**Honors U.S. History**

**“Andrew Carnegie and the Age of Steel – Answer Key”**

**Mr. Fernandez**

Answer the following questions as you view the documentary:

1. What American natural resources provided the materials necessary to industrialize?
   1. Iron ore
   2. Coal deposits
2. Who was John Winthrop the Younger?
   1. Son of Massachusetts governor – scholar – founder of Saugus Ironworks
3. What role did iron play in Puritan agricultural society?
   1. Mostly agricultural tools and supplies
4. Explain the origin of the term “pig iron.”
   1. “Sow” pig nursing her piglets
5. What was indentured servitude?
   1. Indebted workers
6. Describe the typical day of an iron worker.
   1. Dangerous – many hours of hard labor
7. How many ironworks existed in the colonies by the mid-18th century?
   1. Over 12 iron works – making kitchen utensils and canon
8. In what way did ironworks contribute to the American Revolution?
   1. British wanted to restrict iron works production and growth to restrict competition – led to Revolution – by Independence Day America was producing ¼ of produced iron goods
9. What was produced at the ironworks at Cornwell and Hopewell in Pennsylvania?
   1. Cookware at Cornwell
   2. Cast Iron stoves at Hopewell
   3. Grew into full towns
10. Describe the “plantation system.”
    1. Workers lived on property – tied to business
    2. Entire lives evolved around the furnace
11. How many acres of hardwood did it take to keep one ironworks furnace running for a year?
    1. 300 acres per year – technological breakthrough using coal to create iron, instead of hardwood – brought end to plantation system of iron works
12. What did urban centers have to offer ironworks companies?
    1. Transportation systems – railroads
13. Explain how the Civil War increased demand for iron.
    1. By 1850 America was moving west – power of the “iron horse”
    2. The killing power of iron for weapons
14. Describe Carnegie’s experience as a young man working for Tom Scott.
    1. Textile mill – first job
    2. Worked as a messenger boy for Western Union
    3. Mastered the telegraph – built connections in business
    4. Tom Scott was with Penn. RR – Carnegie became his secretary
    5. During Civil War, Carnegie worked under Scott in communication.
15. By the late 1860s, Carnegie was both as iron \_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_.
    1. Built bridges
    2. “producer” and a “buyer”
16. Describe the Bessemer process.
    1. Injecting molten pig iron with cold blasts of air under pressure – quickly oxidized the carbon – made steel
    2. Removed carbon cheaply and effectively
17. Explain the significance of the Bessemer process.
    1. Carnegie was reluctant to use the new process… “pioneering don’t pay.”
    2. The process revolutionized the industry – started using steel rails instead of iron on RR
    3. Chicago was laboratory for steel – rebuilding after the fires
18. What city became a “laboratory for steel?” Why?
    1. Chicago
    2. After the fires – Steel changed building
19. “The age of iron has passed, \_\_\_\_\_\_\_\_ is king!” Carnegie
    1. Steel
20. What was the most dangerous work in the 19th century?
    1. steel work – few regulations
21. What tactics did Carnegie employ to build the nation’s greatest steel mill in 1875?
    1. Hired experts in Bessemer Process
    2. Spared no expense
    3. Mill opens in midst of depression
    4. Doubled output of biggest competitor
    5. Drove down costs of steel
    6. J. Edgar Thompson Steel Works – nations leading manufacturer
    7. Cost cutting practices
    8. Had a skill for judging character and inspiring others, including his own brother
22. What was the standard work week in the steel industry?
    1. 84 hours of brutal labor – less than $10/ week

Low wages

1. For what major construction projects in America did Carnegie steel supply the materials?
   1. Brooklyn Bridge
   2. New York’s elevated trains
   3. Washington Monument
   4. By 1890 Carnegie richest man in America – billionaire in today’s terms
2. What was the “Gilded Age?”
   1. Mark Twain
   2. Fortunes amassed
   3. No income tax
   4. Little government regulation
3. How did the owners of business view labor unions in the late 19th century?
   1. Social Darwinism – natural for some to rise to top – “virtual religious fervor”
   2. Viewed unions as communistic
4. Describe what happened at the Homestead Works.
   1. Carnegie wanted to get the union out.
   2. Henry Frick in charge under Carnegie… he had sold Carnegie his coke operation
   3. Frick managed Homestead – Carnegie under much pressure by investors because they thought Carnegie was too close with the labor
   4. They pressed Carnegie to take a hard stand against labor
   5. He went to Europe and let Frick handle things at Homestead
5. Who were the Pinkertons?
   1. Private police force
   2. Originated as intelligence agency during the Civil War
6. How did the Homestead Strike influence public opinion concerning the unions?
   1. Gun fire erupted – oil set on fire on the river
   2. Pinkertons fought their way onto the shore
   3. Many killed and wounded
   4. Began peacefully, but turned violent
   5. Union had defeated the Pinkertons
   6. Frick’s attempted assassination – failed
   7. Public turned against strikers and Penn. State Militia came in to crush the strike
   8. Carnegie regretted the entire scene… blot on reputation
   9. Marked end of an era – American steel becomes a world power
   10. Carnegie was producing more steel than all of Britain by the 1890s
7. Who was put in charge as president of Carnegie Steel in 1895?
   1. Charles Schwaab – at age 35 he was named president
   2. Carnegie slashed costs and therefor prices.
8. Who was J.P. Morgan?
   1. The Wizard of Wall Street
   2. Amassed wealth in RRs and banks – genius of buyouts and mergers
9. For how much money did Carnegie sell his company to Morgan?
   1. 492 million – made Carnegie wealthiest man in the world
10. What was the largest company in U.S. history?
    1. U.S. Steel
11. How was this company a “first” in the world?
    1. Not just another corporate entity – but the first billion-dollar company!
12. Describe Gary’s vision for U.S. Steel.
    1. He was cautious – concerned about stability
    2. Wanted to cushion the steel industry against anti-trust legislation
    3. Wanted to create an integrated steel company – vertical integration
13. What city in Indiana became the nation’s new steel capital?
    1. Gary
14. Who was the new top consumer of steel in America in the early 20th century?
    1. Automobile industry
    2. Unemployment hit 25% in the Great Depression – only WWII fixed this problem
    3. American industry produced 297,00 airplanes – 71,000 new ships for navy
15. What was “dumping?”
    1. Flooding market with cheap produced goods to drive down prices
    2. Goods coming from subsidized mills overseas
    3. Mills in Europe and Japan after the war brought much competition
    4. America had not modernized
16. How much of the steel industry went bankrupt in America in the 1980s?
    1. ¼ of industry went bankrupt
17. Describe U.S. Steel today.
    1. Making a comeback today.
    2. Making steel with new technology “continuous casting”
    3. Eliminated intermediate steps in the process
18. How many man-hours does it take to produce a ton of steel today versus twenty years ago?
    1. 12-15
    2. Today it takes only 3 hours