

# ***ANIMATION STANDARDS***



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Office of Career, Technical and Adult Education  
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## BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally-recognized standards endorsed by business and industry.

The Animation standards were validated through a complete review by an industry panel.

## PROJECT COORDINATOR

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INTRODUCTION

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of an advanced high school Animation program. These standards are designed for a three-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

**Content Standards** are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.

**Performance Standards** follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.

**Performance Indicators** are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives.

The crosswalk and alignment section of the document shows where the performance indicators support the English Language Arts and the Mathematics Common Core State Standards, and the Nevada State Science Standards. Where correlation with an academic standard exists, students in the Animation program perform learning activities that support, either directly or indirectly, achievement of one or more Common Core State Standards.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to their program area. CTSOs are co-curricular national associations that directly enforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTSOs provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the “soft skills” needed to be successful in all careers, and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

The **Standards Reference Code** is only used to identify or align performance indicators listed in the standards to daily lesson plans, curriculum documents, or national standards.

Program Name	Standards Reference Code
Animation	ANIM

Example: ANIM 2.3.4

Standards	Content Standard	Performance Standard	Performance Indicator
Animation	2	3	4

**CONTENT STANDARD 1.0 : DEMONSTRATE UNDERSTANDING OF THE ANIMATION FIELD**

**PERFORMANCE STANDARD 1.1 : PURPOSES AND USES OF ANIMATION**

- 1.1.1 Research careers in animation
- 1.1.2 Research technological advances in the field of animation
- 1.1.3 Describe trends in animation
- 1.1.4 Describe the importance of animation’s influence on society
- 1.1.5 Explain various types of animation (i.e., traditional, stop motion, computer-generated imagery [CGI], and experimental)

**PERFORMANCE STANDARD 1.2 : COMMUNICATE IDEAS USING APPROPRIATE INDUSTRY TERMINOLOGY**

- 1.2.1 Formulate written communications using industry terminology
- 1.2.2 Practice verbal communication using industry terminology
- 1.2.3 Prepare and deliver a visual presentation utilizing appropriate industry terminology

**PERFORMANCE STANDARD 1.3 : IDENTIFY AND APPLY ANIMATION PRODUCTION PROCESS**

- 1.3.1 Summarize the general production process
- 1.3.2 Implement the production process

**CONTENT STANDARD 2.0 : DEMONSTRATE KNOWLEDGE OF LEGAL AND ETHICAL ISSUES RELATED TO ANIMATION**

**PERFORMANCE STANDARD 2.1 : DEMONSTRATE KNOWLEDGE OF COPYRIGHT AND INTELLECTUAL PROPERTY LAWS**

- |       |  |
|-------|--|
| 2.1.1 | Research laws governing copyright, intellectual property, and software licensing         |
| 2.1.2 | Research laws governing brand issues, trademarks, fair use, and other proprietary rights |
| 2.1.3 | Discuss consequences of violating copyright, privacy, and data security laws             |
| 2.1.4 | Model fair use in production of animation works  |

**PERFORMANCE STANDARD 2.2 : DEMONSTRATE ETHICAL BEHAVIOR AS IT RELATES TO THE INDUSTRY**

- |       |  |
|-------|--|
| 2.2.1 | Incorporate cultural sensitivity and diversity awareness into the design process |
| 2.2.2 | Debate legal versus ethical behaviors  |
| 2.2.3 | Incorporate ethical behavior in the development of animation projects            |
| 2.2.4 | Research the purpose of non-disclosure agreements (NDAs)                         |

**CONTENT STANDARD 3.0 : DEMONSTRATE KNOWLEDGE OF PRE-PRODUCTION PROCESSES**

**PERFORMANCE STANDARD 3.1 : IMPLEMENT CONCEPT DEVELOPMENT PRACTICES**

- 3.1.1 Practice brainstorming and ideation to develop a concept
- 3.1.2 Conduct visual research to provide reference for a project
- 3.1.3 Produce thumbnails, roughs, and comprehensive layouts for presentation
- 3.1.4 Identify target audiences
- 3.1.5 Design and develop environments
- 3.1.6 Design and develop characters

**PERFORMANCE STANDARD 3.2 : DEMONSTRATE KNOWLEDGE OF VISUAL DESIGN**

- 3.2.1 Identify and apply the elements and principles of design
- 3.2.2 Explain the role of visual language in an animation project

**PERFORMANCE STANDARD 3.3 : APPLY THE PRINCIPLES OF ANIMATION**

- 3.3.1 Compare and contrast the 12 Basic Principles of Animation
- 3.3.2 Apply principles of animation to animated sequences

**PERFORMANCE STANDARD 3.4 : CREATE STORYBOARDS**

- 3.4.1 Visually communicate concepts/ideas
- 3.4.2 Illustrate actions with sequential panels
- 3.4.3 Evaluate storyboards for effectiveness and feasibility
- 3.4.4 Revise and refine storyboards
- 3.4.5 Describe appropriate shot composition for desired results
- 3.4.6 Compare and contrast types of camera movements

**PERFORMANCE STANDARD 3.5 : UNDERSTAND PRODUCTION MANAGEMENT**

- 3.5.1 Identify and organize assets
- 3.5.2 Demonstrate proper file and directory naming conventions
- 3.5.3 Determine and implement file archiving systems
- 3.5.4 Practice time management in order to meet production deadlines



**CONTENT STANDARD 4.0 : DEMONSTRATE KNOWLEDGE OF PRODUCTION****PERFORMANCE STANDARD 4.1 : DEMONSTRATE MODELING TECHNIQUES**

- |       |  |
|-------|--|
| 4.1.1 | Model objects using a variety of tools and techniques                        |
| 4.1.2 | Conceptualize and utilize virtual 3D space                                   |
| 4.1.3 | Compare and contrast modeling methodologies (i.e., polygons, NURBS, splines) |
| 4.1.4 | Explain the application of low polygon and high polygon construction         |
| 4.1.5 | Modify and manipulate polygonal objects                                      |

**PERFORMANCE STANDARD 4.2 : APPLY SURFACE AND TEXTURE**

- |       |                                     |
|-------|-------------------------------------|
| 4.2.1 | Modify and apply surface attributes |
| 4.2.2 | Animate textures over time          |
| 4.2.3 | Create an original texture          |
| 4.2.4 | Identify UVW mapping coordinates    |
| 4.2.5 | Explain various mapping techniques  |
| 4.2.6 | Create normal maps                  |

**PERFORMANCE STANDARD 4.3 : CREATE AND APPLY LIGHTING**

- |       |  |
|-------|--|
| 4.3.1 | Explain the properties and uses of different types of lights |
| 4.3.2 | Create animated lighting                                     |
| 4.3.3 | Use three point lighting in a project                        |
| 4.3.4 | Compare and contrast indirect lighting and direct lighting   |
| 4.3.5 | Create environmental lighting                                |
| 4.3.6 | Describe the use of final gather and global illumination     |

**PERFORMANCE STANDARD 4.4 : UTILIZE CINEMATOGRAPHY IN ANIMATION**

- |       |  |
|-------|--|
| 4.4.1 | Create animated cameras  |
| 4.4.2 | Use multiple cameras in a scene                                |
| 4.4.3 | Evaluate and select camera settings to achieve desired results |
| 4.4.4 | Place cameras to match an existing storyboard                  |

<b>PERFORMANCE STANDARD 4.5 : APPLY RIGGING TO MODELS</b>	
4.5.1	Describe the difference between forward and inverse kinematics
4.5.2	Create a parent/child hierarchy
4.5.3	Create a joint/bone chain
4.5.4	Practice skinning models
4.5.5	Apply and adjust weight maps
4.5.6	Apply rotational limits to joints
4.5.7	Explain the use of constraints to animate objects
4.5.8	Demonstrate the use of constraints to animate objects
<b>PERFORMANCE STANDARD 4.6 : DEMONSTRATE KNOWLEDGE OF ANIMATION</b>	
4.6.1	Create and modify key frames and key poses
4.6.2	Change an object’s state or position over time
4.6.3	Establish an object’s relative speed
4.6.4	Demonstrate an object following a path
4.6.5	Simulate a naturally occurring or mechanical cycle (i.e., walking)
4.6.6	Apply various animation techniques (i.e., pose-to-pose, straight ahead)
<b>PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE</b>	
4.7.1	Create a particle system
4.7.2	Create atmospheric effects
4.7.3	Adjust the dynamic properties (i.e., gravity, wind speed)
4.7.4	Simulate soft dynamics (e.g., fabric)
4.7.5	Simulate rigid body dynamics (e.g., shattering wall, breaking glass)
<b>PERFORMANCE STANDARD 4.8 : DEMONSTRATE AN UNDERSTANDING OF RENDERING TECHNIQUES</b>	
4.8.1	Identify rendering types and purposes
4.8.2	Apply appropriate rendering settings for a project
4.8.3	Render a sequence of frames
4.8.4	Render to layers

**CONTENT STANDARD 5.0 : DEMONSTRATE KNOWLEDGE OF POST-PRODUCTION****PERFORMANCE STANDARD 5.1 : CREATE FINAL OUTPUT**

- |       |  |
|-------|--|
| 5.1.1 | Demonstrate editing techniques                           |
| 5.1.2 | Manipulate and apply audio to an animation project       |
| 5.1.3 | Select appropriate distribution format                   |
| 5.1.4 | Render for distribution                                  |
| 5.1.5 | Demonstrate compositing by using a variety of techniques |

**CONTENT STANDARD 6.0 : DEVELOP A BODY OF WORK****PERFORMANCE STANDARD 6.1 : DEVELOP, MAINTAIN, AND PRESENT A BODY OF WORK**

- |       |  |
|-------|--|
| 6.1.1 | Research and compare various types of presentation formats |
| 6.1.2 | Develop, maintain, and update portfolios and reels         |

**PERFORMANCE STANDARD 6.2 : DEMONSTRATE THE PROCESS OF EVALUATING PORTFOLIOS**

- |       |  |
|-------|--|
| 6.2.1 | Conduct peer and self-evaluations using rubrics  |
| 6.2.2 | Understand the elements of the critique process, including a respect for peer work and the ability to give and receive dispassionate criticism |

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**CROSSWALKS AND ALIGNMENTS OF  
ANIMATION STANDARDS  
AND THE COMMON CORE STATE STANDARDS,  
THE NEVADA SCIENCE STANDARDS,  
AND THE COMMON CAREER TECHNICAL CORE STANDARDS**

**CROSSWALKS (ACADEMIC STANDARDS)**

The crosswalk of the Animation Standards shows links to the Common Core State Standards for English Language Arts and Mathematics and the Nevada Science Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Animation program support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the English Language Arts and Mathematics Common Core State Standards and the Nevada Science Standards.

**ALIGNMENTS (MATHEMATICAL PRACTICES)**

In addition to correlation with the Common Core Mathematics Content Standards, many performance indicators support the Common Core Mathematical Practices. The following table illustrates the alignment of the Animation Standards Performance Indicators and the Common Core Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Animation program support academic learning.

**CROSSWALKS (COMMON CAREER TECHNICAL CORE)**

The crosswalk of the Animation Standards shows links to the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Animation program support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Animation Standards are crosswalked to the Arts, A/V Technology & Communications Career Cluster™ and the Visual Arts Career Pathway.

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**CROSSWALK OF ANIMATION STANDARDS  
AND THE COMMON CORE STATE STANDARDS**

**CONTENT STANDARD 1.0: DEMONSTRATE UNDERSTANDING OF THE ANIMATION FIELD**

Performance Indicators	Common Core State Standards and Nevada Science Standards
1.1.1	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
1.1.2	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.2b Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.
1.1.3	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
1.1.4	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
1.1.5	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
1.2.2	<b>English Language Arts: Language Standards</b> L.11-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
1.2.3	<b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
1.3.1	<b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well reasoned exchange of ideas.  <b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
1.3.2	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.



**CONTENT STANDARD 2.0: DEMONSTRATE KNOWLEDGE OF LEGAL AND ETHICAL ISSUES RELATED TO ANIMATION**

Performance Indicators	Common Core State Standards and Nevada Science Standards
2.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively, assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

**CONTENT STANDARD 3.0: DEMONSTRATE KNOWLEDGE OF PRE-PRODUCTION PROCESSES**

Performance Indicators	Common Core State Standards and Nevada Science Standards
3.1.6	<p><b>English Language Arts: Reading Standards for Informational Text</b>                      RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p>
3.2.1	<p><b>English Language Arts: Reading Standards for Informational Text</b>                      RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.</p>
3.2.2	<p><b>English Language Arts: Reading Standards for Informational Text</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
3.3.1	<p><b>English Language Arts: Reading Standards for Informational Text</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

## CONTENT STANDARD 4.0: DEMONSTRATE KNOWLEDGE OF PRODUCTION

Performance Indicators	Common Core State Standards and Nevada Science Standards
4.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
4.1.3	<p><b>Math: Geometry – Congruence</b> G-CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). <i>Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</i></p>
4.1.4	<p><b>Math: Geometry – Congruence</b> G-CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). <i>Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</i></p>
4.1.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
4.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
4.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
4.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

<p>4.5.1</p>	<p><b>English Language Arts: Speaking and Listening Standards</b>                  SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p> <p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
<p>4.7.3</p>	<p><b>Math: Functions – Linear, Quadratic, and Exponential Models</b></p> <p>F-LE.1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</p> <p>F-LE.1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p>

**CONTENT STANDARD 5.0: DEMONSTRATE KNOWLEDGE OF POST-PRODUCTION**

Performance Indicators	Common Core State Standards and Nevada Science Standards
5.1.1	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
5.1.5	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

**CONTENT STANDARD 6.0: DEVELOP A BODY OF WORK**

Performance Indicators	Common Core State Standards and Nevada Science Standards
6.1.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
6.2.1	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>

**ALIGNMENT OF ANIMATION STANDARDS  
AND THE COMMON CORE MATHEMATICAL PRACTICES**

Common Core Mathematical Practices	Performance Indicators
1. Make sense of problems and persevere in solving them.	
2. Reason abstractly and quantitatively.	4.6.3
3. Construct viable arguments and critique the reasoning of others.	6.2.1
4. Model with mathematics.	4.1.5; 4.5.5, 4.5.6
5. Use appropriate tools strategically.	
6. Attend to precision.	
7. Look for and make use of structure.	
8. Look for and express regularity in repeated reasoning.	

**CROSSWALKS OF ANIMATION STANDARDS  
AND THE COMMON CAREER TECHNICAL CORE**

Arts, A/V Technology & Communications Career Cluster™ (AR)	Performance Indicators
1. Analyze the interdependence of the technical and artistic elements of various careers within the Arts, A/V Technology & Communications Career Cluster™.	1.1.1, 1.1.4-1.1.5
2. Analyze the importance of health, safety and environmental management systems, policies and procedures common in arts, audio/video technology and communications activities and facilities.	
3. Analyze the lifestyle implications and physical demands required in the arts, audio/visual technology and communications workplace.	1.1.1
4. Analyze the legal and ethical responsibilities required in the arts, audio/visual technology and communications workplace.	2.1.1-2.1.4 2.2.1-2.2.4
5. Describe the career opportunities and means to achieve those opportunities in each of the Arts, A/V Technology & Communications Career Pathways.	1.1.1 6.1.1-6.1.2
6. Evaluate technological advancements and tools that are essential to occupations within the Arts, A/V Technology & Communications Career Cluster™.	1.1.2-1.1.3
Visual Arts Career Pathway (AR-VIS)	Performance Indicators
1. Describe the history and evolution of the visual arts and its role in and impact on society.	1.1.2, 1.1.4-1.1.5
2. Analyze how the application of visual arts elements and principles of design communicate and express ideas.	3.2.1-3.2.2
3. Analyze and create two and three-dimensional visual art forms using various media.	3.1.1-3.1.6; 3.4.1-3.4.6 4.1.1-4.1.5; 4.2.1-4.2.6 4.3.1-4.3.6; 4.4.1-4.4.4 5.1.1-5.1.5