

Pennsylvania Department of Education Standards that relate to the Tours offered at the Berks County Heritage Center

Because the Pennsylvania State Standards have become an integral part of lesson planning, we have compiled a list of the possible standards addressed while touring here at the Berks County Heritage Center. The standards have been broken down by subject and listed below by grade level. Please keep in mind that there may be more possible standards addressed, and this is only an estimate. We hope this will make the planning involved for this trip a little easier. (Notes in smaller type are for tourguide clarification and example)

- ❖ The Gruber Wagon Works tour theme centers on the changing technology of rural transportation (particularly Berks County) in the late 19th and early 20th centuries. Interpretation will focus on the transition from a single craftsman's shop to a multi-faceted and integrated industry reflecting the changing technology of the time.
(ie: evolution from wagons to vehicles)
- ❖ The C. Howard Hiester Canal focuses on the transportation of the 19th and early 20th centuries in Pennsylvania (particularly Berks County) . The tour also focuses on the dynamics of the transportation, the economic effects of the canals (both advantages and disadvantages), and the tools and technology required to build not only the canal boats but the canals as well. Both of these tours integrate the History, Science and Technology, and Economics standards.

High School

History

8.2.9 C: Identify and analyze how continuity and change have influenced Pennsylvania history from the 1787 to 1914.

- Transportation (Canals)
 - This standard applies to all levels at our site
 - Canals/wagons/roads – faster western expansion
 - Pa is industrial state – canals key for coal
 - Farming declines into industry; mix of transportation helps industry

8.4.12 C: Evaluate how continuity and change throughout history has impacted belief systems and religions, commerce and industry, innovations, settlement patterns, social organization, transportation and roles of women since 1450.

- Pa is a farming state – transportation aids farming practices and commercialism – seen at GWW wagons to cars ; hand tools to machines
- What canals are carrying

Science and Technology

3.1.10 A: Discriminate among the concepts of systems, subsystems, feedback and control in solving technological problem

- Identify the function of subsystems within a larger system (ex. the belt system and machines in the GWW)
 - Solving technological problem (canals themselves; locks)
 - Steam engine in Canal Center

Economics

6.12.12 A: Analyze the factors influencing wages.

- Demand for goods and services produced
- Productivity
 - Produce more with machine aided - at less time
- Education/skills
 - 3 levels of pay at GWW - wheelwrights, machinist, blacksmith
More skills ie: education with each job
 - Low wage - immigrant canal workers
 - Why uneducated, low demand - not a lot of jobs for immigrants mainly due to racism 1800s

Middle School

History

8.3.6 Explain how continuity and change has influenced United States history from Beginnings to 1824.

- Transportation and Trade (methods of overland travel)
 - (This is not really our time period - too early)
 - Westward expansion
 - Availability in North spurs industrialization - contrast South
 - (roots Civil War, slavery entrenched)

Science and Technology

3.1.7. A: Explain the parts of a simple system and their relationship to each other.

- Describe a system as a group of related parts that work together to achieve a desired result
 - GWW workings
 - Lock and steam engine at Canal Center

Economics

6.2.6 E: Explain how the interaction of buyers and sellers determines prices and quantities exchanged.

- Canals vs. Railroads

6.2.6 F: Describe how prices influence both buyers and sellers and explain why prices may vary for similar products.

- Discuss GWW wagon competition with other area factories ie: Reber
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Elementary School

History

8.2.3 C: Identify and describe how continuity and change have influenced Pennsylvania history.

- Transportation (e.g., methods of moving people and goods over time)
 - Development of canals as long distance mode of transportation to the railroad taking over.
 - Wagons as short distance travel to the use of a car

Science and Technology

3.1.4 A: Know that natural and human-made objects are made up of parts.

- Identify system parts that are natural and human-made (e.g., ball point pen, simple electrical circuits, plant anatomy).
- Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation)
 - Making wagons and parts using hand tools to the use of machines that replaced that job

Economics

6.1.3 D: Identify examples of local businesses opening, closing, expanding or contracting.

- GWW itself follows decline of wagon trade

6.2.3 B: Identify ways local businesses compete to get consumers.

- GWW advertising – tire press