

**INDUSTRIAL TECHNOLOGY EDUCATION
ESSENTIAL LEARNINGS
Academic Standards Crosswalk**

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INTRODUCTION:

Mission Statement

The Mission of Industrial Technology Education in Nebraska is to: Prepare all students for productive lives through exploration and application of traditional and emerging technologies within a competitive global society.

We Believe Industrial Technology Education:

- is an integral part of the preparation of the student to meet the challenges of a technological society
- exercises the critical thinking, problem solving and experimentation that allows students to express themselves through creative thinking
- is the study and application of technology
- makes learning real and relevant
- is kept strong and dynamic through the cooperation partnerships with business and industry
- places a great deal of emphasis on professionalism in our teachers
- promotes and rewards a positive work ethic
- allow students to acquire, develop, and apply knowledge and skills.

Nebraska L.E.A.R.N.S.

Nebraska L.E.A.R.N.S. outlines the academic content standards approved by the Nebraska State Board of Education. The focus of the standards is to help young people of become participating and informed citizens. The standards reflect what students should know and be able to do by the end of grades 1, 4, 8, and 12. The standards are not minimum standards of learning for students but are challenging and rigorous. The Industrial Technology Education LINKS (Crosswalk) specifically focuses on grades 8 and 12.

The L.E.A.R.N.S. standards are in four core areas: reading/writing, social sciences/history, mathematics and science. These standards are further divided into strands or topic areas.

Industrial Technology Education Links to L.E.A.R.N.S.

The ITE Links to L.E.A.R.N.S. document was written by members of the original ITE K-12 Framework advisory team. This group of individuals represented a diverse cross-section of school sizes, philosophical beliefs and geographic locations and were charged with the task of cross walking the student performance standards in our framework to those standards found in the L.E.A.R.N.S. document. The efforts of these teachers will assist others across the state as they develop assessment plans for their local school districts.

The coding system used in the LINKS document was devised to provide for quick reference to the performance standards in the four ITE strands (communication, construction, manufacturing, and transportation) in both grade level of performance and in regard to the common threads that were identified in the ITE K-12 Framework (systems, characteristics, impacts and development, problem solving/decision making, resources, integrated skills, and career information/transition).

The letter abbreviation represent the ITE strand, the first number indicates the grade level, either 8 or 12, and the second number indicates the thread and the third number the order of the performance standard in the Framework.

The coding at the beginning of each corresponding L.E.A.R.N.S. standard will direct the reader to a specific standard and student demonstration found in the complete standards document.

ACKNOWLEDGMENTS:

Recognition and appreciation are extended to the many individuals and the Nebraska Department of Education for their contribution in the development of the Nebraska Industrial Technology Education LINKS to L.E.A.R.N.S.

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Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 12.1.3 Analyze the interaction of humans and machines.</p>	<p>R/W 12.1.6 By the end of the twelfth grade, students will read, identify, analyze, and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p>			<p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.3.1 By the end of the twelfth grade, students will develop an understanding of the structure of the atom.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 8.2.1 Explore, electronic, graphic, light, optic, and acoustic modes of communication.</p> <p>CM 8.2.2 Recognize the interaction of communication systems and gender/cultural diversity.</p> <p>CM 8.2.3 Send, receive, and understand verbal and non-verbal messages/information.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.7 By the end of the eighth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 8.1.3 Students will describe colonial America.</p> <p>SS/H 8.2.5 Students will describe the economic, social, and political transformation of the United States since World War II.</p> <p>SS/H 8.2.7 Students will develop skills for historical analysis.</p> <p>SS/H 8.2.8 Students will evaluate different assessments of the causes, costs, and benefits of major events in recent American history to develop discussion, debate, and persuasive writing skills.</p>	<p>M 8.5.2 By the end of the eighth grade, students will read and interpret tables, charts, and graphs to make comparisons, predictions, and inferences.</p> <p>M 8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.</p>	<p>S 8.5.1 By the end of the eighth grade, students will develop an understanding of the structure of the earth.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.7.3 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.7.4 By the end of the eighth grade, students will develop an understanding of risks and benefits.</p> <p>S 8.7.5 By the end of the eighth grade, students will develop an understanding of science and technology in society.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 12.2.1 Compare and contrast the past, present, and future characteristics, impacts, and developments of the communication systems.</p> <p>CM 12.2.2 Apply electronic, graphic, light, optic, and acoustic modes to send, receive, and process information.</p> <p>CM 12.2.3 Integrate gender/cultural diversity into a communication system.</p>	<p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.1.9 Students will analyze and explain the effects of the Industrial Revolution and identifying factors.</p> <p>SS/H 12.1.10 Students will analyze major 20th century historical events.</p> <p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p> <p>SS/H 12.2.2 Students will analyze how selected physical and ecological processes shaped the earth's surface.</p>		<p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.6.2 By the end of the twelfth grade, students will develop an understanding about science and technology.</p> <p>S 12.7.6 By the end of the twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.</p> <p>S 12.8.1 By the end of the twelfth grade, students will develop an understanding of science as a human endeavor.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.2.3 Students will explain how technological advances have led to increasing interaction among regions.</p> <p>SS/H 12.2.6 Students will analyze past and present trends in human migration and cultural interaction as they are influenced by social, economic, political, and environmental factors.</p> <p>SS/H 12.2.8 Students will identify natural hazards; describe their characteristics, explain their impact on human and physical systems, and assess efforts to manage their consequences in developed and less developed regions.</p> <p>SS/H 12.2.14 Students will analyze the forces of conflict and cooperation.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 8.3.1 Apply a problem-solving process to arrive at a workable solution to a communication problem.</p> <p>CM 8.3.2 Interact in a group to make informed decisions.</p>	<p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.5 By the end of the eighth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p> <p>R/W 8.3.1 By the end of the eighth grade, students will pose questions and contribute their own information or ideas in class discussions in order to acquire new knowledge.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.4.3 Students will describe, analyze, and evaluate the history of ancient Greece from about 2000 to 300 B.C. and explain its impact on Western civilization.</p>	<p>M 8.5.4 By the end of the eighth grade, students will recognize appropriate use of statistical methods and appropriate use of probability as a means for decision making.</p> <p>M 8.6.2 By the end of the eighth grade, students will apply algebraic concepts and algebraic operations to solving problems.</p>	<p>S 8.1.2 By the end of the eighth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 8.2.1 By the end of the eighth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 8.6.1 By the end of the eighth grade, students will develop an understanding of technological design.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.8.2 By the end of the eighth grade, students will develop an understanding of the nature of science.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 12.3.1 Develop and analyze the solution to a problem of information transfer.</p>	<p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.2.5 By the end of the twelfth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p>		<p>M 12.4.6 By the end of the twelfth grade, students will understand and apply geometric properties to solve problems.</p> <p>M 12.4.7 By the end of the twelfth grade, students will apply deductive reasoning to arrive at valid conclusions.</p> <p>M 12.5.1 By the end of the twelfth grade, students will apply sampling techniques to gather data, organize, display, and interpret data to solve complex problems.</p> <p>M 12.5.3 By the end of the twelfth grade, students will interpret theoretical probability to represent problems, solve problems, and make informal decisions.</p>	<p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.2.1 By the end of the twelfth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 12.6.1 By the end of the twelfth grade, students will develop an understanding of technological design.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 12.6.2 By the end of the twelfth grade, students will apply and solve problems involving equations and inequalities.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 8.4.1 Identify and safely apply communication resources to inform, persuade, or entertain.</p> <p>CM 8.4.2 Develop skills to process information.</p>	<p>R/W 8.1.2 By the end of the eighth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.4 By the end of the eighth grade, students will use a variety of forms to write for different audiences and purposes.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>			<p>S 8.7.1 By the end of eighth grade, students will develop an understanding of personal health.</p> <p>S 8.7.2 By the end of eighth grade, students will develop an understanding of populations, resources, and environments.</p> <p>S 8.7.4 By the end of eighth grade, students will develop an understanding of risks and benefits.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 12.4.1 Develop and analyze the solution to a problem of information transfer.</p>	<p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p> <p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p>	<p>SS/H 12.1.5 By the end of the twelfth grade, students will analyze the impact of European expansion into the Americas, Africa, and Asia.</p> <p>SS/H 12.2.12 Students will analyze the patterns and networks of economic interdependence, such as formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization, competition for resources; and access to labor, technology, transportation, and communications.</p>		<p>S 12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.</p> <p>S 12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.</p> <p>S 12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.3.8 Students will summarize causes and effects of the Industrial Revolution and identifying factors.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 8.5.1 Reinforce systems of communication by exploring and applying knowledge and skills from other curricular area.</p>	<p>R/W 8.1.1 By the end of eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.5 By the end of eighth grade, students will identify and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p> <p>R/W 8.2.1 By the end of eighth grade, students will identify, describe, and apply knowledge of the structure of the English language and standard English conventions for sentence structure, usage, punctuation, capitalization, and spelling.</p>		<p>M 8.1.1 By the end of eighth grade, students will recognize and utilize real numbers such as whole numbers, integers, and rational numbers.</p> <p>M 8.1.2 By the end of eighth grade, students will apply relationships between fractions, decimals, and percents in a variety of situations.</p> <p>M 8.2.1 By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators both with and without the use of technology.</p> <p>M 8.2.2 By the end of eighth grade, students will identify the appropriate operation and do the correct calculations to solve word problems.</p>	<p>S 8.1.3 By the end of eighth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 8.1.4 By the end of eighth grade, students will develop an understanding of form and function.</p> <p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.3.2 By the end of eighth grade, students will develop an understanding of motion and forces.</p> <p>S 8.3.3 By the end of eighth grade, students will develop an understanding of the transfer of energy.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 8.2.3 By the end of eighth grade, students will demonstrate improvement in organization, content, word choice, voice, sentence fluency, and standard English conventions after revising and editing their compositions.</p>		<p>M 8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) both with and without the use of technology. Problems will be of varying complexities and can involve real-life data.</p> <p>M 8.2.4 By the end of eighth grade, students will apply the order of operations to solve problems both with and without the use of technology.</p> <p>M 8.2.5 By the end of eighth grade, students will apply strategies of estimation to a variety of problems both with and without the use of technology.</p>	<p>S 8.6.2 By the end of eighth grade, students will develop an understanding of science and technology.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.3.1 By the end of eighth grade, students will select appropriate tools and properly measure quantities for temperature, time, money, length and width, area and perimeter, volume and capacity, weight, and mass in both standard and metric units at the level of precision required.</p> <p>M 8.3.2 By the end of eighth grade, students will convert units within measurement systems using proper conversion factors (standard and metric).</p> <p>M 8.4.1 By the end of eighth grade, students will identify, describe, compare, and classify geometric figures such as plane figures like polygons and circles; solid figures like prisms, pyramids, cones, spheres, and cylinders; and lines, line segments, rays, angles, parallel and perpendicular lines.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.4.2 By the end of eighth grade, students will understand and apply geometric properties and relationships of congruence, similarity, symmetry, and Pythagorean theorem.</p> <p>M 8.4.3 By the end of eighth grade, students will understand and apply the formulas to solve problems involving perimeter and area of a square, rectangle, parallelogram, trapezoid and triangle and area and circumference of circles.</p> <p>M 8.4.4 By the end of eighth grade, students will solve problems using the formulas for volume and surface area of rectangular prisms, cylinders, and cones.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CM 12.5.1 Recognize knowledge and skills from other curricular areas and apply them to enhance systems of communication.</p>	<p>R/W 12.2.2 By the end of twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.2.4 By the end of twelfth grade, students will use a variety of forms to write for different audiences and purposes.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p>	<p>M 8.4.5 By the end of eighth grade, students will apply transformations to geometric figures such as translations or slides, rotations or turns, reflections or flips, and scale or dilate.</p> <p>M 8.6.1 By the end of eighth grade, students will demonstrate knowledge and use of the one- and two-dimensional coordinate systems.</p> <p>M 12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.</p>	<p>S 12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.3.1 By the end of twelfth grade, students will pose questions and contribute their own information or ideas in group discussions in order to acquire new knowledge.</p> <p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>	<p>SS/H 12.4.1 Students will compare the United States constitutional system in 1789 with forms of democracy that developed in ancient Greece and Rome, in England, and in the American colonies and states in the 18th century.</p> <p>SS/H 12.4.21 Students will explain how forces of supply and demand in a market system answer basic economic questions, such as what to produce, photo produce, and for whom to produce.</p> <p>SS/H 12.4.24 Students will explain the interrelationship of producers, consumers, and government in the American economic system.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p>	<p>M 12.2.3 By the end of twelfth grade, students will perform estimations and computations mentally, with paper and pencil, and with technology.</p> <p>M 12.3.1 By the end of twelfth grade, students will select and use appropriate measuring units, tools, and/or technology to achieve a specified degree of accuracy and precision.</p> <p>M 12.3.2 By the end of twelfth grade, students will convert between metric and standard units of measurement.</p> <p>M 12.4.1 By the end of twelfth grade, students will calculate perimeter, area, and volume for two-and three-dimensional shapes.</p> <p>M 12.4.3 By the end of twelfth grade, students will analyze relationships among geometric forms.</p>	<p>S 12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.</p> <p>S 12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.</p> <p>S 12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.</p> <p>S 12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>	<p>M 12.4.4 By the end of twelfth grade, students will apply coordinate geometry to locate objects and to describe objects algebraically.</p> <p>M 12.4.5 By the end of twelfth grade, students will apply right triangle trigonometry to solve problems.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Communication Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>			

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.1.1 Identify and use methods and techniques of construction.</p> <p>CT 8.1.2 Identify the types of construction: light, commercial, industrial, and civil.</p> <p>CT 12.1.1 Differentiate between and apply the methods and techniques of construction.</p> <p>CT 12.1.2 Differentiate between the types of construction.</p> <p>CT 12.1.3 Differentiate between the dependence and independence of construction sub-systems.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.6 By the end of the twelfth grade, students will read, identify, analyze, and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p>	<p>SS/H 12.2.8 Students will identify natural hazards; describe their characteristics, explain their impact on human and physical systems, and assess efforts to manage their consequences in developed and less developed regions.</p>		<p>S 8.1.1 By the end of eighth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>			

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.2.1 Summarize the history of the construction industry.</p> <p>CT 8.2.2 Recognize the impact of technology on the construction industry.</p> <p>CT 8.2.3 Recognize the impact of workforce diversity.</p> <p>CT 8.2.4 Describe characteristics of the various types of construction: light, commercial, industrial, and civil.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>	<p>SS/H 8.1.10 Students will develop skills in discussion, debate, and persuasive writing by analyzing historical situations and events.</p> <p>SS/H 8.2.1 Students will explain how, following the Civil War, massive immigration, combined with the rise of big business, heavy industry, and mechanized farming transformed American life.</p> <p>SS/H 8.2.5 Students will describe the economic, social, and political transformation of the United States since World War II.</p> <p>SS/H 8.2.7 Students will develop skills for historical analysis.</p>	<p>M 8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.</p>	<p>S 8.5.1 By the end of the eighth grade, students will develop an understanding of the structure of the earth.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.7.3 By the end of the eighth grade, students will develop an understanding of natural hazards.</p> <p>S 8.7.4 By the end of the eighth grade, students will develop an understanding of risks and benefits.</p> <p>S 8.7.5 By the end of the eighth grade, students will develop an understanding of science and technology in society.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.2.1 Determine and describe how society and the environment have been affected or influenced by the construction industry.</p> <p>CT 12.2.2 Predict how the construction industry is likely to be affected by technology.</p>	<p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 8.2.8 Students will evaluate different assessments of the causes, costs, and benefits of major events in recent American history to develop discussion, debate, and persuasive writing skills.</p> <p>SS/H 8.3.7 Students will compare the United States economic system to systems such as China, Japan, Canada, South America, and other Western European nations.</p> <p>SS/H 12.1.5 Students will analyze the impact of European expansion into the Americas, Africa, and Asia.</p> <p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p>		<p>S 8.8.3 By the end of the eighth grade, students will develop an understanding of the history of science.</p> <p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.6.2 By the end of the twelfth grade, students will develop an understanding about science and technology.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.2.3 Identify the effects on the construction industry of workforce diversity.</p> <p>CT 12.2.4 Describe the relationship among the various types of construction: light, commercial, industrial, and civil.</p>		<p>SS/H 12.1.10 Students will analyze major 20th century historical events.</p> <p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p> <p>SS/H 12.2.2 Students will analyze how selected physical and ecological processes shaped the earth=s surface.</p> <p>SS/H 12.2.6 Students will analyze past and present trends in human migration and cultural interaction as they are influenced by social, economic, political, and environmental factors.</p>		<p>S 12.7.6 By the end of the twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.2.14 Students will analyze the forces of conflict and cooperation.</p> <p>SS/H 12.4.17 Students will analyze the United States market economy, identifying factors.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.3.1 Apply a problem-solving approach to solve a problem.</p> <p>CT 8.3.2 Apply decision-making skills to select appropriate resources.</p>	<p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.5 By the end of the eighth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.4.3 Students will describe, analyze, and evaluate the history of ancient Greece from about 2000 to 300 B.C. and explain its impact on Western civilization.</p>		<p>S 8.1.2 By the end of the eighth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 8.2.1 By the end of the eighth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 8.6.1 By the end of the eighth grade, students will develop an understanding of technological design.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.8.2 By the end of the eighth grade, students will develop an understanding of the nature of science.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.3.1 Apply a problem-solving approach to solve an advanced problem and analyze the solution.</p> <p>CT 12.3.2 Apply decision-making skills to select appropriate resources.</p>	<p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.2.5 By the end of the twelfth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p>	<p>SS/H 12.2.10 Students will analyze the patterns of urban development, such as site and situation; the function of towns and cities; and problems related to human mobility, social structure, and the environment.</p>	<p>M 12.4.6 By the end of the twelfth grade, students will understand and apply geometric properties to solve problems.</p> <p>M 12.4.7 By the end of the twelfth grade, students will apply deductive reasoning to arrive at valid conclusions.</p> <p>M 12.5.1 By the end of the twelfth grade, students will apply sampling techniques to gather data, organize, display, and interpret data to solve complex problems.</p> <p>M 12.5.3 By the end of the twelfth grade, students will interpret theoretical probability to represent problems, solve problems, and make informal decisions.</p>	<p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.2.1 By the end of the twelfth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 12.6.1 By the end of the twelfth grade, students will develop an understanding of technological design.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 12.6.2 By the end of the twelfth grade, students will apply and solve problems involving equations and inequalities.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.4.1 Safely operate tools and equipment appropriate for the construction industry.</p> <p>CT 8.4.2 Introduce and develop skills related to the construction industry.</p> <p>CT 8.4.3 Develop craftsmanship in the construction process.</p> <p>CT 8.4.4 Identify and use different types of construction materials.</p> <p>CT 8.4.5 Describe resources used in the construction industry.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or reviewed.</p> <p>R/W 8.1.2 By the end of the eighth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>			<p>S 8.7.1 By the end of eighth grade, students will develop an understanding of personal health.</p> <p>S 8.7.2 By the end of eighth grade, students will develop an understanding of populations, resources, and environments.</p> <p>S 8.7.4 By the end of eighth grade, students will develop an understanding of risks and benefits.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.4.1 Safely operate tools and equipment appropriate for the construction industry.</p> <p>CT 12.4.2 Develop and refine skills related to the construction industry.</p> <p>CT 12.4.3 Develop craftsmanship in the construction of a product.</p> <p>CT 12.4.4 Select and use fasteners, adhesives, and appropriate construction materials.</p> <p>CT 12.4.5 Utilize resources in the construction process, adhering to applicable codes.</p>	<p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p> <p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.4.1 By the end of the twelfth grade, students will apply listening skills for a variety of purposes.</p>	<p>SS/H 12.1.5 By the end of the twelfth grade, students will analyze the impact of European expansion into the Americas, Africa, and Asia.</p> <p>SS/H 12.3.8 Students will summarize causes and effects of the Industrial Revolution and identifying factors.</p>		<p>S 12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.</p> <p>S 12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.</p> <p>S 12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.5.1 Demonstrate the ability to measure accurately.</p> <p>CT 8.5.2 Perform basic skills related to the construction industry.</p> <p>CT 8.5.3 Interpret working drawings.</p> <p>CT 8.5.4 Follow written and oral directions.</p>	<p>R/W 8.1.1 By the end of eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.5 By the end of eighth grade, students will identify and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p> <p>R/W 8.4.1 By the end of eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.1.10 Students will develop skills in discussion, debate, and persuasive writing by analyzing historical situations and events.</p> <p>SS/H 8.2.1 Students will explain how, following the Civil War, massive immigration, combined with the rise of big business, heavy industry, and mechanized farming transformed American life.</p> <p>SS/H 8.3.5 Students will explain the structure and operation of the United States economy.</p>	<p>M 8.1.1 By the end of eighth grade, students will recognize and utilize real numbers such as whole numbers, integers, and rational numbers.</p> <p>M 8.1.2 By the end of eighth grade, students will apply relationships between fractions, decimals, and percents in a variety of situations.</p> <p>M 8.2.1 By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators both with and without the use of technology.</p> <p>M 8.2.2 By the end of eighth grade, students will identify the appropriate operation and do the correct calculations to solve word problems.</p>	<p>S 8.1.3 By the end of eighth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 8.1.4 By the end of eighth grade, students will develop an understanding of form and function.</p> <p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.3.2 By the end of eighth grade, students will develop an understanding of motion and forces.</p> <p>S 8.3.3 By the end of eighth grade, students will develop an understanding of the transfer of energy.</p> <p>S 8.6.2 By the end of eighth grade, students will develop an understanding of science and technology.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) both with and without the use of technology. Problems will be of varying complexities and can involve real-life data.</p> <p>M 8.2.4 By the end of eighth grade, students will apply the order of operations to solve problems both with and without the use of technology.</p> <p>M 8.2.5 By the end of eighth grade, students will apply strategies of estimation to a variety of problems both with and without the use of technology.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.3.1 By the end of eighth grade, students will select appropriate tools and properly measure quantities for temperature, time, money, length and width, area and perimeter, volume and capacity, weight, and mass in both standard and metric units at the level of precision required.</p> <p>M 8.3.2 By the end of eighth grade, students will convert units within measurement systems using proper conversion factors (standard and metric).</p> <p>M 8.4.1 By the end of eighth grade, students will identify, describe, compare, and classify geometric figures such as plane figures like polygons and circles; solid figures like prisms, pyramids, cones, spheres, and cylinders; and lines, line segments, rays, angles, parallel and perpendicular lines.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.4.2 By the end of eighth grade, students will understand and apply geometric properties and relationships of congruence, similarity, symmetry, and Pythagorean theorem.</p> <p>M 8.4.3 By the end of eighth grade, students will understand and apply the formulas to solve problems involving perimeter and area of a square, rectangle, parallelogram, trapezoid and triangle and area and circumference of circles.</p> <p>M 8.4.4 By the end of eighth grade, students will solve problems using the formulas for volume and surface area of rectangular prisms, cylinders, and cones.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.5.1 Utilize and convert measurements accurately.</p> <p>CT 12.5.2 Apply blueprint reading skills to appropriate situations.</p> <p>CT 12.5.3 Develop and comprehend written and oral directions.</p> <p>CT 12.5.4 Refine and utilize basic skills related to the construction industry.</p>	<p>R/W 12.1.1 By the end of twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.2.2 By the end of twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.3.1 By the end of twelfth grade, students will pose questions and contribute their own information or ideas in group discussions in order to acquire new knowledge.</p> <p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.4.21 Students will explain how forces of supply and demand in a market system answer basic economic questions, such as what to produce, how to produce, and for whom to produce.</p> <p>SS/H 12.4.24 Students will explain the interrelationship of producers, consumers, and government in the American economic system.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>	<p>M 12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.</p> <p>M 12.2.3 By the end of twelfth grade, students will perform estimations and computations mentally, with paper and pencil, and with technology.</p> <p>M 12.3.1 By the end of twelfth grade, students will select and use appropriate measuring units, tools, and/or technology to achieve a specified degree of accuracy and precision.</p> <p>M 12.3.2 By the end of twelfth grade, students will convert between metric and standard units of measurement.</p>	<p>S 12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.</p> <p>S 12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.</p> <p>S 12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.</p> <p>S 12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 12.4.1 By the end of twelfth grade, students will calculate perimeter, area, and volume for two-and three-dimensional shapes.</p> <p>M 12.4.3 By the end of twelfth grade, students will analyze relationships among geometric forms.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 8.6.1 Identify employability skills.</p> <p>CT 8.6.2 Practice employability skills.</p> <p>CT 8.6.3 Explore current and future career paths and opportunities.</p>	<p>R/W 8.1.2 By the end of the eighth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 8.1.5 By the end of the eighth grade, students will identify and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.38 Students will demonstrate an understanding of the rights and responsibilities of citizens in America.</p>		<p>S 8.8.1 By the end of eighth grade, students will develop an understanding of science as a human endeavor.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Construction Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>CT 12.6.1 Model appropriate employability skills.</p> <p>CT 12.6.2 Examine career paths through work experience and/or educational opportunities in construction.</p> <p>CT 12.6.3 Explore current and future employment opportunities.</p>	<p>R/W 12.1.1 By the end of twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.2 By the end of twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>	<p>SS/H 12.2.12 Students will analyze the patterns and networks of economic interdependence, such as formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization; competition for resources; and access to labor, technology, transportation, and communications.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.1.1 Explain what it means to manufacture a quality product.</p> <p>MF 8.1.2 Recognize the four components of the systems approach in the manufacturing of a product.</p> <p>MF 8.1.3 Demonstrate the basic processes involved in custom fabrication and mass production.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.4 By the end of the eighth grade, students will use a variety of forms to write for different audiences and purposes.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>			<p>S 8.1.1 By the end of eighth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 8.1.4 By the end of eighth grade, students will develop an understanding of form and function.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.1.1 Implement the four components of a system in the manufacturing of a product.</p> <p>MF 12.1.2 Apply the advanced systematic processes involved in custom fabrication and mass production.</p> <p>MF 12.1.3 In a prescribed setting, perform advanced operations representative of those utilized in manufacturing.</p>	<p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 12.2.8 Students will identify natural hazards; describe their characteristics, explain their impact on human and physical systems, and assess efforts to manage their consequences in developed and less developed regions.</p>		<p>twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.2.1 Develop an awareness and address the effect manufacturing has on the environment.</p> <p>MF 8.2.2 Identify evolving manufacturing technologies.</p> <p>MF 8.2.3 Develop an appreciation for products and inventors.</p> <p>MF 8.2.4 Recognize historical contributions of men and women of different cultures in the advancement of manufacturing.</p> <p>MF 8.2.5 Identify and describe the differences between renewable and exhaustible resources.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.7 By the end of the eighth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>	<p>SS/H 8.1.9 Students will develop skills for historical analysis.</p> <p>SS/H 8.1.10 Students will develop skills in discussion, debate, and persuasive writing by analyzing historical situations and events.</p> <p>SS/H 8.2.1 Students will explain how, following the Civil War, massive immigration, combined with the rise of big business, heavy industry, and mechanized farming transformed American life.</p> <p>SS/H 8.2.3 Students will describe the ideas and events of the 1920's and 1930's.</p> <p>SS/H 8.2.5 Students will describe the economic, social, and political transformation of the United States since World War II.</p>	<p>M 8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.</p>	<p>S 8.5.1 By the end of the eighth grade, students will develop an understanding of the structure of the earth.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.7.3 By the end of the eighth grade, students will develop an understanding of natural hazards.</p> <p>S 8.7.4 By the end of the eighth grade, students will develop an understanding of risks and benefits.</p> <p>S 8.7.5 By the end of the eighth grade, students will develop an understanding of science and technology in society.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 8.2.7 Students will develop skills for historical analysis.</p> <p>SS/H 8.2.8 Students will evaluate different assessments of the causes, costs, and benefits of major events in recent American history to develop discussion, debate, and persuasive writing skills.</p> <p>SS/H 8.3.6 Students will describe the government's role in the United States economy.</p> <p>SS/H 8.3.7 Students will compare the United States economic system to systems such as China, Japan, Canada, South America, and other Western European nations.</p>		<p>S 8.8.3 By the end of the eighth grade, students will develop an understanding of the history of science.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.2.1 Develop an awareness and address the effect manufacturing has on the environment.</p> <p>MF 12.2.2 Identify and apply evolving manufacturing technologies.</p> <p>MF 12.2.3 Research and analyze the economics of a competitive market.</p> <p>MF 12.2.4 Examine historical contributions of men and women of different cultures in the advancement of manufacturing.</p>	<p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 12.1.5 Students will analyze the impact of European expansion into the Americas, Africa, and Asia.</p> <p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.1.9 Students will analyze and explain the effects of the Industrial Revolution, identifying factors.</p> <p>SS/H 12.1.10 Students will analyze major 20th century historical events.</p> <p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p>		<p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.6.2 By the end of the twelfth grade, students will develop an understanding about science and technology.</p> <p>S 12.7.6 By the end of the twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.2.2 Students will analyze how selected physical and ecological processes shaped the earth=s surface.</p> <p>SS/H 12.2.3 Students will explain how technological advances have led to increasing interaction among regions.</p> <p>SS/H 12.2.6 Students will analyze past and present trends in human migration and cultural interaction as they are influenced by social, economic, political, and environmental factors.</p> <p>SS/H 12.2.14 Students will analyze the forces of conflict and cooperation.</p> <p>SS/H 12.3.15 Students will explain relationships between geography and the historical development of the United States by using maps, pictures and computer databases.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.4.17 Students will analyze the United States market economy, identifying factors.</p> <p>SS/H 12.4.18 Students will analyze the role of government in the United States economy.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.3.1 Employ a systematic model for problem-solving in materials processing and production.</p> <p>MF 8.3.2 Identify and describe different approaches to formal and informal problem-solving.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.5 By the end of the eighth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>	<p>SS/H 8.4.3 Students will describe, analyze, and evaluate the history of ancient Greece from about 2000 to 300 B.C. and explain its impact on Western civilization.</p>	<p>M 8.6.2 By the end of the eighth grade, students will apply algebraic concepts and algebraic operations to solving problems.</p>	<p>S 8.1.2 By the end of the eighth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 8.2.1 By the end of the eighth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 8.6.1 By the end of the eighth grade, students will develop an understanding of technological design.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.8.2 By the end of the eighth grade, students will develop an understanding of the nature of science.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.3.1 Utilize team work and individual ingenuity to solve technical problems in manufacturing.</p> <p>MF 12.3.2 Suggest and analyze ideas that could be implemented to resolve problems in manufacturing.</p> <p>MF 12.3.3 Employ higher-order thinking skills for solving manufacturing problems.</p>	<p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.2.5 By the end of the twelfth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p>		<p>M 12.4.7 By the end of the twelfth grade, students will apply deductive reasoning to arrive at valid conclusions.</p> <p>M 12.5.1 By the end of the twelfth grade, students will apply sampling techniques to gather data, organize, display, and interpret data to solve complex problems.</p> <p>M 12.5.3 By the end of the twelfth grade, students will interpret theoretical probability to represent problems, solve problems, and make informal decisions.</p>	<p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.2.1 By the end of the twelfth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 12.6.1 By the end of the twelfth grade, students will develop an understanding of technological design.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.3.1 By the end of the twelfth grade, students will pose questions and contribute their own information or ideas in group discussions in order to acquire new knowledge.</p> <p>R/W 12.3.2 By the end of the twelfth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p> <p>R/W 12.4.1 By the end of the twelfth grade, students will apply listening skills for a variety of purposes.</p>		<p>M 12.6.2 By the end of the twelfth grade, students will apply and solve problems involving equations and inequalities.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.4.1 Demonstrate safe use of tools and machinery.</p> <p>MF 8.4.2 Identify characteristics of industrial materials and how they are processed.</p> <p>MF 8.4.3 Develop an awareness of the impacts manufacturing has on society and the environment.</p> <p>MF 8.4.4 Identify, select and use resources in the solution of a problem to produce a product.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or reviewed.</p> <p>R/W 8.1.2 By the end of the eighth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>			<p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.7.1 By the end of eighth grade, students will develop an understanding of personal health.</p> <p>S 8.7.2 By the end of eighth grade, students will develop an understanding of populations, resources, and environments.</p> <p>S 8.7.4 By the end of eighth grade, students will develop an understanding of risks and benefits.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.4.1 Apply tools, materials, machines, processes, and technical concepts safely and efficiently to a prescribed situation.</p> <p>MF 12.4.2 Evaluate and explain differences between characteristics of industrial materials.</p> <p>MF 12.4.3 Demonstrate separating, forming, and combining in manufacturing a product.</p> <p>MF 12.4.4 Meet or exceed product and processing specifications (i.e. measurements).</p> <p>MF 12.4.5 Demonstrate skills necessary to adapt to an ever-changing global environment.</p>	<p>R/W 12.1.1 By the end of twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.2.2 By the end of twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.3.1 By the end of twelfth grade, students will pose questions and contribute their own information or ideas in group discussions in order to acquire new knowledge.</p>	<p>SS/H 12.1.9 Students will analyze and explain the effects of the Industrial Revolution, identifying factors.</p> <p>SS/H 12.2.5 Students will compare and contrast the distribution, growth rates, and characteristics of human population, such as settlement patterns and the location of natural and capital resources.</p> <p>SS/H 12.3.8 Students will summarize causes and effects of the Industrial Revolution, identifying factors.</p>		<p>S 12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.</p> <p>S 12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.</p> <p>S 12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.4.6 Develop and implement a plan to use manufacturing resources in the solution of a problem.</p> <p>MF 12.4.7 Demonstrate ingenuity and creativity in the use of manufacturing resources.</p>	<p>R/W 12.3.2 By the end of twelfth grade, students will make oral presentations that demonstrate appropriate considerations of audience, purpose, and information to be conveyed.</p> <p>R/W 12.4.1 By the end of the twelfth grade, students will apply listening skills for a variety of purposes.</p>			

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.5.1 Demonstrate the ability to integrate basic skills into the manufacturing process.</p> <p>MF 8.5.2 Identify common units of measurement associated with manufacturing materials.</p> <p>MF 8.5.3 Use team work to accomplish a common goal in manufacturing.</p>	<p>R/W 8.1.1 By the end of eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.5 By the end of eighth grade, students will identify and apply knowledge of the structure, elements, and meaning of nonfiction or informational material and provide evidence from the text to support their understanding.</p> <p>R/W 8.3.1 By the end of eighth grade, students will post questions and contribute their own information or ideas in class discussion in order to acquire new knowledge.</p> <p>R/W 8.4.1 By the end of eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.1.10 Students will develop skills in discussion, debate, and persuasive writing by analyzing historical situations and events.</p> <p>SS/H 8.2.1 Students will explain how, following the Civil War, massive immigration, combined with the rise of big business, heavy industry, and mechanized farming transformed American life.</p> <p>SS/H 8.3.5 Students will explain the structure and operation of the United States economy.</p>	<p>M 8.1.1 By the end of eighth grade, students will recognize and utilize real numbers such as whole numbers, integers, and rational numbers.</p> <p>M 8.1.2 By the end of eighth grade, students will apply relationships between fractions, decimals, and percents in a variety of situations.</p> <p>M 8.2.1 By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators both with and without the use of technology.</p> <p>M 8.2.2 By the end of eighth grade, students will identify the appropriate operation and do the correct calculations to solve word problems.</p>	<p>S 8.1.3 By the end of eighth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 8.1.4 By the end of eighth grade, students will develop an understanding of form and function.</p> <p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.3.2 By the end of eighth grade, students will develop an understanding of motion and forces.</p> <p>S 8.3.3 By the end of eighth grade, students will develop an understanding of the transfer of energy.</p> <p>S 8.6.2 By the end of eighth grade, students will develop an understanding of science and technology.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) both with and without the use of technology. Problems will be of varying complexities and can involve real-life data.</p> <p>M 8.2.4 By the end of eighth grade, students will apply the order of operations to solve problems both with and without the use of technology.</p> <p>M 8.2.5 By the end of eighth grade, students will apply strategies of estimation to a variety of problems both with and without the use of technology.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.3.1 By the end of eighth grade, students will select appropriate tools and properly measure quantities for temperature, time, money, length and width, area and perimeter, volume and capacity, weight, and mass in both standard and metric units at the level of precision required.</p> <p>M 8.3.2 By the end of eighth grade, students will convert units within measurement systems using proper conversion factors (standard and metric).</p> <p>M 8.4.1 By the end of eighth grade, students will identify, describe, compare, and classify geometric figures such as plane figures like polygons and circles; solid figures like prisms, pyramids, cones, spheres, and cylinders; and lines, line segments, rays, angles, parallel and perpendicular lines.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.4.3 By the end of eighth grade, students will understand and apply the formulas to solve problems involving perimeter and area of a square, rectangle, parallelogram, trapezoid and triangle and area and circumference of circles.</p> <p>M 8.4.4 By the end of eighth grade, students will solve problems using the formulas for volume and surface area of rectangular prisms, cylinders, and cones.</p> <p>M 8.6.1 By the end of eighth grade, students will demonstrate knowledge and use of the one- and two-dimensional coordinate systems.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 12.5.1 Implement cross-curricular experiences in order to reach a common goal.</p> <p>MF 12.5.2 Interpret data to manufacture a product.</p> <p>MF 12.5.3 Evaluate and explain the importance of specifications in the production of a product.</p> <p>MF 12.5.4 Demonstrate the ability to integrate basic skills into the manufacturing process.</p> <p>MF 12.5.5 Demonstrate the use of common units of measurement associated with manufacturing materials.</p> <p>MF 12.5.6 Demonstrate the ability to work as a team member on the solution of manufacturing problems.</p> <p>MF 12.5.7 Demonstrate the ability to comprehend written and oral directions in manufacturing a product.</p>	<p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 12.2.2 By the end of twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.3.1 By the end of twelfth grade, students will pose questions and contribute their own information or ideas in group discussions in order to acquire new knowledge.</p> <p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.4.21 Students will explain how forces of supply and demand in a market system answer basic economic questions, such as what to produce, how to produce, and for whom to produce.</p> <p>SS/H 12.4.24 Students will explain the interrelationship of producers, consumers, and government in the American economic system.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>	<p>M 12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.</p> <p>M 12.3.1 By the end of twelfth grade, students will select and use appropriate measuring units, tools, and/or technology to achieve a specified degree of accuracy and precision.</p> <p>M 12.3.2 By the end of twelfth grade, students will convert between metric and standard units of measurement.</p> <p>M 12.4.1 By the end of twelfth grade, students will calculate perimeter, area, and volume for two-and three-dimensional shapes.</p>	<p>S 12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.</p> <p>S 12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.</p> <p>S 12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.</p> <p>S 12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 12.4.4 By the end of twelfth grade, students will apply coordinate geometry to locate objects and to describe objects algebraically.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>MF 8.6.1 Investigate educational opportunities and employment requirements related to manufacturing careers.</p> <p>MF 8.6.2 Investigate career opportunities related to manufacturing.</p> <p>MF 12.6.1 Examine career paths through work experience and/or educational opportunities in manufacturing.</p> <p>MF 12.6.2 Demonstrate employability skills required to make a transition from school to a manufacturing career.</p> <p>MF 12.6.3 Explore nontraditional career opportunities related to manufacturing.</p>	<p>R/W 8.1.2 By the end of the eighth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.1 By the end of twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.1.2 By the end of twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 8.3.8 Students will demonstrate an understanding of the rights and responsibilities of citizens in America.</p> <p>SS/H 12.2.12 Students will analyze the patterns and networks of economic interdependence, such as formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization; competition for resources; and access to labor, technology, transportation, and communications.</p>		<p>S 8.8.1 By the end of eighth grade, students will develop an understanding of science as a human endeavor.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Manufacturing Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.4.1 By the end of twelfth grade, students will apply listening skills for a variety of purposes.</p>			

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.1.1 Identify characteristics of energy, power, and mechanics.</p> <p>TR 8.1.2 Identify and discuss land, marine, air, and space transportation systems.</p> <p>TR 8.1.3 Name and manipulate the sub-systems of propulsion, suspension, guidance, control, support, and structure.</p>	<p>R/W 8.2.1 By the end of the eighth grade, students will identify, describe, and apply knowledge of the structure of the English language and standard English conventions for sentence structure, usage, punctuation, capitalization, and spelling.</p> <p>R/W 8.3.1 By the end of the eighth grade, students will pose questions and contribute their own information or ideas in class discussions in order to acquire new knowledge.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.1.6 Students will describe growth and change in America from 1801 to 1861.</p>		<p>S 8.1.1 By the end of eighth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 8.5.3 By the end of eighth grade, students will develop an understanding of the earth in the solar system.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 1.0 Systems: A group of components working together or influencing each other to achieve a common goal.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.1.1 Examine and illustrate land, marine, air and space transportation systems.</p> <p>TR 12.1.2 Apply and refine the skills and knowledge gained in the sub-systems of propulsion, suspension, guidance, control, support and structure.</p>	<p>R/W 12.1.1 By the end of the twelfth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 12.2.8 Students will identify natural hazards; describe their characteristics, explain their impact on human and physical systems, and assess efforts to manage their consequences in developed and less developed regions.</p>		<p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.3.5 By the end of the twelfth grade, students will develop an understanding of the conservation of energy and increase in disorder.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.2.1 Identify and list characteristics of transportation.</p> <p>TR 8.2.2 List historical factors, current impacts, and predict possible future impacts of innovative transportation technologies.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 8.1.6 Students will describe growth and change in America from 1801 to 1861.</p> <p>SS/H 8.2.3 Students will describe the ideas and events of the 1920's and 1930's.</p> <p>SS/H 8.2.5 Students will describe the economic, social, and political transformation of the United States since World War II.</p> <p>SS/H 8.2.7 Students will develop skills for historical analysis.</p> <p>SS/H 8.2.8 Students will evaluate different assessments of the causes, costs, and benefits of major events in recent American history to develop discussion, debate, and persuasive writing skills.</p>	<p>M 8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.</p>	<p>S 8.5.1 By the end of the eighth grade, students will develop an understanding of the structure of the earth.</p> <p>S 8.5.3 By the end of the eighth grade, students will develop an understanding of the earth in the solar system.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.7.3 By the end of the eighth grade, students will develop an understanding of natural hazards.</p> <p>S 8.7.4 By the end of the eighth grade, students will develop an understanding of risks and benefits.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.2.1 Identify and evaluate the characteristics of transportation.</p> <p>TR 12.2.2 Research and present historical factors, current impacts, and predict the possible future impacts of innovative transportation technologies.</p> <p>TR 12.2.3 Predict and support with research the impact a shift in the availability of a selected input would have on a transportation system.</p>	<p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.1.9 Students will analyze and explain the effects of the Industrial Revolution, identifying factors.</p> <p>SS/H 12.1.10 Students will analyze major 20th century historical events.</p>		<p>S 8.7.5 By the end of the eighth grade, students will develop an understanding of science and technology in society.</p> <p>S 8.8.3 By the end of the eighth grade, students will develop an understanding of the history of science.</p> <p>S 12.1.5 By the end of the twelfth grade, students will develop an understanding of change over a period of time.</p> <p>S 12.6.2 By the end of the twelfth grade, students will develop an understanding about science and technology.</p> <p>S 12.7.2 By the end of the twelfth grade, students will develop an understanding of the effects of population change.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
	<p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 12.3.2 By the end of the twelfth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>	<p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p> <p>SS/H 12.2.2 Students will analyze how selected physical and ecological processes shaped the earth=s surface.</p> <p>SS/H 12.2.3 Students will explain how technological advances have led to increasing interaction among regions.</p> <p>SS/H 12.2.6 Students will analyze past and present trends in human migration and cultural interaction as they are influenced by social, economic, political, and environmental factors.</p> <p>SS/H 12.2.14 Students will analyze the forces of conflict and cooperation.</p>		<p>S 12.7.3 By the end of the twelfth grade, students will develop an understanding of natural resources.</p> <p>S 12.7.4 By the end of the twelfth grade, students will develop an understanding of environmental quality.</p> <p>S 12.7.5 By the end of the twelfth grade, students will develop an understanding of natural and human-induced hazards.</p> <p>S 12.7.6 By the end of the twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.</p> <p>S 12.8.1 By the end of the twelfth grade, students will develop an understanding of science as a human endeavor.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 2.0 Characteristics, Impacts and Development: Knowledge of the nature of technology, the relationships and impacts among technological achievements, the interaction of the environment, the advancement of science and industry, individuals, and society. The context for this knowledge shall be historical, current, and futuristic.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.4.18 Students will analyze the role of government in the United States economy.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p> <p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.3.1 Recognize factors and opportunities in developing a solution to a transportation problem.</p> <p>TR 8.3.2 Apply a problem-solving approach to solve a problem.</p> <p>TR 8.3.3 Formulate decisions based on information and time available.</p> <p>TR 8.3.4 Identify individual task assignments in a group problem-solving situation.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.2.5 By the end of the eighth grade, students will use self-generated questions, note-taking, summarizing, and outlining to enhance learning.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>	<p>SS/H 8.4.3 Students will describe, analyze, and evaluate the history of ancient Greece from about 2000 to 300 B.C. and explain its impact on Western civilization.</p>	<p>M 8.5.4 By the end of eighth grade, students will recognize appropriate use of statistical methods and appropriate use of probability as a means for decision making.</p>	<p>S 8.1.2 By the end of the eighth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 8.2.1 By the end of the eighth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 8.6.1 By the end of the eighth grade, students will develop an understanding of technological design.</p> <p>S 8.6.2 By the end of the eighth grade, students will develop an understanding of science and technology.</p> <p>S 8.8.2 By the end of the eighth grade, students will develop an understanding of the nature of science.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 3.0 Problem Solving/Decision Making: Problem solving is the ability to define the problems, collect and analyze information and resources and then apply knowledge and skills to determine a workable solution and/or construction of a workable design.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.3.1 Research, apply, evaluate factors, and opportunities in developing a solution to a transportation problem.</p> <p>TR 12.3.2 Apply an appropriate method of problem-solving.</p> <p>TR 12.3.3 Assign and implement appropriate tasks in a problem-solving activity.</p>	<p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 12.2.2 By the end of the twelfth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 12.2.10 Students will analyze the patterns of urban development, such as site and situation; the function of towns and cities; and problems related to human mobility, social structure, and the environment.</p>	<p>M 12.4.7 By the end of the twelfth grade, students will apply deductive reasoning to arrive at valid conclusions.</p> <p>M 12.5.1 By the end of the twelfth grade, students will apply sampling techniques to gather data, organize, display, and interpret data to solve complex problems.</p> <p>M 12.5.3 By the end of the twelfth grade, students will interpret theoretical probability to represent problems, solve problems, and make informal decisions.</p> <p>M 12.6.2 By the end of the twelfth grade, students will apply and solve problems involving equations and inequalities.</p>	<p>S 12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.</p> <p>S 12.1.3 By the end of the twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.2.1 By the end of the twelfth grade, students will develop the abilities needed to do scientific inquiry.</p> <p>S 12.6.1 By the end of the twelfth grade, students will develop an understanding of technological design.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.4.1 Select and manipulate resources necessary in transportation.</p> <p>TR 8.4.2 Identify and evaluate inputs, processes, and outputs used based on form, function, and aesthetic needs.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.1.7 By the end of the eighth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p> <p>R/W 8.4.1 By the end of the eighth grade, students will apply listening skills in a variety of settings.</p>			<p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.3.3 By the end of eighth grade, students will develop an understanding of the transfer of energy.</p> <p>S 8.7.1 By the end of eighth grade, students will develop an understanding of personal health.</p> <p>S 8.7.2 By the end of eighth grade, students will develop an understanding of populations, resources, and environments.</p> <p>S 8.7.4 By the end of eighth grade, students will develop an understanding of risks and benefits.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 4.0 Resources: Knowledge and skilled application of industrial resources to perform technological processes. Industrial resources include: people, information, space, tools, machines, materials, energy, capital and time.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.4.1 Identify, apply, and evaluate resources in transportation.</p> <p>TR 12.4.2 Analyze various inputs, processes, and outputs to formulate decisions based on form, function, and aesthetic needs.</p>	<p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p> <p>R/W 12.1.8 By the end of the twelfth grade, students will interpret the meaning of literary works, nonfiction, films, and media by using different analytic techniques.</p>	<p>SS/H 12.1.5 Students will analyze the impact of European expansion into the Americas, Africa, and Asia.</p> <p>SS/H 12.1.9 Students will analyze and explain the effects of the Industrial Revolution, identifying factors.</p> <p>12.2.12 Students will analyze the patterns and networks of economic interdependence, such as formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization; competition for resources; and access to labor, technology, transportation, and communications.</p> <p>SS/H 12.3.8 Students will summarize causes and effects of the Industrial Revolution, identifying factors.</p>		<p>S 12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.</p> <p>S 12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.</p> <p>S 12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.5.1 Identify and list the basic skills, thinking skills, and personal qualities needed to produce a desired outcome or product.</p>	<p>R/W 8.1.1 By the end of eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p>	<p>SS/H 8.3.5 Students will explain the structure and operation of the United States economy.</p> <p>SS/H 8.3.10 Students will know how to interpret economic and political issues as expressed in maps, tables, diagrams, charts, political cartoons, and economic graphs.</p>	<p>M 8.1.1 By the end of eighth grade, students will recognize and utilize real numbers such as whole numbers, integers, and rational numbers.</p> <p>M 8.1.2 By the end of eighth grade, students will apply relationships between fractions, decimals, and percents in a variety of situations.</p> <p>M 8.2.1 By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators both with and without the use of technology.</p> <p>M 8.2.2 By the end of eighth grade, students will identify the appropriate operation and do the correct calculations to solve word problems.</p>	<p>S 8.1.3 By the end of eighth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 8.1.4 By the end of eighth grade, students will develop an understanding of form and function.</p> <p>S 8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.</p> <p>S 8.3.2 By the end of eighth grade, students will develop an understanding of motion and forces.</p> <p>S 8.3.3 By the end of eighth grade, students will develop an understanding of the transfer of energy.</p> <p>S 8.6.2 By the end of eighth grade, students will develop an understanding of science and technology.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) both with and without the use of technology. Problems will be of varying complexities and can involve real-life data.</p> <p>M 8.2.4 By the end of eighth grade, students will apply the order of operations to solve problems both with and without the use of technology.</p> <p>M 8.2.5 By the end of eighth grade, students will apply strategies of estimation to a variety of problems both with and without the use of technology.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.3.1 By the end of eighth grade, students will select appropriate tools and properly measure quantities for temperature, time, money, length and width, area and perimeter, volume and capacity, weight and mass in both standard and metric units at the level of precision required.</p> <p>M 8.3.2 By the end of eighth grade, students will convert units within measurement systems using proper conversion factors (standard and metric).</p> <p>M 8.4.1 By the end of eighth grade, students will identify, describe, compare, and classify geometric figures such as plane figures like polygons and circles; solid figures like prisms, pyramids, cones, spheres, and cylinders; and lines, line segments, rays, angles, parallel and perpendicular lines.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
			<p>M 8.4.3 By the end of eighth grade, students will understand and apply the formulas to solve problems involving perimeter and area of a square, rectangle, parallelogram, trapezoid and triangle and area and circumference of circles.</p> <p>M 8.4.4 By the end of eighth grade, students will solve problems using the formulas for volume and surface area of rectangular prisms, cylinders, and cones.</p> <p>M 8.5.1 By the end of eighth grade, students will collect, analyze, interpret, and display data.</p>	

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.5.1 Identify, list, and refine the basic skills and qualities needed to produce a desired outcome or product.</p> <p>TR 12.5.2 Apply the knowledge, skills, and resources of other disciplines to a transportation activity.</p>	<p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p>	<p>SS/H 12.1.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, and 18th centuries.</p> <p>SS/H 12.2.1 Students will analyze the physical and human landscapes of the world using maps, globes, photographs, and pictures.</p> <p>SS/H 12.4.21 Students will explain how forces of supply and demand in a market system answer basic economic questions, such as what to produce, how to produce, and for whom to produce.</p> <p>SS/H 12.4.24 Students will explain the interrelationship of producers, consumers, and government in the American economic system.</p> <p>SS/H 12.4.26 Students will evaluate the role of entrepreneurship in a market economy.</p>	<p>M 12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.</p> <p>M 12.3.1 By the end of twelfth grade, students will select and use appropriate measuring units, tools, and/or technology to achieve a specified degree of accuracy and precision.</p> <p>M 12.3.2 By the end of twelfth grade, students will convert between metric and standard units of measurement.</p>	<p>S 12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.</p> <p>S 12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.</p> <p>S 12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.</p> <p>S 12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.</p> <p>S 12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.</p> <p>S 12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 5.0 Integrated Skills: Application of mathematical concepts, scientific principles, communication, measurement and other basic skills.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
		<p>SS/H 12.4.27 Students will discuss, develop, and implement a plan for making informed personal economic decisions.</p>		

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 8.6.1 Identify the process of exploring a career.</p> <p>TR 8.6.2 Describe a career path in an area of interest.</p>	<p>R/W 8.1.1 By the end of the eighth grade, students will identify the basic facts and essential ideas in what they have read or viewed.</p> <p>R/W 8.2.2 By the end of the eighth grade, students will write compositions with a clear focus, logically related ideas, and adequate supporting detail.</p> <p>R/W 8.3.2 By the end of the eighth grade, students will make oral presentations that demonstrate appropriate consideration of audience, purpose, and information to be conveyed.</p>	<p>SS/H 8.38 Students will demonstrate an understanding of the rights and responsibilities of citizens in America.</p>		<p>S 8.8.1 By the end of eighth grade, students will develop an understanding of science as a human endeavor.</p>

Nebraska Industrial Technology Education - Links to L.E.A.R.N.S.

Transportation Technology - 6.0 Career Information/Transition: Development and application of the skills and knowledge related to current and future employment.

ITE Essential Learnings (Performance Standards)	Reading/Writing Links to L.E.A.R.N.S.	Social Sciences/History Links to L.E.A.R.N.S.	Math Links to L.E.A.R.N.S.	Science Links to L.E.A.R.N.S.
				
<p>TR 12.6.1 Plan, apply, and evaluate the process of exploring a career.</p> <p>TR 12.6.2 Evaluate a career choice based on skill and interest of learner and job characteristics.</p> <p>TR 12.6.3 Examine and experience various means of making the transition from school to work.</p>	<p>R/W 12.1.2 By the end of the twelfth grade, students will locate, access, and evaluate resources to identify appropriate information.</p>	<p>SS/H 12.2.12 Students will analyze the patterns and networks of economic interdependence, such as formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization; competition for resources; and access to labor, technology, transportation, and communications.</p>		