

<p>1. Measurement/Math Applications Students will understand and apply measurement systems in the planning and layout processes used in the construction industry. They will demonstrate content proficiency by:</p>				
<p>a) Designing solutions to given construction technology problems</p>			<p>Geometry 3.0: Students construct and judge the validity of a logical argument and give counterexamples to disprove a statement.</p> <p>Geometry 12.0: Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.</p>	

			<p>Geometry 17.0:</p> <p>Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.</p> <p>Geometry 21.0:</p> <p>Students prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles, and inscribed and circumscribed polygons of circles.</p> <p>Algebra I 16.0:</p> <p>Students understand the concepts of a relation and a function, determine whether a given relation defines a function, and give pertinent information about given relations and functions.</p>	
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<p>b) Accurately measuring given construction materials for processing</p>			<p>Geometry 8.0:</p> <p>Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.</p> <p>Geometry 9.0:</p> <p>Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.</p> <p>Geometry 10.0:</p> <p>Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.</p>	
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<p>c) Using measurements to calculate material requirements</p>			<p>Geometry 8.0:</p> <p>Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.</p> <p>Geometry 9.0:</p> <p>Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.</p> <p>Geometry 10.0:</p> <p>Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.</p>	
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<p>d) Converting scale drawing measurements to full dimensions</p>			<p>Geometry 11.0: Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.</p> <p>Geometry 16.0: Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	
<p>e) Converting measurements from one form to another</p>			<p>Geometry 11.0: Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.</p>	

<p>2. Hand Tools Students will understand safe and appropriate use of hand tools common to the construction industry (hammers, pliers, saws, wrenches, etc.). They will demonstrate content proficiency by:</p>				
<p>a) Identifying tools commonly used in specific trades</p>			<p>Geometry 16.0: Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	
<p>b) Correctly using tools in their intended application</p>			<p>Geometry 16.0: Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	

<p>c) Demonstrating basic care and maintenance of hand tools</p>				
<p>3. Portable Power Tools Students will understand safe and appropriate use of portable power tools common to the construction industry. They will demonstrate content proficiency by:</p>				
<p>a) identifying and correctly using drill motors (portable circular saws, reciprocating saws, pneumatic nailers, screw guns, and grinders)</p>				
<p>b) Demonstrating basic care and maintenance of portable power tools</p>				

<p>4. Construction Business Processes Students will understand procedures and processes as they occur in the construction industry. They will demonstrate content proficiency by:</p>				
<p>a) Estimating materials using blueprints and specifications</p>			<p>Geometry 8.0: Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.</p> <p>Geometry 9.0: Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.</p>	

			<p>Geometry 10.0:</p> <p>Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.</p>	
b) Constructing projects accurately from blueprints and specifications			<p>Geometry 11.0:</p> <p>Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.</p>	
c) Planning a sequence of events in a construction project	<p>Writing Applications (Genres and Their Characteristics) 2.6:</p> <p>Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):</p> <p>a. Report information and convey ideas logically and correctly.</p>			

	<p>b. Offer detailed and accurate specifications.</p>			
<p>d) Solving common construction problems using construction codes and building standards</p>	<p>Reading Comprehension (Focus on Informational Materials) 2.4: <i>Comprehension and Analysis of Grade-Level-Appropriate Text.</i></p> <p>Synthesize the content from several sources or works by a single author dealing with a single issue; paraphrase the ideas and connect them to other sources and related topics to demonstrate comprehension.</p> <p>2.6 - Demonstrate use of sophisticated learning tools by following technical directions (e.g., those found with graphic calculators and specialized software programs and in access guides to World Wide Web sites on the Internet).</p>		<p>Geometry 12.0:</p> <p>Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.</p>	

<p>e) keeping accurate records of construction progress</p>	<p>Writing Applications (Genres and Their Characteristics) 2.6:</p> <p>Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):</p> <p>a. Report information and convey ideas logically and correctly.</p> <p>b. Offer detailed and accurate specifications.</p>			
<p>5. Construction Project Phases/Systems Students will understand the variety of building phases/systems used in construction projects. They will demonstrate content proficiency by:</p>				

<p>a) Developing a building plan utilizing given systems common to construction projects</p>			<p>Geometry 1.0:</p> <p>Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning.</p> <p>Geometry 17.0:</p> <p>Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.</p>	
<p>b) Using tools, processes, and materials appropriate to architectural design and development of construction projects</p>			<p>Geometry 12.0:</p> <p>Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.</p>	

			<p>Geometry 16.0:</p> <p>Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	
<p>c) Using tools, processes, and materials appropriate to site development in construction projects</p>			<p>Geometry 8.0:</p> <p>Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.</p> <p>Geometry 16.0:</p> <p>Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	

<p>d) Using tools, processes, and materials appropriate to structural systems in construction projects</p>			<p>Geometry 16.0:</p> <p>Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p> <p>Geometry 22.0:</p> <p>Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.</p>	
<p>e) Using tools, processes, and materials appropriate to electrical systems in construction projects</p>			<p>Geometry 16.0:</p> <p>Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	

<p>f) Using tools, processes, and materials appropriate to mechanical systems in construction projects</p>			<p>Geometry 16.0: Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	
<p>g) Using tools, processes, and materials appropriate to finish systems in construction projects</p>			<p>Geometry 16.0: Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p>	
<p>6. Safety Students will understand the value and necessity of practicing occupational safety in the construction industry. They will demonstrate content proficiency by:</p>				

<p>a) Passing required safety tests</p>	<p>Reading Comprehension (Focus on Informational Materials) 2.0:</p> <p>Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in <i>Recommended Literature, Grades Nine Through Twelve</i> (1990) illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information. In grades nine and ten, students make substantial progress toward this goal.</p>			
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<p>b) Demonstrating the safe use of hand tools and power tools</p>			<p>Geometry 16.0:</p> <p>Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</p> <p>Geometry 22.0:</p> <p>Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.</p>	
<p>c) Explaining the roles and responsibilities of the various governmental safety agencies</p>	<p>Listening & Speaking Strategies 1.7: <i>Organization and Delivery of Oral Communication.</i></p> <p>Use props, visual aids, graphs, and electronic media to enhance the appeal and accuracy of presentations.</p>			

	<p>Speaking Applications (Genres and Their Characteristics) 2.2 :</p> <p>Deliver expository presentations:</p> <p>b. Convey information and ideas from primary and secondary sources accurately and coherently.</p> <p>d. Include visual aids by employing appropriate technology to organize and display information on charts, maps, and graphs.</p> <p>f. Use technical terms and notations accurately.</p>			
<p>f) Using safe work practices</p>				
<p>g) Receiving exposure/training in CPR and basic first aid</p>				

<p>7. Industry Trends Students will understand the impact of financial, technical, and environmental trends on the past and future of the construction industry. They will demonstrate content proficiency by:</p>				
<p>a) Researching given current trends in the construction industry and predicting future impacts on these segments of the industry</p>	<p>Reading Comprehension (Focus on Informational Materials) 2.3: <i>Comprehension and Analysis of Grade-Level-Appropriate Text.</i></p> <p>Generate relevant questions about readings on issues that can be researched.</p>			

<p>b) Developing plans to creatively finance a given project in the construction industry</p>	<p>Writing Applications (Genres and Their Characteristics) 2.6:</p> <p>Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):</p> <p>a. Report information and convey ideas logically and correctly.</p> <p>b. Offer detailed and accurate specifications.</p>			
<p>c) Developing a report or conducting a study on environmental regulations and their impact on construction projects/practices</p>	<p>Writing Applications (Genres and Their Characteristics) 2.3:</p> <p>Write expository compositions, including analytical essays and research reports:</p> <p>a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.</p>			

	<p>b. Convey information and ideas from primary and secondary sources accurately and coherently.</p> <p>c. Make distinctions between the relative value and significance of specific data, facts, and ideas.</p> <p>d. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs.</p> <p>e. Anticipate and address readers' potential misunderstandings, biases, and expectations.</p> <p>f. Use technical terms and notations accurately.</p>			
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<p>d) Studying the impact of the historical development of construction processes and their impact on the construction industry</p>	<p>Reading Comprehension (Focus on Informational Materials) 2.8: <i>Expository Critique.</i></p> <p>Evaluate the credibility of an author’s argument or defense of a claim by critiquing the relationship between generalizations and evidence, the comprehensiveness of evidence, and the way in which the author’s intent affects the structure and tone of the text (e.g., in professional journals, editorials, political speeches, primary source material).</p>			
<p>8. Career Preparation and Planning Students will understand career preparation and how it applies across all standards for students planning to successfully enter and advance in the construction industry. They will demonstrate content proficiency by</p>				

Construction**Language Arts
Grades 9 & 10****Science****Mathematics****Social Science**

developing:				
<p>a) Personal skills – exhibit positive attitudes, self confidence, honesty, perseverance, self-discipline (dependable, reliable, punctual, etc.) and personal hygiene; manage time and balance priorities to demonstrate capacity for life-long learning</p>				
<p>b) Interpersonal skills – work cooperatively with others, share responsibilities, accept supervision and assume leadership roles; demonstrate cooperative working relationships across gender and cultural groups</p>				

<p>c) Thinking and problem solving skills – recognize problem situations; identify, locate, and organize needed information or data; propose, evaluate, and select from alternative solutions</p>	<p>Reading Comprehension (Focus on Informational Materials) 2.3: <i>Comprehensions & Analysis of Grade-Level-Appropriate Text.</i></p> <p>Generate relevant questions about readings on issues that can be researched.</p> <p>2.4 - Synthesize the content from several sources or works by a single author dealing with a single issue; paraphrase the ideas and connect them to other sources and related topics to demonstrate comprehension.</p>			
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<p>d) Communication skills – communicate both orally and in writing; listen attentively and follow instructions, requesting clarification or additional information as needed</p>	<p>Writing Applications (Genres and Their Characteristics) 2.3:</p> <p>Write expository compositions, including analytical essays and research reports:</p> <p>b. Convey information and ideas from primary and secondary sources accurately and coherently.</p> <p>c. Make distinctions between the relative value and significance of specific data, facts, and ideas.</p> <p>2.5 - Write business letters:</p> <p>a. Provide clear and purposeful information and address the intended audience appropriately.</p> <p>c. Highlight central ideas or images.</p>			
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2.6 - Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):

a. Report information and convey ideas logically and correctly.

b. Offer detailed and accurate specifications.

**Speaking Applications
(Genres and Their Characteristics) 2.2:**

Deliver expository presentations:

b. Convey information and ideas from primary and secondary sources accurately and coherently.

	<p>2.6 - Deliver descriptive presentations:</p> <p>c. Use effective, factual descriptions of appearance, concrete images, shifting perspectives and vantage points, and sensory details.</p>			
<p>e) Employment literacy skills – promote the role of the construction industry in a productive society and the purpose of professional organizations; develop a plan for professional growth across all aspects of the industry, including financial, leadership, and advancement elements</p>	<p>Speaking Applications (Genres and Their Characteristics) 2.5:</p> <p>Deliver persuasive arguments (including evaluation and analysis of problems and solutions and causes and effects):</p> <p>c. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, expressions of commonly accepted beliefs, and logical reasoning.</p>			

<p>f) A career plan – explore options for future learning and employment, including apprenticeship, community college, university, internship, and other training programs</p>	<p>Reading Comprehension 2.3: <i>Comprehension and Analysis of Grade-Level-Appropriate Text.</i></p> <p>Generate relevant questions about readings on issues that can be researched.</p>			
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