Lesson 5 Society Changes, Both Intentionally and Unintentionally

Main Ideas

- Innovations change society in many ways, sometimes unintentionally.
- We have the opportunity to create our own society-changing innovations.

Key Concepts

- Mass consumption
- The development of an industrial workforce
- Mass production
- Land use
- Mass automobility
- Infrastructure
- Suburbanization
- Pollution
- Personal mobility/freedom

Materials

- Computers with access to the Internet for student use (optional)
- Sign: "How do people create society-changing innovations?"
- Collection of magazines from last 1-2 years on a wide range of topics
- Posterboard
- Scissors
- Markers
- Glue
- Student Activity Sheet 5A: Legacies of an Innovation
- Student Activity Sheet 5B: Legacies of the Model T and the Assembly Line in Artifacts Today

Duration

1 class period (45 minutes each)

Instructional Sequence

1. Engagement

Ask students to pair up and brainstorm a list of ideas on how the Model T and the assembly line continue to affect us today. Have students share their lists with the class verbally or by writing them on the board.

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2. Legacy of the Model T and the Assembly Line

Share additional information about the continuing legacy of the Model T and the assembly line in our society. As a group or individually, read Student Activity Sheet 5A: Legacies of an Innovation. Have students highlight key points about the legacies of the Model T.

Discuss with students:

– Which of these consequences do you think Henry Ford expected?

– Do you think any of these consequences were unintended? Which ones?

Summarize by telling students that innovations do not always change society in the way originally expected. Some of these outcomes could either be considered problems or be considered opportunities for more innovations.

3. Legacy Collage

To introduce this project, discuss with students:

– How would your lives be different if it weren't for the legacies of the Model T and the assembly line?

– Would you like to maintain or change any of these legacies?

Activity Sheet 5B: Legacies of the Model T and Assembly Line in Artifacts Today instructs students on this activity. They will identify artifacts (images from modern magazines) to create a collage of images that exemplify some of the ways the Model T continues to affect society. How they feel about these legacies and what they will do to maintain or change the legacies will also be illustrated in their collages.

4. Legacy Collage Sharing

Have students display their collages on the wall, creating a museum walk. Give the students an ample amount of time to move around the room, looking at others' collages.

Assessment

Evaluate the thoughtfulness of the students' collages and whether they clearly represented a legacy, their feelings on it and actions they would take.

Name _____

legacies of an innovation

By Bob Casey, Curator of Transportation, The Henry Ford

The Model T's legacy

The automobile filled deep, abiding desires that most people barely knew they had — desire for rapid, unfettered mobility; for control of something powerful; for ownership of something valuable, modern and complex. This is why people aspired to own automobiles before they could actually afford to buy automobiles or before automobiles were actually useful for daily transportation. The inexpensive, rugged, immensely capable Model T allowed people to fulfill their automotive aspirations. The consequences went far beyond anything Henry Ford ever imagined.

The auto industry became the driving force in the 20th-century American economy, and the steel, oil and rubber industries grew rich fulfilling its needs. Highway construction, virtually insignificant at the beginning of the century, grew steadily, fed by gasoline taxes willingly paid by drivers who wanted better roads. The culmination of this building boom was the Interstate Highway System, one of the great public works projects in human history, on the scale of China's Great Wall or Rome's aqueducts.

The American propensity for owning a house in the middle of a piece of land, no matter how small, created "streetcar suburbs" in the 19th century. But mass automobility facilitated the growth of vast new suburbs, with their attendant schools, retail stores and industries. The depopulation of older cities like Detroit and Buffalo and the expanding population of cities like Houston and Atlanta would have been impossible without ready access to automobiles.

Mass ownership of cars not only has allowed us to drastically alter our landscape, it also has drastically altered our atmosphere. Once viewed as preferable to the manure and urine deposited by horses, auto exhaust gradually came to be understood as a serious problem. Successful efforts to reduce emissions from individual cars are offset by increases in the sheer numbers of cars and in the miles people drive. The long-term atmospheric consequences of the 20th-century choice of mass automobility are hotly debated in the 21st century, as are the possible solutions.

Mass automobility is something to die for – literally. Since the late 1930s, traffic fatalities have averaged between forty and fifty thousand people per year. Great strides have been made in making both cars and roads safer, but as with air pollution, these efforts are offset by the increase in the number of miles driven. Deaths per mile have fallen steadily, but rising mileage keeps total annual deaths about the same.

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Finally, in the early years of the twenty-first century it is difficult to think about automobiles without also thinking about oil, its price, its availability, its location. A huge oil strike at Spindletop near Beaumont, Texas, in 1901 meant that the automobile boom could be fueled by abundant and cheap domestic gasoline.

Americans came to view that condition as the natural order of things, even after domestic wells could no longer meet domestic demand. But it turns out that some of the world's most abundant oil fields are in some of the world's most politically volatile places – or perhaps those places are volatile because they contain abundant oil fields. Maintaining a high level of automobility meant becoming deeply involved with those places, for better or worse.

The assembly line's legacy

The assembly line had its own powerful legacy. Without mass consumption of goods, mass production would not be economically viable. As Henry Ford himself said, "The two go together." Both the methods of mass production and the sales methods necessary to promote mass consumption were spawned and perfected in the auto industry, with Ford leading the way. Producers of other consumer goods like refrigerators, washing machines, vacuum cleaners and radios quickly adopted both mass-production methods and mass-marketing methods. The "American Standard of Living" came to mean the purchase, discard, and repurchase of large quantities of machine-made goods.

When World War II broke out, American mass-production industries made a remarkably quick conversion to producing war material. None of the other belligerents could match the ability of the United States in turning out guns, helmets, tanks, ammunition and combat boots. Assembly line techniques were even adapted to aircraft and ships. American aircraft factories more than kept up with the appalling losses in Europe, while American shipyards built Liberty and Victory ships faster than two Axis navies could sink them.

Ford's five-dollar day is often cited as a key factor in expanding the middle class. But less often understood is just how that happened. The five-dollar day did more than simply increase wages. It reversed the historical relationship between wages and skill. Throughout history, the way for workers to increase the price they demanded for their services was to increase their skill level. The master craftsman always made more money than the journeyman. Conversely, the way for an employer to lower labor costs was to lower the skill required to do the work. For example, mechanization in the textile industry and the shoe industry lowered the skill level required to spin yarn and make shoes, and lowered the value of the labor of the workers in question. But the five-dollar day turned that relationship on its head by creating something the world had never seen before: the low-skill/high-wage job. Suddenly high-wage jobs were available to large numbers of people who could never have had them before, especially people from rural areas and from foreign countries. The Georgia sharecropper

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and the Polish peasant both found in Detroit or other industrial cities the opportunity to make a good living despite their lack of industrial skills. Unfortunately, this process led to a devaluing of education on the part of many workers and their children. Why do I need an education, they asked, to work on the line? A willingness to work, not a high school diploma, is all that is required.

But it turned out that the reversal of the wage/skill relationship was not permanent. As the automobile industry fought to meet competition from foreign cars in the 1980s, especially from Japan, it became clear that the Japanese had a different approach to assembly line work. Japanese automakers had discovered that they could increase quality and productivity by actually involving their workers in the improvement of the process. They did not want workers who turned their brains off when they punched the time clock and turned them on again at the end of the shift. They wanted workers who were educated, engaged, and who could do a variety of different jobs in the manufacturing process. They wanted their employees to have a high school education and even training beyond high school. To compete in quality and productivity, the U.S. industry gradually adopted the same approach. The consequences for anyone seeking an entry-level job at an auto plant were profound. No longer was the industry an "opportunity gate," opening wide to anyone willing to work hard. It became instead an "opportunity turnstile," open only to those with sufficient education and skill.

The five-dollar day had a major unintended consequence. Henry Ford's new wage policy constituted an unwritten contract with his workers: They submitted to the discipline of the assembly line, and he paid unprecedented high wages. But when the Great Depression came along, Ford and other assembly line-based industries could no longer pay the high wages. Workers responded by joining industrial unions based not on craft skills but on common employment in an industry. When they withheld their labor through strikes, they forced employers to sign written contracts defining a new balance of power between worker and employer. Thus it was that Henry Ford, who hated labor unions, unwittingly created the conditions that gave rise to an organized labor movement that would remain a potent social and political force for the remainder of the century and beyond.

The long-term effects of both the Model T and the assembly line are so profound that one observer summed them up by saying that Ford's Highland Park Plant, where the Model T was produced and the assembly line was developed, was the place where "the mainspring of the 20th century was wound." Our own 21st century is still feeling the effects of that winding.

From the document – From the Curators – Henry Ford and Innovation.

Name _____

legacies of the Model T and the assembly line in artifacts today

How do the Model T and assembly line continue to affect society? How do you feel about those legacies? What will you do to maintain or change any of these legacies?

Instructions

1. **Identify artifacts** that show how the Model T and the assembly line continue to affect society. Use recent magazines to find appropriate images; these images are your artifacts. Consider effects on your community, state, nation and world. Look for the following legacies, but focus on the effects that resonate most for you; you may represent concepts beyond this list.

   - Mass consumption
   - The development of an industrial workforce
   - Mass production
   - Land use
   - Mass automobility
   - Infrastructure
   - Suburbanization
   - Pollution
   - Personal mobility/ freedom

2. **Choose** a legacy represented by your artifacts, which you feel strongly about either maintaining or changing.

3. **Illustrate** through words, drawings or photographs how you feel about the legacy and what you will do to maintain or change it.

4. **Make a collage** of the artifact(s) and your illustrations. You may create a traditional cut-and-paste paper collage or you can scan images and make a digital collage (as a museum or archive might do).