



America's Greatest History Attraction

CURRICULUM CONNECTIONS

Titanica Educator Guide

(<http://www.thehenryford.org/education/erb/TitanicaEducatorGuide.pdf>)

Educator guide for IMAX film Titanica.

Michigan Science Grade Level Content Expectations

Grade 3

- S.RS.03.16 Identify technology used in everyday life.
- 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.03.41 Identify natural resources (metals, fuels, fresh water, fertile soil, and forests).
- 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).
- S.RS.03.19 Describe how people have contributed to science throughout history and across cultures.

Grade 4

- S.RS.04.16 Identify technology used in everyday life.
- S.RS.04.17 Identify current problems that may be solved through the use of technology.
- S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.
- S.RS.04.19 Describe how people have contributed to science throughout history and across cultures.
- L.OL.04.16 Determine that animals require air, water, and a source of energy and building material for growth and repair.
- L.EC.04.11 Identify organisms as part of a food chain or food web.
- 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.
- S.RS.05.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.

Grade 6

- S.RS.06.17** Describe the effect humans and other organisms have on the balance of the natural world.
- S.RS.06.19** Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.
- 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.
- L.EC.06.23** Predict how changes in one population might affect other populations based upon their relationships in the food web.

Grade 7

- S.RS.07.17** Describe the effect humans and other organisms have on the balance of the natural world.
- S.RS.07.19** Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.
- 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.
- E.ES.07.82** Analyze the flow of water between the components of a watershed, including surface features (lakes, streams, rivers, wetlands) and groundwater.

Michigan English Language Arts Grade Level Content Expectations

Grade 3

- R.CM.03.01** connect personal knowledge, experiences, and understanding of the world to themes and perspectives in text through oral and written responses.
- S.DS.03.03** respond to multiple text types by reflecting, making connections, taking a position, and/or showing understanding.
- L.RP.03.01** listen to or view knowledgeably and discuss a variety of genre and compare their responses to those of their peers.
- W.GN.03.01** write a cohesive narrative piece such as a fable, folktale, or realistic fiction using personification, setting, actions and thoughts that reveal important character traits.
- W.GN.03.02** write poetry based on reading a wide variety of grade-appropriate poetry.

Grade 4

- R.CM.04.01** connect personal knowledge, experiences, and understanding of the world to themes and perspectives in text through oral and written responses.
- S.DS.04.03** respond to multiple text types by reflecting, making connections, taking a position, and/or showing deep understanding.
- L.RP.04.01** listen to or view knowledgeably and discuss a variety of genre and compare their responses to those of their peers.
- W.GN.04.01** write a cohesive narrative piece such as a myth, legend, fantasy, or adventure creating relationships among setting, characters, theme, and plot.
- W.GN.04.02** write poetry based on reading a wide variety of grade-appropriate poetry.

Grade 5

- R.CM.05.01** connect personal knowledge, experiences, and understanding of the world to themes and perspectives in text through oral and written responses.
- L.RP.05.01** listen to or view knowledgeably and discuss a variety of genre and compare their responses to those of their peers.
- W.GN.05.01** write a cohesive narrative piece such as a mystery, tall tale, or historical fiction using time period and setting to enhance the plot; demonstrating roles and functions of heroes, anti-heroes, and narrator; and depicting conflicts and resolutions.
- W.GN.05.02** write poetry based on reading a wide variety of grade-appropriate poetry.

Grade 6

- W.GN.06.01** write a cohesive narrative piece such as a personal narrative, adventure, tall tale, folktale, fantasy, or poetry that includes appropriate conventions to the genre, employing elements of characterization for major and minor characters; internal and/or external conflict; and issues of plot, theme, and imagery.
- W.GN.06.02** write a personal, persuasive, or comparative essay that includes organizational patterns supporting key ideas.

Grade 7

- W.GN.07.01** write a cohesive narrative piece such as a memoir, drama, legend, mystery, poetry, or myth that includes appropriate conventions to the genre employing literary and plot devices (e.g., internal and/or external conflicts, antagonists/protagonists, personification).

Grade 8

- W.GN.08.01** write a cohesive narrative piece such as poetry, historical fiction, science fiction, or realistic fiction that includes appropriate conventions to genre employing literary and plot devices (e.g., narrator credibility, rising and falling actions and/or conflict, imagery and transitional language).
- W.GN.08.02** write an historical expository piece such as a journal, biography, or simulated memoir that includes appropriate organization, illustrations, marginal notes and/or annotations.

Michigan Social Studies Grade Level Content Expectations

Grade 7

- 7 – G5.1.2** Describe how variations in technology affect human modifications of the landscape (e.g., clearing of agricultural land in Southeast Asia, fish factories in North Atlantic and Western Pacific Ocean, and damming rivers to meet needs for electricity).

Michigan Science High School Content Expectations

- B1.2E** Evaluate the future career and occupational prospects of science fields.
- B1.2k** Analyze how science and society interact from a historical, political, economic, or social perspective.

Earth Science

E3.p3B Describe the three types of plate boundaries (divergent, convergent, and transform) and geographic features associated with them (e.g., continental rifts and mid-ocean ridges, volcanic and island arcs, deep-sea trenches, transform faults).

Biology

- L3.p3C** Explain how biotic and abiotic factors cycle in an ecosystem (water, carbon, oxygen, and nitrogen).
- L3.p3D** Predict how changes in one population might affect other populations based upon their relationships in a food web.
- B3.2C** Draw the flow of energy through an ecosystem. Predict changes in the food web when one or more organisms are removed.
- B3.3A** Use a food web to identify and distinguish producers, consumers, and decomposers and explain the transfer of energy through trophic levels.
- B3.3b** Describe environmental processes (e.g., the carbon and nitrogen cycles) and their role in processing matter crucial for sustaining life.
- B3.4C** Examine the negative impact of human activities.

Michigan English Language Arts High School Content Expectations

- CE 1.5.1** Use writing, speaking, and visual expression to develop powerful, creative and critical messages.
- CE 1.5.2** Prepare spoken and multimedia presentations that effectively address audiences by careful use of voice, pacing, gestures, eye contact, visual aids, audio and video technology.

Michigan Social Studies High School Content Expectations

- K1.5** Understand the diversity of human beings and human cultures.
- K1.6** Analyze events and circumstances from the vantage point of others.
- K1.7** Understand social problems, social structures, institutions, class, groups, and interaction.
- K1.8** Apply social studies concepts to better understand major current local, national, and world events, issues, and problems.
- P1.2** Analyze point of view, context, and bias to interpret primary and secondary source documents.
- P1.3** Understand that diversity of interpretation arises from frame of reference.
- P1.4** Communicate clearly and coherently in writing, speaking, and visually expressing ideas pertaining to social science topics, acknowledging audience and purpose.
- P1.5** Present a coherent thesis when making an argument, support with evidence, articulate and answer possible objections, and present a concise, clear closing.

World History & Geography

- 7.1.2** Comparative Global Power – Use historical and modern maps and other sources to analyze and explain the changes in the global balance of military, political, and economic power between 1900 and 1945 (including the changing role of the United States and those resisting foreign domination).
- 7.1.4** Global Technology – Describe significant technological innovations and scientific breakthroughs in transportation, communication, medicine, and warfare and analyze how they both benefited and imperiled humanity.

US History & Geography

- 6.1.1** Factors in the American Industrial Revolution – Analyze the factors that enabled the United States to become a major industrial power, including
- technological advances
- 6.3.2** Causes and Consequences of Progressive Reform – Analyze the causes, consequences, and limitations of Progressive reform in the following areas
- role of reform organizations, movements and individuals in promoting change (e.g., Women’s Christian Temperance Union, settlement house movement, conservation movement, and the National Association for the Advancement of Colored People, Jane Addams, Carrie Chapman Catt, Eugene Debs, W.E.B. DuBois, Upton Sinclair, Ida Tarbell)
 - efforts to expand and restrict the practices of democracy as reflected in post-Civil War struggles of African Americans and immigrants

National Science Content Standards

Strand

- A** Science as Inquiry
C Life Science
D Earth and space science
E Science and technology
F Science in personal and social perspectives
G History and nature of science

National English Language Arts Content Standards

Strand

- 3** Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).
- 4** Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- 5** Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- 7** Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

National Social Studies Content Standards: Themes

- I Culture
- II Time, continuity, and change
- III People, places, and environments
- VIII Science, technology, and society
- IX Global connections

National United States History Content Standards 5-12: Eras

- Era 6: The development of the industrial United States (1870 to 1900)
- Era 7: The emergence of modern America (1890 to 1930)

National World History Content Standards 5-12: Eras

- Era 8: A Half-Century of Crisis and Achievement, 1900-1945