



Henry Ford Museum* ■ Greenfield Village* ■ IMAX® Theatre ■ Ford Rouge Factory Tour ■ Benson Ford Research Center*

Transportation in America Curriculum Connections

The following Michigan Grade Level and High School Content Expectations and national standards are met by The Henry Ford's resources on the theme Transportation in America:

Michigan Grade Level & High School Social Studies Content Expectations

Kindergarten

- G5.0.1** Describe ways people use the environment to meet human needs and wants (e.g., food, shelter, clothing).
- C2.0.2** Explain why people do not have the right to do whatever they want (e.g., to promote fairness, ensure the common good, maintain safety).

Grade 1

- H2.0.5** Use historical records and artifacts (e.g., photos, diaries, oral histories, and videos) to draw possible conclusions about family or school life in the past.
- H2.0.6** Compare life today with life in the past using the criteria of family, school, jobs, or communication.
- G5.0.1** Describe ways in which people modify (e.g., cutting down trees, building roads) and adapt to the environment (e.g., clothing, housing, transportation).
- E1.0.1** Distinguish between producers and consumers of goods and services.

Grade 2

- H2.0.3** Use an example to describe the role of the individual in creating history.
- H2.0.4** Describe changes in the local community over time (e.g., types of businesses, architecture and landscape, jobs, transportation, population).
- H2.0.6** Construct a historical narrative about the history of the local community from a variety of sources (e.g., data gathered from local residents, artifacts, photographs).
- G4.0.1** Describe land use in the community (e.g., where people live, where services are provided, where products are made).
- G4.0.2** Describe the means people create for moving people, goods, and ideas within the local community.
- G5.0.2** Describe positive and negative consequences of changing the physical environment of the local community.
- C3.0.2** Use examples to describe how local government affects the lives of its citizens.
- E1.0.4** Describe the natural, human, and capital resources needed for production of a good or service in a community.
- E1.0.3** Describe how businesses in the local community meet economic wants of consumers.
- E1.0.5** Use examples to show that people cannot produce everything they want (specialization) and depend on trade with others to meet their wants.

Grade 3

- H3.0.8** Use case studies or stories to describe how the ideas or actions of individuals affected the history of Michigan.
- G4.0.2** Describe diverse groups that have come into a region of Michigan and reasons why they came (push/pull factors). (H)
- G4.0.3** Describe some of the current movements of goods, people, jobs or information to, from, or within Michigan and explain reasons for the movements. (E)
- G5.0.1** Locate natural resources in Michigan and explain the consequences of their use.
- G5.0.2** Describe how people adapt to, use, and modify the natural resources of Michigan. (H)
- C5.0.1** Identify rights (e.g., freedom of speech, freedom of religion, right to own property) and responsibilities of citizenship (e.g., respecting the rights of others, voting, obeying laws).
- E1.0.3** Analyze how Michigan's location and natural resources influenced its economic development (e.g., how waterways and other natural resources have influenced economic activities such as mining, lumbering, automobile manufacturing, and furniture making). (H, G)
- E1.0.4** Describe how entrepreneurs combine natural, human, and capital resources to produce goods and services in Michigan. (H, G)
- E2.0.1** Using a Michigan example, describe how specialization leads to increased interdependence (cherries grown in Michigan are sold in Florida; oranges grown in Florida are sold in Michigan).
- E3.0.1** Identify products produced in other countries and consumed by people in Michigan.

Grade 4

- H3.0.1** Use historical inquiry questions to investigate the development of Michigan's major economic activities (manufacturing, technology) from statehood to present.
- 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?
- H3.0.2** Use primary and secondary sources to explain how migration and immigration affected and continues to affect the growth of Michigan. (G)
- H3.0.3** Describe how the relationship between the location of natural resources and the location of industries (after 1837) affected and continues to affect the location and growth of Michigan cities. (G, E)
- H3.0.4** Draw upon stories, photos, artifacts, and other primary sources to compare the life of people in towns and cities in Michigan and in the Great Lakes region during a variety of time periods from 1837 to the present (e.g., 1837-1900, 1900-1950, 1950-2000). (G)
- H3.0.5** Use visual data and informational text or primary accounts to compare a major Michigan economic activity today with that same or a related activity in the past. (E)

- H3.0.6** Use a variety of primary and secondary sources to construct a historical narrative about the beginnings of the automobile industry and the labor movement in Michigan.
- H3.0.9** Create timelines (using decades after 1930) to sequence and describe important events in Michigan history; annotate with connections to the past and impact on the future.
- G4.0.1** Use a case study or story about migration within or to the United States to identify push and pull factors (why they left, why they came) that influenced the migration. (H)
- G4.0.2** Describe the impact of immigration to the United States on the cultural development of different places or regions of the United States (e.g., forms of shelter, language, food). (H)
- G5.0.1** Assess the positive and negative effects of human activities on the physical environment of the United States.
- C5.0.1** Explain responsibilities of citizenship (e.g., initiating changes in laws or policy, holding public office, respecting the law, being informed and attentive to public issues, paying taxes, registering to vote and voting knowledgeably, serving as a juror).
- E1.0.4** Explain how price affects decisions about purchasing goods and services (substitute goods).
- E1.0.5** Explain how specialization and division of labor increase productivity (e.g., assembly line). (H)
- E1.0.6** Explain how competition among buyers results in higher prices and competition among sellers results in lower prices (e.g., supply, demand).
- E1.0.7** Demonstrate the circular flow model by engaging in a market simulation, which includes households and businesses and depicts the interactions among them.
- E1.0.8** Explain why public goods (e.g., libraries, roads, parks, the Mackinac Bridge) are not privately owned. (H)
- E3.0.1** Describe how global competition affects the national economy (e.g., outsourcing of jobs, increased supply of goods, opening new markets, quality controls).

Grade 6

- H1.2.1** Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).
- H1.2.2** Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.
- H1.2.3** Identify the point of view (perspective of the author) and context when reading and discussing primary and secondary sources.
- H1.2.4** Compare and evaluate competing historical perspectives about the past based on proof.
- H1.4.1** Describe and use cultural institutions to study an era and a region (political, economic, religion/belief, science/technology, written language, education, family).
- H1.4.2** Describe and use themes of history to study patterns of change and continuity.

- H1.4.3** Use historical perspective to analyze global issues faced by humans long ago and today.
- H1.2.5** Identify the role of the individual in history and the significance of one person's ideas.
- G2.2.2** Explain that communities are affected positively or negatively by changes in technology (e.g., Canada with regard to mining, forestry, hydroelectric power generation, agriculture, snowmobiles, cell phones, air travel).
- G4.2.1** List and describe the advantages and disadvantages of different technologies used to move people, products, and ideas throughout the world (e.g., transport of people and perishable products).
- G4.3.2** Describe patterns of settlement by using historical and modern maps (e.g., coastal and river cities and towns in the past and present, locations of megacities – modern cities over 5 million, such as Mexico City, and patterns of agricultural settlements in South and North America).
- E2.3.1** Describe the impact of governmental policy (sanctions, tariffs, treaties) on that country and on other countries that use its resources.
- Grade 7**
- H1.2.1** Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).
- H1.2.2** Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.
- H1.2.3** Identify the point of view (perspective of the author) and context when reading and discussing primary and secondary sources.
- H1.2.4** Compare and evaluate competing historical perspectives about the past based on proof.
- H1.2.5** Describe how historians use methods of inquiry to identify cause effect relationships in history noting that many have multiple causes.
- H1.2.6** Identify the role of the individual in history and the significance of one person's ideas.
- H1.4.1** Describe and use cultural institutions to study an era and a region (political, economic, religion/ belief, science/technology, written language, education, family).
- H1.4.2** Describe and use themes of history to study patterns of change and continuity.
- H1.4.3** Use historical perspectives to analyze global issues faced by humans long ago and today.
- G2.2.2** Explain that communities are affected positively or negatively by changes in technology (e.g., pollution resulting from increased manufacturing and automobiles).
- G4.1.1** Identify and explain examples of cultural diffusion within the Eastern Hemisphere.
- G4.2.1** List and describe the advantages and disadvantages of different technologies used to move people, products, and ideas throughout the world (e.g., the effects of technology on reducing the time necessary for communications and travel).

E2.3.1 Explain how national governments make decisions that impact both that country and other countries that use its resources.

Grade 8

U4.2.1 Comparing Northeast and the South – Compare and contrast the social and economic systems of the Northeast and the South with respect to geography and climate and the development of – transportation including changes in transportation (steamboats and canal barges) and impact on economic markets and prices (E1.2,1.3) (*National Geography Standard 3, p. 148*)

U5.2.2 Make an argument to explain the reasons why the North won the Civil War by considering the – the respective advantages and disadvantages, including geographic, demographic, economic and technological (E1.4) (*National Geography Standard 15, p. 173*)

U6.1.1 America at Century’s End – Compare and contrast the United States in 1800 with the United States in 1898 focusing on similarities and differences in – systems of transportation (canals and railroads, including the Transcontinental Railroad), and their impact on the economy and society (E1.4, 3.2) (*National Geography Standard 11, p. 164*)

P3.1.1 Identify, research, analyze, discuss, and defend a position on a national public policy issue.

- Identify a national public policy issue.
- Clearly state the issue as a question of public policy orally or in written form.
- Use inquiry methods to trace the origins of the issue and to acquire data about the issue.
- Generate and evaluate alternative resolutions to the public issue and analyze various perspectives (causes, consequences, positive and negative impact) on the issue.
- Identify and apply core democratic values or constitutional principles.
- Share and discuss findings of research and issue analysis in group discussions and debates.
- Compose a persuasive essay justifying the position with a reasoned argument.
- Develop an action plan to address or inform others about the issue

P4.2.2 Engage in activities intended to contribute to solving a national or international problem studied.

P4.2.3 Participate in projects to help or inform others (e.g., service learning projects).

Grade 9-12 - U.S. History & Geography (USHG)

F2.1 Describe the major trends and transformations in American life prior to 1877 including – changes in commerce, transportation, and communication (*National Geography Standard 11, p. 206*)

6.1.1 Factors in the American Industrial Revolution – Analyze the factors that enabled the United States to become a major industrial power, including

- gains from trade (*National Geography Standard 11, p. 206*)
- organizational “revolution” (e.g., development of corporations and labor organizations)
- advantages of physical geography (*National Geography Standards 4, 7, and 15; pp. 190, 197, and 214*)

- increase in labor through immigration and migration (*National Geography Standard 9, p. 201*)
 - economic policies of government and industrial leaders (including Andrew Carnegie and John D. Rockefeller)
 - technological advances
- 6.1.3** Urbanization – Analyze the changing urban and rural landscape by examining
- the location and expansion of major urban centers (*National Geography Standard 12, p. 208*)
 - the growth of cities linked by industry and trade (*National Geography Standard 11, p. 206*)
 - the development of cities divided by race, ethnicity, and class (*National Geography Standard 10, p. 203*)
 - resulting tensions among and within groups (*National Geography Standard 13, p. 210*)
 - different perspectives about immigrant experiences in the urban setting (*National Geography Standards 9 and 12, pp. 201 and 208*)
- 6.1.4** Population Changes – Use census data from 1790-1940 to describe changes in the composition, distribution, and density of the American population and analyze their causes, including immigration, the Great Migration, and urbanization. (*National Geography Standard 9 and 12, pp. 201 and 208*)
- 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 (*National Geography Standard 16, p. 216*)
 - entrepreneurial decision making by Henry Ford and others
 - domestic and international migrations (*National Geography Standard 9, p. 201*)
 - the development of an industrial work force
 - the impact on Michigan
 - the impact on American society
- 6.3.1** Social Issues – Describe at least three significant problems or issues created by America’s industrial and urban transformation between 1895 and 1930 (e.g., urban and rural poverty and blight, child labor, immigration, political corruption, public health, poor working conditions, and monopolies).
- 7.1.1** The Twenties – Identify and explain the significance of the cultural changes and tensions in the “Roaring Twenties” including
- the struggle between “traditional” and “modern” America (e.g., role of women, mass consumption)
- 7.1.2** Causes and Consequences of the Great Depression – Explain and evaluate the multiple causes and consequences of the Great Depression by analyzing
- the economic and social toll of the Great Depression, including unemployment and environmental conditions that affected farmers, industrial workers and families (*National Geography Standard 15, p. 214*)
- 7.2.3** Impact of WWII on American Life – Analyze the changes in American life brought about by U.S. participation in World War II including
- mobilization of economic, military, and social resources
 - role of women and minorities in the war effort
 - role of the home front in supporting the war effort (e.g., rationing, work hours, taxes)

- 8.2.1** Demographic Changes – Use population data to produce and analyze maps that show the major changes in population distribution, spatial patterns and density, including the Baby Boom, new immigration, suburbanization, reverse migration of African Americans to the South, and the flow of population to the “Sunbelt.”
- 8.2.2** Policy Concerning Domestic Issues – Analyze major domestic issues in the Post-World War II era and the policies designed to meet the challenges by
- describing issues challenging Americans such as labor, poverty, infrastructure, and the environment (*National Geography Standards 9 and 14; pp. 201 and 212*)
 - evaluating policy decisions and legislative actions to meet these challenges (e.g., G.I. Bill of Rights (1944), Federal Highways Act (1956), E.P.A. (1970) (*National Geography Standards 12 and 14; pp. 208 and 212*))
- 8.3.1** Civil Rights Movement – Analyze the key events, ideals, documents, and organizations in the struggle for civil rights by African Americans including
- protest movements, organizations, and civil actions (e.g., Montgomery Bus Boycott (1955–1956), freedom rides)
- 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, international competition, new sources of production, energy issues, and mass communication.
- 9.3.1** Compose a persuasive essay on a public policy issue, and justify the position with a reasoned argument based upon historical antecedents and precedents, and core democratic values or constitutional principles.
- national economic policy
 - energy policy (*National Geography Standard 17, p. 216*)

Grades 9-12 - World History & Geography (WHG)

- 6.1.2** World-wide Migrations and Population Changes – Analyze the causes and consequences of shifts in world population and major patterns of long-distance migrations of Europeans during this era (18th century to 1914), including the impact of industrialism and scientific advances on worldwide demographic trends.
- 6.1.3** Increasing Global Interconnections– Describe increasing global interconnections between societies, through the emergence and spread of ideas, innovations, and commodities including the global spread of major innovations, technologies, and commodities via new global networks (*National Geography Standard 11, p. 206*)
- 7.1.1** Increasing Government and Political Power – Explain the expanding role of state power in managing transportation systems, including its impact of the daily lives of their citizens. (See 7.3.2) (*National Geography Standard 13, p. 210*)
- 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. (*National Geography Standard 11, p. 206*)
- 6.2.3** Industrialization – Analyze the origins, characteristics and consequences of industrialization across the world by

- comparing and contrasting the process and impact of industrialization in Russia, Japan, and one of the following: Britain, Germany, United States, or France
- describing the social and economic impacts of industrialization, particularly its effect on women and children, and the rise of organized labor movements
- describing the environmental impacts of industrialization and urbanization

CG2

Resources - Explain the changes over the past 50 years in the use, distribution, and importance of natural resources (including land, water, energy, food, renewable, non-renewable, and flow resources) on human life, settlement, and interactions by describing and evaluating

- change in spatial distribution and use of natural resources
- the differences in ways societies have been using and distributing natural resources
- social, political, economic, and environmental consequences of the development, distribution, and use of natural resources
- major changes in networks for the production, distribution, and consumption of natural resources including growth of multinational corporations, and governmental and non-governmental organizations (e.g., OPEC)
- the impact of humans on the global environment

(National Geography Standard 16, p. 216)

CG3

Patterns of Global Interactions - Define the process of globalization and evaluate the merit of this concept to describe the contemporary world by analyzing

- economic interdependence of the world's countries and world trade patterns
- the exchanges of scientific, technological, and medical innovations
- cultural diffusion and the different ways cultures/societies respond to "new" cultural ideas and patterns
- comparative economic advantages and disadvantages of regions, regarding cost of labor, natural resources, location, and tradition
- distribution of wealth and resources and efforts to narrow the inequitable distribution of resources

(National Geography Standards 6 and 11, pp. 195 and 206)

Grades 9-12 - Economics (E)

- 1.1.2** Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.
- 1.2.2** Price in the Market – Analyze how prices send signals and provide incentives to buyers and sellers in a competitive market.
- 1.3.2** Law of Demand – Explain the law of demand and analyze the likely change in demand when there are changes in prices of the goods or services, availability of alternative (substitute or complementary) goods or services, or changes in the number of buyers in a market created by such things as change in income or availability of credit.
- 1.4.2** Government and Consumers – Analyze the role of government in protecting consumers and enforcing contracts, (including property rights), and explain how this role influences the incentives (or disincentives) for people to produce and exchange goods and services.

- 1.4.3 Government Revenue and Services – Analyze the ways in which local and state governments generate revenue (e.g., sales taxes) and use that revenue for public services (e.g., highways).
- 1.4.4 Functions of Government – Explain the various functions of government in a market economy including the provision of public goods and services.
- 1.4.5 Economic Incentives and Government – Identify and explain how monetary and non-monetary incentives affect government officials and voters and explain how government policies affect the behavior of various people including consumers, savers, investors, workers, and producers.
- 2.1.9 American Economy in the World – Analyze the changing relationship between the American economy and the global economy including, but not limited to, the increasing complexity of American economic activity (e.g., outsourcing, off-shoring, and supply-chaining) generated by the expansion of the global economy.
- 3.2.2 Domestic Activity and World Trade – Assess the impact of trade policies (i.e. tariffs, quotas, export subsidies, product standards and other barriers), monetary policy, exchange rates, and interest rates on domestic activity and world trade. (*National Geography Standard 11, p. 206*)
- 3.2.5 The Global Economy and the Marketplace – Analyze and describe how the global economy has changed the interaction of buyers and sellers, such as in the automobile industry.

Grades 9-12 - Civics (C)

- 2.2.3 Use past and present policies to analyze conflicts that arise in society due to competing constitutional principles or fundamental values (e.g., liberty and authority, individual rights, and the common good). (See USHG 6.3.2; 8.2.4; 8.3.1; 9.2.2)
- 2.2.5 Use examples to investigate why people may agree on constitutional principles and fundamental values in the abstract, yet disagree over their meaning when they are applied to specific situations.
- 3.1.4 Identify the role of independent regulatory agencies in the federal bureaucracy. (See USHG 6.3.2)
- 3.4.4 Describe considerations and criteria that have been used to deny, limit, or extend protection of individual rights (e.g., clear and present danger, time, place and manner restrictions on speech, compelling government interest, security, libel or slander, public safety, and equal opportunity).
- 3.5.1 Explain how political parties, interest groups, the media, and individuals can influence and determine the public agenda.
- 3.5.3 Identify and explain the roles of various associations and groups in American politics (e.g., political organizations, political action committees, interest groups, voluntary and civic associations, professional organizations, unions, and religious groups).
- 3.5.4 Explain the concept of public opinion, factors that shape it, and contrasting views on the role it should play in public policy.
- 3.5.5 Evaluate the actual influence of public opinion on public policy.
- 4.2.2 Analyze the impact of American political, economic, technological, and cultural developments on other parts of the world (e.g., immigration policies, economic, military and humanitarian aid, computer technology research, popular fashion, and film). (See USHG 6.1.4; 8.2.1)
- 4.2.3 Analyze the impact of political, economic, technological, and cultural developments around the world on the United States (e.g., terrorism,

emergence of regional organizations like the European Union, multinational corporations, and interdependent world economy). (See USHG 6.1.1; 9.1.1; 9.2.1)

- 5.2.1 Explain the distinction between citizens by birth, naturalized citizens, and non-citizens.
- 6.1.1 Identify and research various viewpoints on significant public policy issues.
- 6.1.2 Locate, analyze, and use various forms of evidence, information, and sources about a significant public policy issue, including primary and secondary sources, legal documents, non-text based information and other forms of political communication.
- 6.1.4 Address a public issue by suggesting alternative solutions or courses of action, evaluating the consequences of each, and proposing an action to address the issue or resolve the problem.
- 6.1.5 Make a persuasive, reasoned argument on a public issue and support using evidence (e.g., historical and contemporary examples), constitutional principles, and fundamental values of American constitutional democracy; explain the stance or position.
- 6.2.6 Analyze different ways people have used civil disobedience, the different forms civil disobedience might take (e.g., violent and non-violent) and their impact.

Michigan Grade Level & High School English Language Arts 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.
- R.CM.03.02 Retell in sequence the story elements of grade-level narrative text and major idea(s) and relevant details of grade-level informational text.
- R.CM.03.03 Compare and contrast relationships among characters, events, and key ideas within and across texts to create a deeper understanding; including a narrative to an informational text, a literature selection to a subject area text, and a historical event to a current event.
- R.CM.03.04 Apply significant knowledge from grade-level science, social studies, and mathematics texts.
- W.GN.03.04 Use the writing process to produce and present a research project; initiate research questions from content area text from a teacher-selected topic; and use a variety of resources to gather and organize information.
- L.RP.03.03 Respond to multiple text types listened to or viewed knowledgeably, by discussing, illustrating, and/ or writing in order to reflect, make connections, take a position, and/or show understanding.
- L.RP.03.02 Select, listen to or view knowledgeably, and respond thoughtfully to both classic and contemporary texts recognized for quality and literary merit
- S.DS.03.03 Respond to multiple text types by reflecting, making connections, taking a position, and/or showing understanding.

Grade 4

- W.GN.04.04 Use the writing process to produce and present a research project using a teacher-approved topic; find and narrow research questions; use a variety of resources; take notes; and organize relevant information to draw conclusions.
- R.CM.04.01 Connect personal knowledge, experiences, and understanding of the world to themes and perspectives in text through oral and written responses.

- R.CM.04.02** Retell through concise summarization grade-level narrative and informational text.
- R.CM.04.03** Explain relationships among themes, ideas, and characters within and across texts to create a deeper understanding by categorizing and classifying, comparing and contrasting, or drawing parallels across time and culture.
- R.CM.04.04** Apply significant knowledge from grade-level science, social studies, and mathematics texts.
- 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.
- L.RP.04.03** Respond to multiple text types listened to or viewed knowledgeably, by discussing, illustrating, and/or writing in order to clarify meaning, make connections, take a position, and/or show deep understanding.

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.
- R.CM.05.02** Retell through concise summarization grade-level narrative and informational text.
- R.CM.05.03** Analyze global themes, universal truths, and principles within and across text to create a deeper understanding by drawing conclusions, making inferences, and synthesizing.
- R.CM.05.04** Apply significant knowledge from grade-level science, social studies, and mathematics texts.
- W.GN.05.04** Use the writing process to produce and present a research project; use a variety of resources to gather and organize relevant information into central ideas and supporting details for a teacher-approved narrowed focus question and hypothesis.
- S.DS.05.03** Respond to multiple text types by analyzing content, interpreting the message, and evaluating the purpose.
- L.RP.05.01** Listen to or view knowledgeably and discuss a variety of genre and compare their responses to those of their peers.
- L.RP.05.03** Respond to multiple text types listened to or viewed knowledgeably, by discussing, illustrating, and/or writing in order to clarify meaning, make connections, take a position, and/or show deep understanding without major misconceptions.

Grade 6

- L.RP.06.01** Listen to or view knowledgeably a variety of genre to summarize, take notes on key points, and ask clarifying questions.

Grade 8

- W.GN.08.03** Formulate research questions that demonstrate critical evaluation of multiple resources, perspectives, and arguments/counter-arguments that culminate in a presented final project using the writing process.
- S.DS.08.04** Plan, outline, and deliver an informational presentation using precise and vivid language in the active voice; organizing logically to convey the message; applying persuasive on-verbal techniques; making use of rhetorical strategies to support the purpose of the presentation and to positively impact the intended audience.

Grades 9-12

- CE 1.3.1** Compose written, spoken, and/or multimedia compositions in a range of genres (e.g., personal narrative, biography, poem, fiction, drama, creative nonfiction, summary, literary analysis essay, research report, or work-related text): pieces that serve a variety of purposes (e.g., expressive, informative, creative, and persuasive) and that use a variety of organizational patterns (e.g., autobiography, free verse, dialogue, comparison/contrast, definition, or cause and effect).
- CE 1.3.7** Participate collaboratively and productively in groups (e.g., response groups, discussion groups) fulfilling roles and responsibilities, posing relevant questions, giving and following instructions, acknowledging and building on ideas and contributions of others to answer questions or to solve problems, and offering dissent courteously.
- CE 1.4.1** Identify, explore, and refine topics and questions appropriate for research.
- CE 1.4.2** Develop a system for gathering, organizing, paraphrasing, and summarizing information; select, evaluate, synthesize, and use multiple primary and secondary (print and electronic) resources.
- CE 1.4.3** Develop and refine a position, claim, thesis, or hypothesis that will be explored and supported by analyzing different perspectives, resolving inconsistencies, and writing about those differences in a structure appropriate for the audience (e.g., argumentative essay that avoids inconsistencies in logic and develops a single thesis).
- CE 1.4.5** Develop organizational structures appropriate to the purpose and message, and use transitions that produce a sequential or logical flow of ideas.
- CE 1.4.6** Use appropriate conventions of textual citation in different contexts (e.g., different academic disciplines and workplace writing situations).
- CE 1.4.7** Recognize the role of research, including student research, as a contribution to collective knowledge, selecting an appropriate method or genre through which research findings will be shared and evaluated, keeping in mind the needs of the prospective audience. (e.g., presentations, online sharing, written products such as a research report, a research brief, a multi-genre report, I-Search, literary analysis, news article).
- CE 1.5.1** Use writing, speaking, and visual expression to develop powerful, creative and critical messages.
- CE 1.5.4** Use technology tools (e.g, word processing, presentation and multimedia software) to produce polished written and multimedia work (e.g., literary and expository works, proposals, business presentations, advertisements).
- CE 2.1.3** Determine the meaning of unfamiliar words, specialized vocabulary, figurative language, idiomatic expressions, and technical meanings of terms through context clues, word roots and affixes, and the use of appropriate resource materials such as print and electronic dictionaries.
- CE 2.2.3** Interpret the meaning of written, spoken, and visual texts by drawing on different cultural, theoretical, and critical perspectives.
- CE 2.3.4** Critically interpret primary and secondary research-related documents (e.g., historical and government documents, newspapers, critical and technical articles, and subject-specific books).

Grade 3

Note: The Science, Life Skills and Innovations in American Automobile Racing unit plan meets Michigan Grade Level Content Expectations for grades 3-8. However, grade 3 teachers should consider introducing the lessons' concepts rather than assigning activity sheets, depending on students' background knowledge.

- E.SE.03.32** Describe how materials taken from the Earth can be used as fuels for heating and transportation.
- 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.03.11** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- 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.
- P.FM.03.35** Describe how a push or a pull is a force.
- P.FM.03.36** Relate a change in motion of an object to the force that caused the change of motion.
- P.FM.03.37** Demonstrate how the change in motion of an object is related to the strength of the force acting upon the object and to the mass of the object.
- P.FM.03.38** Demonstrate when an object does not move in response to a force, it is because another force is acting on it.
- P.FM.03.41** Compare and contrast the motion of objects in terms of direction.
- P.FM.03.42** Identify changes in motion
- P.FM.03.43** Calculate the speed of an object based on the distance it travels divided by the amount of time it took to travel that distance.

Grade 4

- S.RS.04.11** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- 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.04.19** Describe how people have contributed to science throughout history and across cultures.

Grade 5

- S.RS.05.15** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- S.RS.05.16** Design solutions to problems using technology.
- S.RS.05.19** Describe how people have contributed to science throughout history and across cultures.
- P.FM.05.31** Describe what happens when two forces act on an object in the same or opposing directions.
- P.FM.05.32** Describe how constant motion is the result of balanced (zero net) forces.
- P.FM.05.33** Describe how changes in the motion of objects are caused by a nonzero net (unbalanced) force.
- P.FM.05.34** Relate the size of change in motion to the strength of unbalanced forces and the mass of the object.
- P.FM.05.41** Explain the motion of an object relative to its point of reference.

- P.FM.05.42** Describe the motion of an object in terms of distance, time, and direction, as the object moves, and in relationship to other objects.
- P.FM.05.43** Illustrated how motion can be represented on a graph.

Grade 6

- S.RS.06.15** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- S.RS.06.16** Design solutions to problems using technology.
- S.RS.06.18** Describe what science and technology can and cannot reasonably contribute to society.
- S.RS.06.19** Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.
- P.EN.06.11** Identify kinetic energy and potential energy in everyday situations.

Grade 7

- S.RS.07.15** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- S.RS.07.16** Design solutions to problems using technology.
- S.RS.07.18** Describe what science and technology can and cannot reasonably contribute to society.
- S.RS.07.19** Describe how science and technology have been advanced because of the contributions of many people throughout history and across cultures.
- N.FL.07.03** Calculate rates of change including speed.
- 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.

Grades 9-12 - Physics

- P1.2g** Identify scientific tradeoffs in design decisions and choose among alternative solutions.
- P1.2j** Apply science principles or scientific data to anticipate effects of technological design decisions.
- P1.2k** Analyze how science and society interact from a historical, political, economic, or social perspective.
- P2.1A** Calculate the average speed of an object using the change of position and elapsed time.
- P2.2A** Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.
- P2.2D** State that uniform circular motion involves acceleration without a change in speed.
- P2.3a** Describe and compare the motion of an object using different reference frames.
- P3.1A** Identify the forces acting between objects in direct contact or at a distance.
- P3.2A** Identify the magnitude and direction of everyday forces.
- P3.2C** Calculate the net force acting on an object.
- P3.3A** Identify the action and reaction force from everyday examples of force in everyday situations.
- P3.3b** Predict how the change in velocity of a small mass compares with the change in velocity of a large mass.
- P3.4A** Predict the change in motion of an object acted upon by several forces.

- P3.4B** Identify forces acting on objects moving with constant velocity (e.g., cars on a highway.)
- P3.4C** Solve problems involving force, mass, and acceleration in linear motion.
- P3.4D** Identify forces acting on objects moving with uniform circular motion (e.g., cars on a circular track).
- P3.4f** Calculate the changes in velocity of a thrown or hit object during and after the time it is acted on by the force.
- P3.4g** Explain how the time of impact can affect the net force (e.g., air bags in cars, catching a ball).
- P3.4g** Explain how the time of impact can affect the net force (e.g., air bags in cars).
- P3.5a** Apply conservation of momentum to solve simple collision problems.
- P4.1c** Explain why work has a more precise scientific meaning than the meaning of work in everyday language.
- P4.1d** Calculate the amount of work done on an object that is moved from one position to another.
- P4.2A** Account for and represent energy transfer and transformation in complex processes (interactions).
- P4.2B** Name devices that transform specific types of energy into other types of energy (e.g., a device that transformed electricity into motion).
- P4.2D** Explain why all the stored energy in gasoline does not transform to mechanical energy of a vehicle.
- P4.3C** Explain why all mechanical systems require an external energy source to maintain their motion.
- P4.3d** Rank the amount of kinetic energy from highest to lowest of everyday examples of moving objects.

Biology

- E2.4A** Describe renewable and nonrenewable sources of energy for human consumption (electricity, fuels), compare their effects on the environment, and include overall costs and benefits.
- 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.
- E2.4c** Explain ozone depletion in the stratosphere and methods to slow human activities to reduce ozone depletion.
- E2.4d** Describe the life cycle of a product, including the resources, production, packaging, transportation, disposal, and pollution.

Common Core State Reading Standards for Literacy in History/Social Studies 6–12

Key Ideas and Details	Craft and Structure	Integration of Knowledge and Ideas
Grades 6-8: 1, 3	Grades 6-8: 4, 5	Grades 6-8: 7, 9
Grades 9-10: 1, 3	Grades 9-10: 4, 5	Grades 9-10: 7
Grades 11-12: 1		

National Social Studies Content Standards: Themes

- I Culture
- II Time, continuity, and change
- III People, places, and environments
- IV Individual development and identity

- V Individuals, groups, and institutions
- VI Power, authority, and governance
- VII Production, distribution, and consumption
- VIII Science, technology, and society
- IX Global connections
- X Civic ideals and practices

National History Content Standards K-4

Topic 1: Living and Working Together in Families and Communities, Now and Long Ago

Topic 2: The History of the Students' Own State or Region

Topic 3: The History of the United States

Topic 4: The History of Peoples of Many Cultures around the World

National United States History Content Standards 5-12

Era 4: Expansion and reform (1801 to 1861)

Era 5: Civil War and reconstruction (1850 to 1877)

Era 6: The development of the industrial United States (1870 to 1900)

Era 7: The emergence of modern America (1890 to 1930)

Era 8: The Great Depression and World War II (1929 to 1945)

Era 9: Postwar United States (1945 to early 1970s)

Era 10: Contemporary United States (1968 to the present)

National Science Content Standards

Science and technology

Science in personal and social perspectives

History and nature of science

Physical science

National English Language Arts Content Standards

1. Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.

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.

8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.