



America's Greatest History Attraction

CURRICULUM CONNECTIONS

The 21st Century Factory: Environmental Innovations at the Rouge

<http://www.thehenryford.org/rouge/eduResources/environment3.ppt>

PowerPoint Slide Show. Examines sophisticated technological and environmental innovations at the Rouge which manage water, soil and daylight.

Michigan Science Grade Level Content Expectations

Grade 2

E.FE.02.21 Describe how rain collects on the surface of the Earth and flows downhill into bodies of water (streams, rivers, lakes, oceans) or into the ground.

Grade 3

S.RS.03.17 Identify current problems that may be solved through the use of technology.

S.RS.03.18 Describe the effect humans and other organisms have on the balance of the natural world.

E.ES.03.42 Classify renewable (fresh water, fertile soil, forests) and non-renewable (fuels, metals) resources.

E.ES.03.43 Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal).

E.ES.03.51 Describe ways humans are dependent on the natural environment (forests, water, clean air, Earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).

E.ES.03.52 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable, and non-renewable resources).

Grade 4

S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.

P.PM.04.53 Identify objects that are good conductors or poor conductors of heat and electricity.

P.CM.04.11 Explain how matter can change from one state (liquid, solid, gas) to another by heating and cooling.

L.EC.04.21 Explain how environmental changes can produce a change in the food web.

Grade 5

S.RS.05.17 Describe the effect humans and other organisms have on the balance in the natural world.

Grade 6

- S.RS.06.17** Describe the effect humans and other organisms have on the balance of the natural world.
- L.EC.06.41** Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.

Grade 7

- S.RS.07.17** Describe the effect humans and other organisms have on the balance of the natural world.
- E.ES.07.41** Explain how human activities (surface mining, deforestation, overpopulation, construction and urban development, farming, dams, landfills, and restoring natural areas) change the surface of the Earth and affect the survival of organisms.
- E.ES.07.42** Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere, (car exhaust, industrial emissions, acid rain, and natural sources), and how pollution impacts habitats, climatic change, threatens or endangers species.
- E.ES.07.81** Explain the water cycle and describe how evaporation, transpiration, condensation, cloud formation, precipitation, infiltration, surface runoff, ground water, and absorption occur within the cycle.

Michigan Social Studies Grade Level Content Expectations

Grade 2

- H2.0.4** Describe changes in the local community over time (e.g., types of businesses, architecture and landscape, jobs, transportation, population).

Grade 4

- H3.0.1** Use historical inquiry questions to investigate the development of Michigan's major economic activities (agriculture, mining, manufacturing, lumbering, tourism, technology, and research) from statehood to present. (C, E)
- What happened?
 - When did it happen?
 - Who was involved?
 - How and why did it happen?
 - How does it relate to other events or issues in the past, in the present, or in the future?
 - What is its significance?

Michigan Science High School Content Expectations

Biology

- B3.1A** Describe how organisms acquire energy directly or indirectly from sunlight.
- B3.4C** Examine the negative impact of human activities.
- B3.5e** Recognize that and describe how the physical or chemical environment may influence the rate, extent, and nature of population dynamics within ecosystems.

Earth Science

- E2.1B** Analyze the interactions between the major systems (geosphere, atmosphere, hydrosphere, biosphere) that make up the Earth.
- E2.1C** Explain, using specific examples, how a change in one system affects other Earth systems
- E2.4B** Explain how the impact of human activities on the environment (e.g., deforestation, air pollution, coral reef destruction) can be understood through the analysis of interactions between the four Earth systems

Michigan Social Studies High School Content Expectations

History

- 6.1.5** A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining
- the impact of resource availability
 - entrepreneurial decision making by Henry Ford and others
 - the impact on Michigan
 - the impact on American society
- 9.1.1** Economic Changes – Using the changing nature of the American automobile industry as a case study, evaluate the changes in the American economy created by new markets, natural resources, technologies, corporate structures, international competition, new sources and methods of production, energy issues, and mass communication.

National Science Content Standards

Life science
Science and technology
Science in personal and social perspectives
History and nature of science

National Curriculum Standards for Social Studies

Strands

VIII Science, technology, and society