



2 HOURS

A History of American Manufacturing: People, Production and Places



• Constructed response

US HISTORY

- Slavery and Reconstruction
- Great Depression
- Great Migration
- World War II
- Labor Unions

ECONOMICS

- Post-War Economics
- Supply and Demand
- Decline of Manufacturing and its Impact on Cities
- Geographic Influence on Economics
- Availability of Resources for Production
- Market Competition

GEOGRAPHY

- Impact of Human Use and Waste
- Impact of the Physical Environment on Humans

With connections to important events in American history, students learn about the history of the Manufacturing sector, beginning with the production of stone tools by native Americans through cotton production, the rise and decline of the automobile industry, the emergence of the Rust Belt, and the recent resurgence of renewable energy industries. Students conduct a jig-saw reading activity and use a timeline to connect events in Manufacturing history with U.S. and world history events. Many links can be made to topics on the TASC.

PREP

- Prepare timelines on four of the sheets of butcher paper:
 1. Orient the paper horizontally.
 2. Draw a horizontal line through the center of the sheet as a timeline, and label it with the following dates from the history of Manufacturing readings:
8900 BC, 1000 AD, 1619, 1790, 1800, 1820, 1825, 1886, 1915–1960, 1939–1945, 2000–2010
 3. Label it with any additional dates you would like students to discuss, such as dates surrounding World War I, the Great Depression, the New Deal and globalization.

MATERIALS

- *Early American Manufacturing* reading
- *Manufacturing on the Move* reading
- *Is War Profitable?* reading
- *Reviving the Rust Belt* reading
- *Buffalo's Solar City* reading
- *Talking Points* handout
- *Manufacturing History: From Arrowheads to Urban Ag* handout
- Stickie notes—25 to each of four groups
- Butcher paper, 5-6 sheets (4 for use plus 1-2 extras) 3-5 feet long
- Markers

EXPLAIN

- 1 Today's factories use complicated, automated machines that produce products quickly, efficiently and safely, but this wasn't always the case. Manufacturing has a long history.
- 2 Divide students into five groups. Explain that each group will read about one period in Manufacturing history, and together the class will piece together a complete understanding of how Manufacturing evolved from the time of handmade stone implements to a time of 3-D printing and renewable resources. Explain that this type of reading is called a jig-saw reading. Like a jig-saw puzzle, the four groups will add their own piece of the puzzle to come to an understanding of the whole. Distribute one reading to each group—*Early American Manufacturing*, *Manufacturing on the Move*, *Is War Profitable?* and *Reviving the Rust Belt*—with each member of the group receiving a copy of that group's assigned reading.
- 3 Distribute the *Talking Points* handout.
Say: In your group you will learn about one period in Manufacturing history, then you will join members from another group to teach them about what you learned. You'll take notes about what you've read and discussed with your group that you can use when telling members from another group about your reading. You can use the worksheet to write down talking points that will help you remember what you want to share.
- 4 Talking points are usually written as key words, short phrases or a sentence that will help you remember an idea you want to talk about. Talking points are helpful when you have to give a presentation. If you write very detailed notes, you might get confused while presenting or it might appear that you are reading from a script. Talking points are a tool that can help you remember the main points you want to talk about.
- 5 First you'll read and annotate the article, then discuss it as a group. What kinds of things are you going to want to discuss with your group?
 - › *The main idea, what's important, new terms, information that might be useful to students, anything surprising or interesting, any questions you might have.*
- 6 Give students time to read, discuss, and write their talking points.
- 7 When students are finished, divide them into new groups that include at least one member from each original group. Ask each new member of the group to take turns teaching each other about what they learned from the reading in their original group, using their talking points. Groups should feel free to discuss the new information with each other and ask each other questions.

- 8 Groups should now discuss how each period in Manufacturing history led to the next. What historical events caused the Manufacturing sector to develop in the way that it did?
- 9 Distribute *Manufacturing History: From Arrowheads to Urban Ag* handout and ask all students to complete it, discussing the questions with their group, and exchanging information from the articles they read with their first group.

TASC tie-in: This handout uses constructed response, a skill tested on the TASC exam.

- 10 Discuss the answers to the handout as a class, asking students to provide evidence from the text.
- 11 Post one timeline on the wall near each group and distribute one set of 25 stickie notes to each group. Groups should write short descriptions of the events that took place during each year or time period on the timeline, then post them accordingly on the timeline.
- 12 Give groups the opportunity to write descriptions of any additional national or international events that might have impacted Manufacturing history and post the stickies according to their date on the timeline. You may want to highlight historical events you are currently or have previously studied as a class.
- 13 Each group presents their timeline, noting the events and their relationship to Manufacturing history.
- 14 **Optional extension activity:** Distribute the world map and ask groups to label important areas with the name of the city or country. On a stickie, they should write a brief description of the area's importance in Manufacturing history, and place it on the map accordingly.
- 15 **Optional Video activity:** The following brief videos depict aspects of Manufacturing history as noted. These videos can be used to practice note-taking, paraphrasing, main idea, and other important literacy skills.

Video Activity

- **I Love Lucy** in which Lucy and Ethel work on the assembly line of a chocolate factory. *3 minutes*.
<https://www.youtube.com/watch?v=WmAwcMNxGqM>
- **Charlie Chaplin Modern Times** in which Charlie works on the assembly line. *3 minutes*.
<https://www.youtube.com/watch?v=DfGs2Y5WJ14>
- **Ted Talk** about the cotton gin, including how it propelled slavery and the concept of unintended consequences of technological advances. *5 minutes*.
<https://www.youtube.com/watch?v=0SMNYivhGsc>
- **PBS American Experience** discusses the history and usage of the Erie Canal, including controversy of its construction and financing. *2 minutes*
<https://www.youtube.com/watch?v=yix8lezVvcw>
- **“The Real Rosie the Riveter”** interviews several women who worked in wartime factories. Discusses the opening of workplace opportunities for women as well as gender discrimination in the workplace. *5 minutes*
<https://www.youtube.com/watch?v=-xS3ReYgJ4Q>
- **“The Last Cast”** interviews workers from the Bethlehem, Pennsylvania steel factory about its closing in 1995. *5 minutes*
<https://www.youtube.com/watch?v=byeCZVajDdl>
- **Democracy Now** episode about D-Town Farms, the largest urban agriculture farm in Detroit. Discusses renewable resources, new uses for under-utilized land to benefit the community and creating a solution to the problem of a “food desert,” an area where healthy food is not available. *6 minutes*
<https://www.youtube.com/watch?v=aP5fqqv35g>
- **“Cultivating Community with Urban Agriculture.”** Food Shuttle is an organization in low-income Raleigh, North Carolina, that runs an urban farm and provides training for community members to learn how to grow and sell their own food. The video discusses the community gathering aspect of the farm as well as its food production.
<https://www.youtube.com/watch?v=Q15guDB-wo0>

Early American Manufacturing

Adapted from <https://www.britannica.com/topic/Native-American/Prehistory>
http://www.socialstudieshelp.com/eco_unionization.htm

Today we have high-tech factories that use digital machines, computerized laser cutters, 3-D printers, even robots, but Manufacturing underwent continual change to reach this point.

Some history books begin the story of American Manufacturing in the 1790s with Samuel Slater's textile mills, but the story begins long before that. Archaeologists have found stone spearheads, believed to have come from indigenous American cultures from 11,000 years ago. They weren't made in factories. They were items that individuals produced in order to make their lives better and easier, much like the goals of today's manufacturing. 1,000 years ago, native peoples in the American Southwest were producing painted pottery, copper bells, and homes with walls 6 inches thick and ceiling beams able to withstand intense weight. Intricate cloth and blankets were also produced, used and traded.

In 1790, colonist, Sam Slater, built his water-powered textile factory in Pawtucket, Rhode Island, based on the methods of textile manufacturing he brought from England. At the time, local craftspeople provided for their communities producing goods either in their homes or in small shops. This new era introduced factories, with machines producing items to be shipped and sold elsewhere. Over the next decade, textile was the dominant industry in the country, with hundreds of companies created.

In the late 1700s, Eli Whitney shocked patent officials when he took apart ten guns and reassembled them using parts from each one. He lived at a time when a metalsmith would



Image from http://2.bp.blogspot.com/-snpjSNgWRS4/VAM3tlOpbpl/AAAAAAAAAluA/jFDlwF5wPAw/s1600/richey_roberts_clovis_points-S_1024.jpg



Image: <http://i.ebayimg.com/images/i/151264668850-0-1/s-11000.jpg>

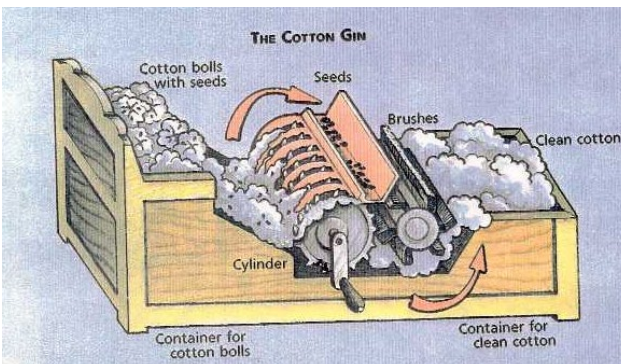


Image from <http://gilesclassroom.pbworks.com/f/1273192017/Picture%201.png>

produce by hand each part of every gun. No two products were quite the same. Whitney's milling machine allowed workers to cut metal objects identically, making interchangeable parts. It was the start of the concept of mass production.

Whitney's techniques were used to make many other products, including the cotton gin, which separated the seeds of the cotton plant from the cotton fluff, spun into thread to make textiles. This invention played a major part in expanding slavery. Because the seeds could be removed more quickly, plantation owners expected higher and higher yields of cotton to sell, buying and using more and more slaves, and demanding more work from them than ever before. These two forces, the manufacturing of weaponry and the rise of slave labor, were major factors in the Civil War.

Many industries in the United States were able to thrive because of slavery. Enslaved Africans produced and processed America's top exports—cotton, sugar and tobacco—beginning with the arrival of the first ship of enslaved Africans in 1619. The slave trade itself was a big business as well. America became a wealthy nation on the lives and deaths of enslaved Africans in both the North and the South. By 1820, all of the northern states had outlawed slavery, but the rise of cotton

made the enormous profits of the slave system irresistible to most white southerners. Not only did southern cotton feed northern textile mills, but northern insurers and transporters played a major part in the growth of the modern slave economy of the cotton South.

The labor union, American Federation of Labor (AFL) was founded by Samuel Gompers in 1886. Gompers, born in 1850, came as a boy with his parents to America from the Jewish slums of London; he entered the cigar-making trade and received much of his education as a reader (a worker who read books, newspaper stories, poetry and magazine articles to fellow employees to help break the monotony of their work in the shop) and became a leader of his local union and of the national Cigar Makers Union. In labor unions, workers joined together to fight for better working conditions and wages. It was unions that brought about 8-hour work days, a break from work on weekends, lunch breaks and barred children from working. •

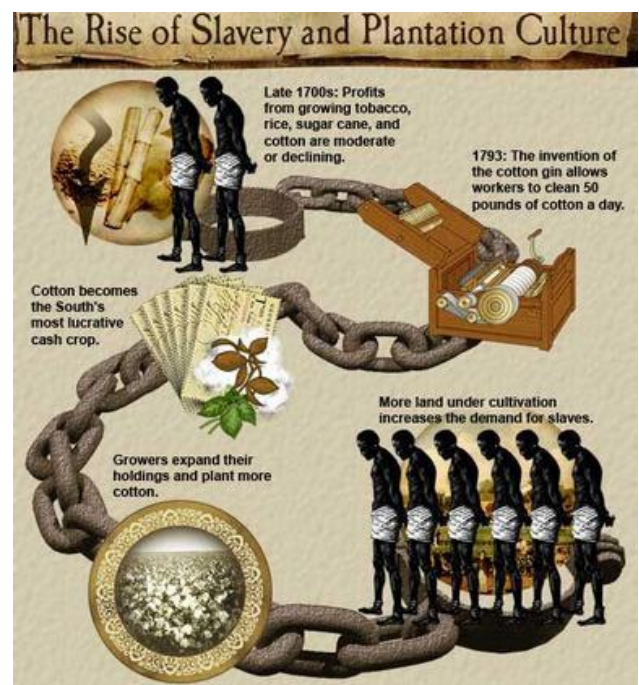


Image from <https://8-1coppersun2.wikispaces.com/file/view/1183586w.jpg/111753039/385x420/1183586w.jpg>

Manufacturing on the Move

Adapted from <http://www.canals.ny.gov/history/history.html> and <https://www.dot.ny.gov/divisions/operating/opdm/passenger-rail/passenger-rail-service/history-railroads>

In the 1800s, water played a major role in Manufacturing. Factories were powered by inventions such as the water wheel and the steam engine. Finished products, raw materials and people were transported along the water much more easily and quickly than they could be on land. New York State had the good fortune of having many waterways from large lakes to fast flowing rivers, but without those waterways being connected, their utility was limited.



Image from <http://www.boweryboyshistory.com/wp-content/uploads/2008/06/erie-canal.jpg>

Begun in 1817 and completed in 1825, the Erie Canal is considered an engineering marvel of the 19th Century. Nearly four hundred miles long, almost every major city in New York, except for Binghamton and Elmira, falls along the trade route established by the Erie Canal, from New York City to Albany, through Schenectady, Utica and Syracuse, to Rochester and Buffalo. Nearly 80% of New York's upstate population lives within 25 miles of the Erie Canal. It helped make New York the financial capital of the world, provided a critical supply line which helped the North win the Civil War, and precipitated a series of social and economic changes throughout a young America. Within 15 years of the Canal's opening, New York was the busiest port in America, transporting more than Boston, Baltimore and New Orleans combined.

With the new canal, freight rates from Buffalo to New York cost \$10 per ton, compared with \$100 per ton by road. In 1829, there were 3,640 bushels of wheat transported down the Canal from Buffalo. By 1837 this figure had increased to 500,000 bushels; four years later it reached one million. In nine years, Canal tolls more than recovered the entire cost of construction.

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Image from <http://www.soduspoint.info/wp-content/uploads/2009/10/ErieCanalwayMap1.jpg>

Between 1835 and the turn of the century, this network of Canals was enlarged twice to accommodate heavier traffic. Between 1905 and 1918, the Canals were enlarged again. Dams were built to create long, navigable pools, and locks were built adjacent to the dams to allow the barges to pass from one pool to the next.

Besides the tremendous impact of the Erie Canal, it would be difficult to discuss the growth and development of New York (a State that increased in population from 1820 to 1900, from 1.4 million people to almost 11 million people) without highlighting the role played by railroads. Starting in the 1830s, throughout the length and breadth of the Empire State, railroads large and small tied together city and farm (later suburbs), bringing crops and raw materials toward the cities, and in turn, bringing manufactured goods and summer vacationers out to the country. Just about every major and most minor cities in the State were served by one or more railroads. For example, the small city of Elmira (Chemung County) was served at one time by four major railroads (Erie, Lackawanna, Lehigh Valley, and Pennsylvania). And even though New York, as other states, experienced railroad downgrades, much of the State (including all cities above 50,000 in population) is still served in some fashion by railroads. •

Is War Profitable?

Adapted from https://www.pbs.org/thewar/at_home_war_production.htm

World War I was known as “The War of Production.” For the first time, steel helmets, tanks, fighter airplanes, chemical weapons, gas masks and X-ray machines were used. All of these new products had to be manufactured. Around this time, Henry Ford was popularizing the assembly line method of production, where workers each completed their own task on a factory line, then sent their piece of the product to the next person on the assembly line. This



Image from <http://cashmancuneo.net/pictures/flight%20ww2.jpg>

technique drastically sped up the rate of production. It jump-started automobile production, and during World War I, automobile workers were enlisted to produce war products, including planes, tanks, bombs and ammunition.

In World War II, just coming out of the Great Depression, many automobile companies began to manufacture engines, guns, trucks and tanks instead of cars. Many workers who had been previously unemployed due to the hard economic times of the Great Depression found work manufacturing weapons and war products. Many of these workers started earning more than they ever had before. While many men went off to fight the war, many women moved into factory jobs. Where previously many white, middle-class women stayed home caring for their children and households, World War II paved the way for many of these to women to work outside of the home.

With good jobs to be found in factories, many rural black families from the South moved to Northern cities such as New York City, Philadelphia, Baltimore, and cities in the Midwest, such as Chicago, Detroit and Pittsburgh, which became booming Manufacturing centers. This movement north that took place between 1915 and 1960 is known as The Great Migration.



The artist, Jacob Lawrence, became well known for his Great Migration painting series. •

Image from <https://static01.nytimes.com/images/2016/02/14/opinion/sunday/14wilkerson/14wilkerson-master768.jpg>



The Decline of American Factories

Economic Commentary, 2013,

Urban Decline in Rust-Belt Cities, Daniel Hartley

Adapted from <http://www.encyclopedia.com/places/united-states-and-canada/miscellaneous-us-geography/rust-belt>

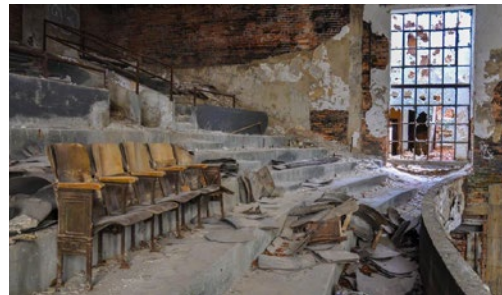
Many of the factories and steel mills that produced the “American economic miracle” during and after World War II (1939–1945) were locking their gates by the 1970s. This was more than a downward phase in the business cycle. It was a structural crisis brought about by the aging of a generation of factories, the relative decline of the Manufacturing sector, and increased global competition. Countries that had faced devastation during World War II and had to rebuild, developed modern, technologically advanced factories. Ultimately, U.S. factories could not keep up with this competition. Smaller industrial plants relocated to Mexico or to low-wage Southwestern U.S. areas. Big steel companies dating from the nineteenth century, like Bethlehem Steel and U.S. Steel Co., could not keep up with technological advances and competition from Japan and Germany (whose plants were built during the post-World War II period).



Bethlehem steel mill was once one of the top providers of steel around the world, providing 80% of the building materials in New York City buildings.

Image from <http://static.panoramio.com/photos/large/27508765.jpg>

The term “Rust Belt” refers to the economic region roughly covering the states of Michigan, Wisconsin, Indiana, Illinois, Ohio, and Pennsylvania, known as the Manufacturing heartland of the nation. It also refers to a social crisis as well as a geographic region, mostly affecting urban areas. Due to the loss of jobs and closing of factories, rust belt cities experienced deepening unemployment, out-migration of



An abandoned theater in Gary, Indiana

Image from <http://sliptalk.s3.amazonaws.com/wp-content/uploads/2014/09/25165602/TheaterGaryInd.jpg>



An abandoned church in Cleveland

Image from <http://sliptalk.s3.amazonaws.com/wp-content/uploads/2014/09/25165531/churchclevelandoh.jpg>

population, loss of electoral votes (due to the declining population, which meant these areas had less say and representation in government), and an overall decline in industry and the economy.

All over the Rust Belt factories closed, and the cities that were once thriving because of them, emptied out. Not only did factories lie empty and rusting, but houses and neighborhoods emptied. Schools, theaters, shops and hotels were abandoned too.

Between 1970 and 2006, Cleveland, Detroit, Buffalo, and Pittsburgh lost 45% of their populations due in part to the decline of manufacturing. Incomes in some rust belt cities declined as much as 30%. And home prices remained level or even declined during these decades, despite inflation and the rising cost of living over a 35 year period. •

ISSN 0428-1276

FEDERAL RESERVE BANK of CLEVELAND

Table 1. Comparison of Population, Income, House Prices, and Education in Cleveland, Detroit, Buffalo, and Pittsburgh in 1970 and 2006

	Buffalo			Pittsburgh		
	1970	2006	Change (%)	1970	2006	Change (%)
Population	462,783	257,758	-44	520,167	297,061	-43
Median household income (2009 dollars)	38,395	29,637	-23	37,477	33,818	-10
Median home value (2009 dollars)	71,477	64,702	-9	69,570	78,749	13
Fraction with college or higher degree	6.7	20.4	13.7	9.0	31.3	22.3

	Cleveland			Detroit		
	1970	2006	Change (%)	1970	2006	Change (%)
Population	751,046	406,427	-46	1,511,336	834,116	-45
Median household income (2009 dollars)	41,674	28,238	-32	46,438	30,184	-35
Median home value (2009 dollars)	92,826	92,477	0	86,108	93,966	9
Fraction with college or higher degree	4.4	12.0	7.6	6.2	11.3	5.1

Sources: U.S. Census Bureau, 1970 Census and 2006 American Community Survey.

Rust belt stats, from Economic Commentary, 2013, Urban Decline in Rust-Belt Cities, Daniel Hartley

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Reviving the Rust Belt

Adapted from <http://www.msnbc.com/morning-joe/urban-farming-takes-hold-blighted-motor> and <https://www.forbes.com/sites/jeffmcmahon/2014/08/06/why-cant-more-cities-be-like-detroit-epa/#519f10d77f32>



Urban farmer Olivia Hubert, co-owner of Brother Nature Produce, puts straw mulch around raspberry bushes on her one-acre urban farm in Detroit, Michigan.

Photo credit: <http://www.msnbc.com/morning-joe/urban-farming-takes-hold-blighted-motor>

The area once considered the home of America's progress fell to rust and decay when it couldn't compete with factories in other countries that had more modern, technologically advanced factories. Once-thriving Manufacturing centers like Buffalo, NY, Camden, NJ and Detroit, MI suffered from the effects of the loss of Manufacturing. With low-cost real estate and small populations, opportunities have developed, however. In some areas, such as Detroit, inexpensive land has given rise to urban farming.

Detroit's Lower East Side, which makes up about a quarter of the city, lost 40% of its population between 2000 and 2010, leaving what could have been a wasteland of vacant lots and boarded up homes. But almost simultaneously, the number of community gardens in Detroit blossomed from less than 100 to more than 1,400.

The people of Detroit suffer the effects of blight—only 19% of food stores carry the mix of foods recommended by the USDA, 56% of recipients redeem food stamps at liquor stores, 1 in 5 high school students is obese, and the number one cause of death is heart disease. But Detroit's community gardens now produce 200 tons of fresh fruits and vegetables per year. Residents who work in those gardens eat 2.5 more servings per day of fruits of vegetables than their neighbors, and property values near the gardens are rising by up to 20%.

Even the automakers are helping. Last summer, General Motors began re-purposing 250 massive shipping crates into raised-bed planters, creating the Cadillac Urban Gardens. Last week, the corporation announced they'd expand

the program with another 100 steel crates. Several hefty Ford grants have made their way into green initiatives, too.

Magnetic Sun, a 33-year-old, lifelong Detroit resident and now a farmer grew tired of seeing his friends struggle to feed their families, so he started gardening on a lot near his home. Now he grows corn, tomatoes, zucchini, yellow squash, kale, sunflowers, and more. Walking around his garden, he pulls an ear of corn off a plant, shucks it and takes a bite. “I feed the elderly people on the block, the youth come down, they help, they take food home, we sell a little bit at the market, and I feed myself and my family,” he said. “My aunty is 84 years old and has never seen a zucchini till last year. She’s 84 years old and she’s never seen the squash grow on the plant!” This summer, Magnetic Sun took a job working with the Greening of Detroit. “They’ve taught me how to grow the biggest tomatoes I’ve ever seen—bigger than my fist!” Soon, he hopes to completely support himself and his family with his garden.

It’s no surprise that urban gardening has become so popular in Detroit: it’s a welcome contrast. Residential neighborhoods are still riddled with ruin. The city used to be home to 1.9 million, but is down to just 700,000 residents, leaving an estimated 30,000 acres of distressed land. So well-kept, carefully tended grounds are a welcome surprise. It’s a contrast that’s at the core of Detroit’s problems. With so much abandoned space, Detroit’s land has lost its value, eroding the city’s tax base and making it even harder for the city to maintain neighborhoods or keep empty lots from decaying further.

City planner, Rob Anderson, sees opportunity in Detroit’s blight. “The desirability of living on that block goes way up when you transform a vacant lot or a burned out building into a space like this. I mean, this is beautiful, this is a place people want to be,” he said. “People become more rooted in their place and that’s what we need in this town.”

Urban agriculture has become so popular with students that they’ve brought the farms to the schools. This fall, 45 Detroit public schools will begin integrating raised-bed gardens near the schools into their math, science, and economics curriculum and putting the food right back into the cafeterias. “We’re teaching them how eating the stuff that they’re growing is different than going to the gas station and buying Cheetos. People always talk about the difficulties of getting kids to eat vegetables. When they grow those vegetables, it’s not hard at all.” •



Image from <https://gathergreen.files.wordpress.com/2012/01/enrich-la-5.jpg>



Buffalo's SolarCity

Adapted from <https://www.technologyreview.com/s/600770/10-breakthrough-technologies-2016-solarcitys-gigafactory/>

In an industrial park near the shore of Lake Erie, the future of the solar power industry is under construction.

Governor Cuomo gave SolarCity \$1 billion to build its sprawling Buffalo factory, which will soon

begin producing some of the most efficient solar panels available commercially. Capable of making 10,000 solar panels a day, or one gigawatt of solar capacity per year, it will be the largest solar manufacturing plant in North America and one of the biggest in the world.

When production begins, SolarCity, already the leading installer of residential solar panels in the United States, will become an integrated manufacturer and provider—doing everything from making the solar cells to putting them on rooftops. At a time when solar panels from China have never been cheaper, investing in a new type of solar technology is a risky undertaking. However, the potential benefits are huge. “The new factory,” says SolarCity chief technology officer Peter Rive, “could transform both SolarCity’s business, which has consistently lost money, and the economics of residential solar power.”

Solar panels installed by SolarCity cost the company \$2.84 per watt (including sales and marketing plus overhead, in addition to the cost of the hardware), down from \$4.73 in 2012. The combination of the new, highly efficient panels, the volume of product coming out of the new factory, and a simplified manufacturing process is a big reason why the company expects its costs for residential solar to fall well below \$2.50 per watt by the end of 2017, when the Buffalo facility reaches full production.

Efficiency matters because the panels themselves represent only 15 to 20% of the cost of the full installation. Much of the rest comes in what’s known as balance-of-system costs: inverters to connect to the grid, materials to hold the equipment, nuts and bolts to attach it to the roof, the labor to install it, and so on. SolarCity’s installation, says the company, will require one-third fewer panels to produce the same amount of electricity as conventional installations. “Fewer panels means fewer bits and pieces, less wire, less days on the roof to install,” says Francis O’Sullivan, the director of research and analysis at the MIT Energy Initiative. The new manufacturing process reduces the number of steps required to make the cells from two dozen or more to just six. It also replaces silver, one of the most expensive elements of conventional solar cells, with less expensive copper. •



Image from https://media.bizj.us/view/img/2303431/page12solar-first*1200xx3000-1688-0-156.jpg



CUT IN HALF

MY TALKING POINTS

- _____
- _____
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- _____

MY TALKING POINTS

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Manufacturing History: From Arrowheads to Urban Ag

- 1 Describe how the inventions of Samuel Slater and Eli Whitney related to one another and changed the course of American history.
- 2 What product does the article cite as one of the earliest manufactured products? How do you think these products helped improve the lives of the people who produced them?
- 3 In the 1800s, products produced in New York state were transported by _____ and _____. What impact did these new modes of transportation have on the economy?
- 4 What is the assembly line and what impact did it have on the Manufacturing industry and on the American economy as a whole?



World Map



Image from Big Stock Photo / © Volina