** is a weaving device that carries thread quickly back and forth across the piece being woven. This device was mounted on rollers and one weaver could send it rapidly from one side of the loom to another. This process cut the time needed to weave cloth in half.

This now created another problem, which was that the production of thread was not fast enough. Can you see a pattern? Yes, this time period was changing very rapidly and new inventions were being developed to make things better and to produce things better and faster.

The next invention was the Spinning Jenny, which was invented in 1765 by James Hargreaves. The **Spinning Jenny** was a machine that allowed a single spinner to spin eight threads simultaneously. This was a very important invention. Does anyone know who worked in the textile industry? Mostly women.

Appendix A-5, page 2-A Time of Great Change

Questions

What is the flying shuttle? It is a weaving device that carries thread quickly back and forth across the piece being woven.

Who invented the flying shuttle? John Kay

What does the word “textile” mean? “to weave”

Appendix A-6-A Time of Great Change

Factory Workers

Yuck! Yuck is a word that just begins to describe what life was like being a factory worker. Factory workers were up early and home late. Everyone had different jobs and responsibilities. Some jobs would consist of standing in one place all day long and running a machine, or working 14 to 15 hour days. The worker's health suffered dramatically, their ears would hurt from the consistent noise, and the stale air would make their lungs grow weak. They would also suffer from a respiratory disease, which was called byssinosis, caused by breathing in the cotton dust. These are just a few of the many health hazards caused by the awful working conditions. There were no safety guards on any of the machinery so accidents were very common. The women's long hair would get caught in the machinery and the young "scavengers" who swept the waste from the cotton under the machines would get hurt. It was very common to get body parts caught in the machinery, which would result in the loss of a finger or even a hand.

You did not dare miss one day of work because the penalty would result in paying a fine. You could even lose a quarter for the day if you showed up late. You couldn't talk to anyone else or even sit down. Talking back to your boss would immediately get you fired.

Questions for Factory Workers

What is the respiratory disease called "byssinosis" caused from? Cotton dust

How much did it cost you if you showed up late? A quarter

How could you lose a finger or a hand? By getting it caught in the machines

Appendix B-1, page 1-A Time of Great Change

Name _____

Industrial Revolution

Define the following vocabulary words. Make sure you have the correct definition, which is clear and relates to the chapter. Begin each definition with a capital letter. Remember to use complete sentences and end each sentence with a period.

Spinning Jenny _____

Cotton Gin _____

Flying Shuttle _____

Interchangeable Parts _____

Automation _____

Macadam Road _____

Trade Unions _____

Industrialize _____

Immigrants _____

Internal Combustion Engine _____

Appendix B-1, page 2-A Time of Great Change

Abolition _____

Prohibit _____

Discriminate _____

Tenements _____

Patent _____

Trademark _____

Tenants _____



Appendix C-1-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group #1

Railroads

- who built them
- why they were so important
- when they were invented and where
- how iron helped
- bridges and tunnels
- who built the railroads
- George Stephenson's "Rocket"

Canals and New Highways

- what were the canals used for
- what improvements were being made
- why did they want to build new highways
- who built them
- how did these improvements help

Appendix C-2-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group #2

Child labor practices

- where this was most prevalent
- why families allowed it
- how old the children were
- what kind of jobs they did
- how long they worked
- how much they were paid

Conditions of labor (in general)

- factory conditions
- who worked in the factories
- what kind of factories they worked in
- unions
 - American Federation of Labor
 - Samuel Gompers
 - strikes
- the advent of Labor Day
- disasters at the work place
 - dangerous jobs

Appendix C-3-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group #3

Life in the cities

- what cities grew the most
- the size of an apartment
 - how many people lived in an apartment
 - what the rent was
 - what amenities were offered
 - conditions in general
- means of transportation
 - trolley, horses, when did cars come in?
- pollution – was it a problem yet?
- newer buildings
 - how fast they were being built
 - why they were being built
 - famous buildings

Life from villages to factory towns

- why were people moving
- what did factory towns have to offer
- what were they leaving behind in the villages

Appendix C-4-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group #4

Violent Resistance:

- Luddities
 - who were they
 - what did they want
 - what happened if people were caught
 - Ned Ludd
 - why were they so violent
 - how did they show their anger
- When did the Luddite movement end
 - what was the next step taken

Appendix C-5-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group #5

Inventions and Inventors

- cotton gin
- steam engine
- assembly line
 - invented by whom
 - used to assemble what?
 - who worked on the assembly line
- telegraph
- telephone
- phonograph
- how these inventions changed life as it had been

Appendix C-6-A Time of Great Change

Your assignment is to research the topics that have been chosen for you and your group. You are to find information that relates to the subject and information that you can share to the rest of the class, after your research is done. You need to find enough information to represent the topic and get your point across to the class. Your resources are the encyclopedia, textbook, computer, and the library books that we have available in the classroom.

Group # 6

Tractors and farming machines

- Jethro Tull
- Cyrus McCormick
- James Watt
- Thomas Edison
- Samuel Morse

Iron and steel mills

- why are they significant
- how were they used
- why did we need them

Revolution in textiles

- Eli Whitney
 - who was he
 - what accomplishments did he have
 - what was he known for
- Cotton gin
- Factory production

Appendix D-1-A Time of Great Change

Name _____

Industrial Revolution Research Notes

Railroads, Canals, and New Highways

Who: _____

Why: _____

When: _____

How Iron helped: _____

George Stephenson: _____

Improvements: _____

Where were they invented: _____

Canals: _____

Child Labor Practices and Conditions of Labor

Where: _____

Why: _____

How: _____

Pay: _____

AFL: _____

Working Conditions: _____

Hours and Wages: _____

Unions: _____

Labor Day: _____

Dangerous Jobs: _____

Life in the Cities and Life from Villages to Factory towns

Which grew: _____

Apartments: _____

Appendix D-2-A Time of Great Change

Pollution: _____

Why the move: _____

Transportation: _____

What did they leave behind in villages: _____

Violent Resistance- Luddities

Who were they: _____

What did they want: _____

What happened: _____

Why: _____

How did they show anger: _____

Luddite movement end: _____

Next: _____

Inventions and Inventors

Cotton Gin: _____

Steam Engine: _____

Assembly Line: _____

Telegraph: _____

Telephone: _____

Phonograph: _____

Life changes: _____

Why so many inventions: _____

Machines, Iron and Steel Mills, and Revolution in Textiles

Jethro Tull: _____

Cyrus McCormick: _____

James Watt: _____

Thomas Edison: _____

Samuel Morse: _____

Iron and Steel Mills: _____

Appendix D-3-A Time of Great Change

Why: _____

How were they used: _____

Eli Whitney: _____

Accomplishments: _____

Factory Production: _____

Appendix E-A Time of Great Change

Name _____

Comparing Periods in History

Write as many ways as you can think of that life was similar like when your parents or grandparents were growing up. Then write the ways that life was different for them. Examples: inventions, life styles, jobs, laws.

Ways Life Was Similar (somewhat alike)	Ways Life Was Different

Appendix F-A Time of Great Change

Name _____ 10 points possible

Research Quiz

1. What does AFL stand for? _____
2. What was Eli Whitney known for? _____
3. Why did factories want children to work for them? _____
4. List two characteristics of what most apartments were like in the city? _____
5. What did James Watt invent? _____
6. Why do we have Labor Day? _____

7. Name two of Thomas Edison's Inventions.

8. What were the Luddities know for? _____

9. Where did the Industrial Revolution begin? _____
10. Why were new railroads being developed? _____

Thomas Edison

Thomas Alva Edison was born on February 11, 1847 in Milan, Ohio. He was the youngest of seven children. Thomas was named after his great uncle and his middle name was given to him from a family friend. Thomas Edison had six rules of inventing: 1) Don't invent useless things, 2) Set a goal and stick to it, 3) List the steps for reaching your goal then follow them, 4) Share all data with your team of inventors, 5) Assign each team member a specific job, and 6) Keep very careful records, that way you can go back and learn from your mistakes and successes.

Edison is most famous from inventing the electric light bulb. However, Edison did not invent a way to produce the electricity or even the first electrical lighting. He found a way to make use of electricity for lighting homes and businesses on a grand scale. On September 4, 1882 in a New York financial district, a switch was pulled and the first 85 customers of the Edison illuminating company of New York lit their electric lamps. From the start of this project, it took Edison and his team four years to officially invent a working light bulb.

This was not his only invention. On the contrary, Edison's life was dedicated to long hours of hard work. He had several remarkable inventions including his first patented invention, an electric vote recorder. This was patented when Edison was only 22 years old; however, he never sold one of these vote recorders. He also invented the stock ticker, the phonograph, and the motion picture camera called a kinetograph. During Edison's life he patented 1,093 inventions. In 1915 he became head of the Naval Consulting Board where he led research on torpedoes and anti-submarines. The Navy awarded him the

Appendix G, page 2-A Time of Great Change

Distinguished Service Medal, the first ever given to a civilian.

Edison had a very successful life and is still extremely famous and well known today. His inventions continue to be a main part of our every day lives. Thomas began getting weak from years of hard work and poor eating habits. Edison died on October 18, 1931 at the age of 84. The night of his funeral, for one minute the country remembered him by dimming their lights to recognize the person who had given them light.

Appendix H-A Time of Great Change

Name _____

Industrial Revolution A-Z

Directions: We have covered a lot of information over the last week on Industrial Revolution. I want you to fill a word in for every letter of the alphabet. You may use any of your notes or resources that you have available. Be creative and think hard.

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

J _____

K _____

L _____

M _____

N _____

O _____

P _____

Q _____

R _____

S _____

T _____

U _____

V _____

W _____

X _____

Y _____

Z _____

Appendix I-A Time of Great Change

Name _____

Thomas Edison Quiz

1. Thomas Edison received patents for _____ (number) inventions.
2. Thomas Edison was born on_____.
3. What caused the death of Edison? _____
4. Who was Thomas named after? _____
5. How old was Edison when he died? _____
6. What branch of the service did Edison consult for? _____
7. What was one of Edison's six rules of inventing? _____

8. Thomas was most famous for the _____.
9. Name another invention that Edison was famous for_____.
10. How many years did it take Edison to invent the light bulb? _____

Appendix J-1-A Time of Great Change

Name _____

Industrial Revolution Final Exam

Directions: Answer the following questions with complete sentences.

1. In what ways did the cities change during the Industrial Revolution?

2. Where did the term “cottage industry “ get its name?

3. What invention signaled the beginning of the Industrial Revolution?

4. Who was the man who created the first efficient steam engine?

5. Who was the first person to invent the first effective steam locomotive?

6. Explain why coal mining was such a dangerous job.

7. Describe the working conditions in the factories during the Industrial Revolution.

8. List two reasons why factory owners hired children.

Appendix J-2-A Time of Great Change

9. How did railroads help spread the advancement of the Industrial Revolution?

10. Why did families move from farm villages to factory towns?

Match the following people with their accomplishment.

- | | |
|------------------------|-------------------|
| _____ Thomas Edison | A. Spinning Jenny |
| _____ James Watt | B. Flying Shuttle |
| _____ Samuel Morse | C. Cotton Gin |
| _____ Jethro Tull | D. Steam Engine |
| _____ Eli Whitney | E. Morse Code |
| _____ John Kay | F. Light Bulb |
| _____ Cyrus McCormick | G. Seed Drill |
| _____ James Hargreaves | H. Reaper |

Define the following vocabulary words. Make sure they are in complete sentence and are clear.

Patent- _____

Macadam Road- _____

Trade Unions- _____

Trademark- _____

Discriminate- _____

Flying Shuttle- _____
