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| **INDUSTRY’S GOLDEN AGE – 14.1** |

1. **The Second Industrial Revolution**
   * Factors Encouraging Industrial Growth
   * Effects of War
   * Constitution & Governmental Policies
   * Growing Population (Immigration)
   * Natural Resources
   * New Sources of Power
   * Introduction of Machinery
   * American Inventors & Inventions
   * Improved Means of Transportation & Communication
2. **Second Industrial Revolution**
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
       
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   * By mid-1890’s the U.S. would become the world’s industrial leader
3. **Effects of War**
   * Government needed war materials
   * Farmers & city workers had more money to spend – consumer goods were in greater demand
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
       
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4. **Effects of Civil War** 
   * Spurred industrial growth
   * Secession of South left the federal government in hands of Republican Party – favored business
   * Congress provided:
     + Land & loans for transcontinental railroads
     + Established national banking system
     + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. **Constitution**
   * Coining money- made possible a stable currency for business transactions
   * Regulating interstate commerce – made possible nationwide laws to regulate industry & transportation
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– made possible protections against foreign competition
   * System of patents – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Ensures nationwide “common market” without man-made barriers to movement of goods
6. **Patent**
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. **Growing Population** 
   * American population in the 19th century almost doubled every 25 years
     + 5 million in 1800 to 76 million in 1900
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
       
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8. **Natural Resources** 
   * Abundance of raw materials
     + Coal
     + Iron
     + Lumber
   * Fertile soil for raising foodstuffs, cotton, & tobacco
   * Swift-running streams for waterpower
9. **New Sources of Power** 
   * Electricity – communication, lighting, & driving motors
   * Petroleum – 1859 – Edwin Drake drilled oil in PA
     + First used for lubrication & lighting
     + Late 19th century – gasoline & diesel oil used in internal combustion engines
10. **Contributions of Steel**
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      + Used for heavy machinery
      + Rails for trains
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. **Bessemer Process**
    * New method of producing steel - Henry Bessemer
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      + Annual steel production grew from 15 thousand tons to 28 million tons by 1910
      + Price of steel?
12. **Cheaper Steel = Railroads**
    * Cheaper steel encouraged railroads to lay thousands of miles of new tracks across the Great Plains to the Pacific Coast
      + Railroad companies are major employer in country
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. **Significance of Railroad Building** 
    * Spurred industrialization of the post-Civil War years
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    * Created enormous domestic market for U.S. raw materials & manufactured goods
    * Paved way for incredible growth of Great West
      + Mining, agriculture, & ranching
    * Great citywide movement
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. **Significance of Railroads** 
    * Facilitated large influx of immigrants
    * Spurred investment from abroad
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    * Maker of new railroad aristocracy
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. **Contributions of Communications** 
    * Samuel F.B. Morse’s telegraph (1832) began to be used by businesses to send business orders to distant locations
16. **Contributions of Communications**
    * Alexander Graham Bell telephone in 1876
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
          
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17. **Contributions of energy** 
    * Innovations require new forms of energy: oil and electricity
    * Benjamin Sillman uses kerosene for cooking, heating and lighting
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. **Energy, continued**
    * Edwin Drake pumped crude oil from the ground - see handout with uses of oil
19. **Electricity’s Potential**
    * Thomas Alva Edison invented the 1st incandescent lightbulb in Menlo Park, NJ in 1879, which ran on electricity
20. **Travel**
    * Automobile - invented in1885 by Carl Benz
    * Airplane - Orville and Wilbur Wright made the first flight December 17, 1903 in Kitty Hawk, NC
21. **Results of Industrial Growth** 
    * New industrial products and services
      + Machine – and factory – made products
      + Investors financed new industries to satisfy demand
      + Railroad transportation
      + Telegraph & telephone communication
      + Steel
      + Oil
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
        
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22. **Results of Industrial Growth** 
    * Great fortunes
      + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      + Exercised tremendous economic power
      + Exerted considerable influence upon gov’t
      + Finance philanthropies
    * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    * Increased world trade & imperialism
    * Serious economic problems – preventing monopolies, protecting consumers, improving standards for workers, banking system, levying fair taxes, leveling out the business cycle