

# The Industrial Revolution

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## Introduction:

The Industrial Revolution was a major turning point in modern history. There are few aspects of life today that are not influenced by industrialization. Some of the major changes that occurred as a result of the Industrial Revolution were: a) a new way of producing goods through mass production and the development of the factory system; b) a change in work patterns and the concept of time; c) an increase in consumer culture; and d) urbanization and a change in transportation.

## Goal:

This lesson is intended to introduce elementary students to changes that came about during the Industrial Revolution. By participating in the following activities, students will be actively involved in a factory system, work with primary documents, make comparisons

between their lives and those of workers in the 19th century, and design a World's Fair in their own classroom. The activities are also intended to help students consider how some of the social issues of the Industrial Revolution relate to their lives today.

## National Standards:

This lesson plan addresses the NCSS Curriculum Standards associated with the themes of :

- Culture
- Time, Continuity and Change
- People, Places, and Environments
- Individuals, Groups, and Institutions
- Production, Distribution, and Consumption
- Science, Technology, and Society
- Civic Ideals and Practices

## Activity #1: (Primary, Intermediate, and Upper)

### What do these words mean?

#### Your Task:

This activity will familiarize students with words and phrases associated with the Industrial Revolution. It can also be used to gauge how much students already know about the Industrial Revolution. Teachers can divide the class into groups or have students work individually. The teacher will present a word bank to students and give them a set amount of time to create a story using some or all of the words and phrases provided. For upper elementary, students can be told that the topic of the lesson is the Industrial Revolution. Students can be encouraged to guess what the words mean when they write their stories.

After students finish writing their stories they can present them to the class and compare. The teacher can then discuss the real meaning of the words and how they relate to the Industrial Revolution. Teachers can also give students a timeline and context for understanding the time period this lesson plan will cover.

#### WORD BANK

|                   |               |
|-------------------|---------------|
| steam engine      | immigration   |
| tenement          | factories     |
| railroad          | child labor   |
| cottage industry  | urban         |
| agriculture       | reformers     |
| World's Fair      | mills         |
| Mississippi River | potato famine |
| 12 to 16 hours    | Lowell, MA    |

## Activity #2: (Primary, Intermediate, and Upper) “Time is Money” Individual or Assembly Line

(Reference: Dr. Carolyn Malone)



One of the major changes during the Industrial Revolution was a change in the way people did their jobs. The focus in pre-Industrial times was on completing a task. Workers were often in control of their own time and worked irregular hours. As long as the task was finished, this was acceptable.

For example, the cotton industry was a “cottage industry.” Cloth was spun and woven in the homes of workers in the countryside. It was a “putting out” system where merchants would put out the raw materials (cotton) to the cottage workers. Often, a whole family of workers would be involved in the process. At the end of the week the merchant would collect the finished products and pay the family.

This pattern changed during the Industrial Revolution. Time was highly regulated and producing the most products in the shortest amount of time became all important. The phrase “time is money” describes the new focus of the work pattern.

This activity will provide an interactive introduction to why there was a move to the factory model. It is designed to spark student interest and have them consider not only how an assembly line works, and its advantages and disadvantages, but also what it is like to produce the same item over and over. Assembly lines eventually became an important part of factory life.

### Your Task:

Teachers can break the class into two groups. One half of the class will be responsible for putting together an item individually. The second half will be organized into an assembly line and will put together the same item. The object will be to compare the number of products produced and the quality of the finished products.

The item can be the teacher’s choice, but ideally the teacher can find an item or model of an item that is produced in the local area. For example, if a school is located near a car manufacturing plant, perhaps the item would be a paper car.

Once the class is divided into two groups, the students that are working individually will be given all the items they need (i.e. paper with car parts drawn on it, glue, fasteners, crayons) and will be told to make a car by themselves. They will be instructed to produce a certain number of finished products within the allotted amount of time. The second group will be organized in a line and each student will be given a specific task. For example, one student will cut out the car, another will color, etc. After a certain length of time (30-50 minutes), the teacher will stop the class and count the number of finished products each group has produced. Presumably the assembly line group will produce more goods and therefore, will show how assembly lines and factories sped up production. Teachers can also compare whether the assembly line group or the individual producers group put together a better product, and discuss why.

## Activity #3: (Primary, Intermediate, and Upper) The Downside of the Industrial Revolution

The factory became a symbol of the Industrial Revolution as growing numbers of people toiled for long hours inside these structures. In the mills, workers came primarily from rural New England, and it was mostly women who worked in the new textile and shoe factories. In fact, they made up more than 80% of the labor force in the large textile factories. The mill town typically had company boarding

houses that provided rooms for large numbers of young women who worked for several years before marriage.

### Your Task:

Before this activity begins, the teacher can ask older students to keep a log of their activities for one day. For younger students the teacher may want to write down a

## Activity #3: The Downside of the Industrial Revolution (continued)

general schedule with the entire class. Teachers may start this activity by discussing students' daily schedules. An example of a primary source a teacher can use is *The Letters of Mary Paul* in Wyman, R. M. (2005). *America's history through young voices; Using primary sources in the K-12 social studies classroom*. Boston: Pearson.

*The Letters of Mary Paul* is a firsthand account of a 15-year-old girl who worked in the mills in Lowell, Massachusetts in 1845. In this account, Mary Paul starts off enthusiastically and is pleased about her work in the mill. In less than 3 years, her attitude changes, and she clearly becomes disgruntled. For example, in one of her early letters to her father she wrote:

1845

*We found a place in a spinning room and the next morning I went to work. I like very well have 50 cent first payment increasing every payment as I get along in work have a first rate overseer and a very good boarding place. (p. 36)*

*I get along very well with my work. I can doff as fast as any girl in our room. I think I shall have frames before long. The usual time allowed for learning is six months but I think I shall have frames before I have been in three as I get along so fast. I think that the factory is the best place for me and if any girl wants employment I advise them to come to Lowell. (p. 38)*

It did not take too long, however, for work to become very unsatisfying for Mary Paul, and in 1848 she wrote:

*It is very hard indeed and sometimes I think I shall not be able to endure it – I have never worked so hard in my life – but perhaps I shall get used to it – I shall try hard to do so – for there is no other work that I can do unless I spin and that I shall not undertake on any account – I presume you have heard before this that the wages are to be reduced on the 20th of this month – it is true... The companies pretend that they are losing immense sums every day and therefore they are obliged to lessen the wages, but this seems perfectly absurd to me for they are constantly making repairs and it seems to me that this would not be if there were really any danger of their being obliged to stop the mills. (p. 40-41)*

Teachers can also read another description of factory life in 1846 at the following website: [kentlaw.edu/ilhs/lowell.html](http://kentlaw.edu/ilhs/lowell.html).



Not all factory workers were young ladies in mill towns. The Industrial Revolution prompted people to move from the country to the city to find work in factories. In the 1830s and 1840s, there was a shortage of labor. From 1845-1851 a large number of Irish immigrated to the United States in order to escape a devastating potato famine in Ireland. Many of the English, Scottish, and Welsh who immigrated to the United States took jobs in the factories. After the turn of the 20th century, immigrants from eastern and southern Europe left their home countries and arrived in the United States in great numbers. A good example of a book that illustrates the life experiences of immigrants in large urban centers is *Tenement* by Raymond Bial.

After reading descriptions of life during the Industrial Revolution, students can return to their own schedule and compare their day with Mary Paul's. Students can discuss how they would feel if they had to work like Mary Paul and why we have laws such as a 40-hour work week.

### Schedule for Mary Paul: 13 hours

|                        |                         |
|------------------------|-------------------------|
| 4:30 am – wake up bell | 12:00 pm – dinner       |
| 5:00 am – go to mill   | 12:45 pm – back to work |
| 7:00 am – breakfast    | 7:00 pm – supper        |

## Activity #4: (Primary, Intermediate, and Upper) A Classroom World's Fair

### Introduction to the Teacher:

Teachers can create a classroom "World's Fair" to familiarize students with the resources and products associated with their community, town, city, and/or state.

The World's Fair, like the Industrial Revolution itself, did not originate in the United States, but in Britain. The first World's Fair, known as the Great Exhibition of 1851, was held in London and included 32 nations from Europe, North America, Africa, and the Far East. It was designed to teach people about machines and products being produced around the world and demonstrate the benefits of industrial progress.

New gadgets were also on display, including a pen knife with 80 blades and a new alarm clock – a bed that would pour cold water on the occupant to wake them up. One of the most impressive structures built for the exhibition was the Crystal Palace. The Palace attracted approximately 6 million visitors. For images of the Crystal Palace, you can visit [vam.ac.uk/vastatic/microsites/1202\\_printroom\\_boxes/great\\_exhibition/great\\_exhibition\\_general\\_notes.htm](http://vam.ac.uk/vastatic/microsites/1202_printroom_boxes/great_exhibition/great_exhibition_general_notes.htm).

One of the major innovations the Industrial Revolution produced was the railroad. The invention of the steam locomotive changed transportation forever. In England in 1830, the George Stephenson's Rocket on the Manchester to Liverpool Line was unveiled. This was the first public railway line. Prior to the railway, people traveled by stagecoach. A stagecoach would only travel around 16 miles an hour. A train, in contrast, could go up to 50 miles an hour. The difference was tremendous. In 1750 a typical journey from Manchester to London on stagecoach would take 80 hours. By 1845 this same trip would take just 6 hours by rail. The railroads quickly developed in Britain and the United States. They allowed people to move much more freely. The amount of people that traveled to the World's Fair is a reflection of how much easier travel had become. The World's Fair in Chicago in 1893 had over 27 million visitors.

In the United States, steamboats also became a major source of transportation. Steamboats were used on the Great Lakes, the Atlantic coastal waters, and in the rivers. By 1860 there were over a thousand steamboats traveling along the Mississippi River.

Teachers can also relate their classroom World's Fair to the World's Columbian Exposition held in Chicago in 1893. Chicago's World's Fair was the last of the great fairs and some consider it the greatest. Although it was a year late, it was intended to celebrate the 400-year anniversary of Columbus' voyage.

### Your Task:

In the classroom World's Fair students can bring the fair up to date and display objects that represent today's world. For example, students can bring in actual objects or photos of objects that are linked with technology or various popular food products produced in their local area. In 1893 products such as Juicy Fruit gum, Cream of Wheat, Shredded Wheat, Pabst Beer and Aunt Jemima syrup were all exhibited for the first time at the Chicago World's Fair.

A large part of the World's Fair was also culture. For example, Scott Joplin performed at the World's Fair in Chicago, and Dvorak's *New World Symphony* was composed to honor the fair. Buildings were also constructed to display various products from various countries. Teachers can also build in a cultural component of their local area into the classroom World's Fair.



## Activity #5: Child Labor (Then and Now)

Images of children working in factories are some of the most striking of the Industrial Revolution. A major downside of the Industrial Revolution was the dependence on child labor. Children were valuable commodities in the factories because they could do work that required smaller fingers and they could easily crawl under machines.

### Your Task:

The teacher can begin this lesson by having students web the different chores and responsibilities that they must perform each day. Again, this will serve as a comparison with work many children had to do in the Industrial Revolution.

Below are examples of images of child labor. The website [memory.loc.gov/ammem/](http://memory.loc.gov/ammem/) from The Library of Congress American Memory collection has a vast collection of images.

As the harsh conditions of child labor became publicized, reform groups emerged to try to enact more humane labor laws. In England, a report was commissioned by the Sadler's Committee to investigate child labor. The following is from one section of the report (Spielvogel, J. (2005). *Western Civilization* (3rd ed.) Belmont, CA: Wadsworth/Thomson Learning (p. 372).

*It is a very frequent thing at Mr. Marshall's [at Shrewsbury] where the least children were employed (for there were plenty working at six years of age), for Mr. Horseman to start the mill earlier in the morning than he formerly did; and provided a child should be drowsy, the overlooker walks round the room with a stick in his hand, and he touches that child on the shoulder, and says, "Come here." In a corner of the room there is an iron cistern; it is filled with water; he takes this boy, and takes him up by the legs, and dips him over head in the cistern, and sends him to work for the remained of the day....*

*Samuel Downe, age 29, factory worker living near Leeds; at the age of about ten began work at Mr. Marshall's mills at Shrewsbury, where the customary hours when work was brisk were generally 5 am to 8 pm, sometimes from 5:30 am to 8 or 9 pm:*

*What means were taken to keep the children awake and vigilant, especially at the termination of such a day's labor as you have described? – There was generally a blow or a box, or a tap with a strap, or sometimes the hand.*

*Have you yourself been strapped? – Yes, most severely, till I could not bear to sit upon a chair without having pillows, and through that I left. I was strapped both on my own legs, and then I was put upon a man's back, and then strapped and buckled with two straps to an iron pillar, and flogged, and all by one overlooker; after that he took a piece of tow, and twisted it in the shape of a cord, and put it in my mouth, and tied it behind my head.*

*He gagged you? – Yes; and then he ordered me to run round a part of the machinery where he was overlooked, and he stood at one end, and every time I came there he struck me with a stick, which I believe was an ask plant, and which he generally carried in his hand and sometimes he hit me, and sometimes he did not; and one of the men in the room came and begged me off, and that he let me go, and not beat me any more, and consequently he did.*

*You have been beaten with extraordinary severity? – Yes, I was beaten so that I had not power to cry at all, or hardly speak at one time.*

*What age were you at the time? – Between 10 and 11.*

Following from this kind of testimony, new laws were introduced to limit child labor. In England in 1833, the Factory Act stated children under age 9 could not be employed. Children between the ages of 9-13, however, could work a maximum of 8 hours a day and children between the ages of 13-18 could work a 12-hour day. In the United States, similar laws were not enacted until after the turn of the century. The Keating-Owens Child Labor Act of 1916 was passed after horrendous events like the Triangle Shirtwaist Fire in New York City. For more information about this event and to read excerpts from the Keating-Owens Act, see: [ourdocuments.gov/doc.php?flash=true&doc=59](http://ourdocuments.gov/doc.php?flash=true&doc=59).

Despite these laws, child labor has not been fully eradicated in today's world. Teachers can have students investigate where child labor is being exploited today. The website [www.teachglobaled.net](http://www.teachglobaled.net) has a wonderful list of resources and explanations that can help guide teachers in gaining resources on human rights issues such as child labor. The following website from UNICEF will also be helpful: [unicef.org/protection/index\\_childlabour.html](http://unicef.org/protection/index_childlabour.html).

## Activity #6: (Primary, Intermediate, and Upper) Local Connection

### Your Task:

Teachers can arrange to take students on a tour of a factory in their local area. Students can prepare questions about hours, safety, rules, etc. that will be asked on the tour. If a tour is not possible, perhaps a parent who works in a factory can be a guest speaker. To close the activity the

students can complete a Venn diagram to compare factories during the Industrial Revolution and today. Issues to compare can be work hours, child labor, and factory rules. The website [kentlaw.edu/ilhs/lowell.html](http://kentlaw.edu/ilhs/lowell.html) has a description of factory and boarding house rules in 1848.

