

# **The Arts and the Common Core:**

**A Comparison of the National Core Arts Standards  
and the Common Core State Standards**

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## Executive Summary

The new [National Core Arts Standards](#), representing learning expectations for students in grades preK-12 in the disciplines of dance, media arts, music, theatre, and visual arts, were released publicly on June 4, 2014. This development marks the first complete revision of this country's arts standards since the initial National Standards for Arts Education were released twenty years ago.

The National Core Arts Standards (NCAS) are entering the world during a moment of intense focus on another set of standards that have been widely adopted nationwide: the Common Core State Standards. Although the Common Core standards relate most directly to the study of English Language Arts and Mathematics, arts educators commonly report expectations in their districts that arts teaching and learning practices will be aligned with the goals and objectives of the Common Core.

While the National Core Arts Standards are “core” standards – describing practices that lie at the heart of rigorous arts teaching and learning – it is important to note that they are not a component of the Common Core State Standards. From the earliest stages of their development, however, it was clear that it would be important to be able to connect the goals and objectives of these new arts standards with those of the Common Core, and relate curricular concepts and practices across content areas. To this end, a document of [guiding principles](#) for arts educators was released by the New York State Education Department. The guiding principles drew parallels between close observation of works of art and deep reading of text, and noted the importance of understanding the *contexts* within which works of art are created and presented, as this contextual information may relate to other areas of knowledge. In the interest of identifying further connections between the arts and the Common Core, College Board researchers completed a study for the National Coalition for Core Arts Standards in 2012, comparing the nascent framework of the arts standards with the language of the Common Core State Standards. The report from this study, [The Arts and the Common Core: A Review of Connections between the Common Core State Standards and the National Core Arts Standards Conceptual Framework](#), provided standards writers with a resource to inform their work, but also became a useful tool for educators, administrators, and policymakers nationwide in relating the work of arts educators to the expectations put forward by the Common Core. Although this report was a useful reference in the standards development process, it is important to note that the National Core Arts Standards were not developed using language of the Common Core standards as a template – that is, writers did not begin with this foundational set of math and literacy skills and then intentionally create a set of arts standards intended to reinforce those non-arts abilities. Rather, the goal of alignment between the Common Core and the National Core Arts Standards has always been to highlight the instances of overlap in the types of habits and thinking skills that are emphasized in each document, even if the language used to describe such abilities varies by context.

As the standards were finalized and published in 2014, it became apparent that the Common Core alignment study could be fully updated to bring the research into alignment with the final language and structure of the National Core Arts Standards. Whereas the earlier work related highly specific Common Core standards to very broadly-defined elements of the arts standards framework, the opportunity was now available to perform a series of one-to-one comparisons between the Anchor Standards for the Arts and the Common Core's College and Career Readiness Anchor Standards, as well as their Standards for Mathematical Practice.

This report presents an overview of the methodology of this second phase of research, a summary of key findings, and a discussion of the implications of this alignment study and suggested next steps for the field. Tables reflecting the entire study, including the rationale behind all alignment decisions, are included for more detailed review as well.

## Methodology

### Components of the standards

The Common Core State Standards for English Language Arts are divided into four sections: Reading, Writing, Speaking and Listening, and Language. Each segment has between six and ten Anchor Standards, which are overarching standards that relate directly to grade-level expectations. [See table on the following page.]

The Common Core Standards for Mathematics are slightly different in structure, but maintain a set of overarching expectations as well: the Standards for Mathematical Practice. These standards do not directly correlate to grade-level standards as their counterparts in English Language Arts do; rather, they present a broad picture of what it means to think mathematically across all grade levels. These standards are presented in a table beginning on page 8.

The National Core Arts Standards have a similar organization, with specific grade-level standards as well as a set of eleven anchor standards that apply to all arts disciplines (dance, media arts, music, theatre, and visual arts) at all grade levels. These anchor standards are divided into four categories: standards associated with *creating*, with *performing/presenting/producing*, with *responding*, and with skills of *connecting*. These standards are presented in the table below.

NATIONAL CORE ARTS STANDARDS: ANCHOR STANDARDS			
Creating	Performing/ Presenting/ Producing	Responding	Connecting
<i>Conceiving and developing new artistic ideas and work</i>	<b>Performing:</b> Realizing artistic ideas and work through interpretation and presentation. <b>Presenting:</b> Interpreting and sharing artistic work. <b>Producing:</b> Realizing and presenting artistic ideas and work.	<i>Understanding and evaluating how the arts convey meaning.</i>	<i>Relating artistic ideas and work with personal meaning and external context.</i>
1. Generate and conceptualize artistic ideas and work	4. Analyze, interpret and select artistic work for presentation.	7. Perceive and analyze artistic work.	10. Synthesize and relate knowledge and personal experiences to make art.
2. Organize and develop artistic ideas and work	5. Develop and refine artistic techniques and work for presentation.	8. Interpret intent and meaning in artistic work.	11. Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.
3. Refine and complete artistic ideas and work.	6. Convey meaning through the presentation of artistic work.	9. Apply criteria to evaluate artistic work.	

### Approach to alignment

In this study, each of the eleven arts anchor standards were compared to each of the Common Core's anchor standards for English Language Arts, as well as the Standards for Mathematical Practice, with the goal of highlighting any similarities in the types of habits, skills, and abilities that were described in each. This approach generated a total of 440 alignment decisions; the decisions and their rationale can all be found in the tables

beginning on page 14. Given the differences in language across subject areas, judgments of alignment were often challenging. The approach to this study involved delineating two levels of alignment. First, high-level alignments were instances in which the expectations put forth in each of the two standards being compared were highly similar, and described nearly identical practices in the context of two different subject areas. The comparison between the Anchor Standards for Reading with the NCAS Anchor Standards for Responding, for example, produced many such alignment decisions, as they describe the skills of analyzing and interpreting works of art and written texts in highly similar terms. In the tables that begin on page 14 and present this research in its entirety, primary alignments are highlighted in yellow.

*Sample high-level alignment: Anchor Standard #1 for Reading, as compared to the NCAS Anchor Standards for Responding*

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	1. Perceive and analyze artistic work.	2. Interpret intent and meaning in artistic work.	3. Apply criteria to evaluate artistic work.
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	The ability to <b>read closely to determine what a text says explicitly and make logical inferences from it</b> , as well as <b>cite specific evidence to support their conclusions</b> relates to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>read closely to determine what a text says explicitly and make logical inferences from it</b> , as well as <b>cite specific evidence to support their conclusions</b> relates to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>determine what the text says explicitly and to make logical inferences from it</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .

The majority of the alignment decisions were not as clear-cut, however, and the comparisons that did not yield obvious and straightforward parallels but were still potentially related to one another were deemed secondary-level alignments. In these instances, it was determined that the practices described in each standard *may* relate to one another in certain instances, and that the cognitive habits that students are expected to engage in do share certain similarities.

*Sample secondary-level alignment. Practices may be related in certain instances.*

Common Core Anchor Standards for SPEAKING AND LISTENING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>generate and conceptualize artistic ideas</b> .	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>organize and develop artistic ideas</b> .	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>refine and complete artistic ideas and work</b> .

*The tables on pages 7-9 feature the Common Core's College and Career Readiness Anchor Standards for English Language Arts, as well as the Standards for Mathematical Practice.*

**COMMON CORE COLLEGE AND CAREER READINESS ANCHOR STANDARDS FOR ENGLISH LANGUAGE ARTS**

Reading	Writing	Speaking and Listening	Language
<ol style="list-style-type: none"> <li>1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</li> <li>2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.</li> <li>3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.</li> <li>4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</li> <li>5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.</li> <li>6. Assess how point of view or purpose shapes the content and style of a text.</li> <li>7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words.</li> <li>8. Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.</li> <li>9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.</li> <li>10. Read and comprehend complex literary and informational texts independently and proficiently.</li> </ol>	<ol style="list-style-type: none"> <li>1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.</li> <li>2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.</li> <li>3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.</li> <li>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</li> <li>5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.</li> <li>6. Use technology, including the internet, to produce and publish writing and to interact and collaborate with others.</li> <li>7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.</li> <li>8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.</li> <li>9. Draw evidence from literary or informational texts to support analysis, reflection, and research.</li> <li>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single setting or a day or two) for a range of tasks, purposes, and audiences.</li> </ol>	<ol style="list-style-type: none"> <li>1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</li> <li>2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.</li> <li>3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.</li> <li>4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.</li> <li>5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.</li> <li>6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>4. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</li> <li>5. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</li> <li>6. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.</li> <li>7. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.</li> <li>8. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</li> <li>9. Acquire and accurately use a range of 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 encountering an unknown term important to comprehension or expression.</li> </ol>

## COMMON CORE STANDARDS FOR MATHEMATICAL PRACTICE

### 1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

### 2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

### 3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

### 4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

### 5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

### 6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.



## COMMON CORE STANDARDS FOR MATHEMATICAL PRACTICE

### 7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

### 8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through  $(1, 2)$  with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

## Findings

### *English Language Arts alignment*

#### 1. Creating

Among the comparisons in the English Language Arts standards, the NCAS Anchor Standards for Creating were most strongly aligned with the Common Core Anchor Standards for Writing. Of the 30 comparisons that were made between standards, 26 instances of alignment were found, seven of them primary-level. This is perhaps not surprising, since both sets of standards deal with planning and producing original communication or personal expression.

The third anchor standard for Creating – *refine and complete artistic ideas and work* – had interesting (and somewhat unexpected) similarities to the reading standards; it was found to positively align with eight out of ten anchor standards for reading. These connections were mostly found upon consideration that *refining ideas* relates to the thought processes described in the context of analyzing and interpreting texts.

There were fewer correlations (generally two out of six in each set of comparisons) between the standards for Creating as compared to those for Speaking and Listening and for Language.

#### 2. Performing/Presenting/Producing

Positive alignment was found between the performing/presenting/producing anchors and all segments of the Anchor Standards for English Language Arts standards. These connections varied in the areas of focus and types of skills they described; among them were:

- The first Performing/Presenting/Producing Anchor standard – *Analyze, interpret and select artistic work for presentation* – aligns with all ten of the Common Core Anchor Standards for Reading. Skills of analysis and/or interpretation are referenced in all of the reading standards, and the inclusion of these skills alongside the act of selecting a creative work for presentation accounts for the high level of alignment here.
- Among all comparisons made with the NCAS Anchor Standards for Performing/Presenting/Producing, the largest number of positive alignments related to the Common Core Anchor Standards for Writing. Among the 30 comparisons made to these standards, there were 16 instances of alignment to the performing/presenting/producing anchors, nine of them primary-level.
  - The ability to **convey meaning through the presentation of artistic work** related to Common Core language of *writing to convey complex ideas, produce coherent writing, and develop and strengthen writing*, among several others.
  - The ability to **develop and refine artistic techniques and work for presentation** (anchor standard #5) relates to five of the ten writing anchors, specifically those that reference the ability to organize and develop ideas as well as plan, revise, and edit one’s work.
  - The ability to **analyze, interpret, and select work for presentation** relates to writing as well as reading; positive alignment was found in four out of ten comparisons, particularly involving CC Anchor Standards for Writing that referenced the act of writing in support of an argument or analysis of a source.
- A range of positive alignments were found between the NCAS Anchor Standards for Performing/Presenting/Producing and the Anchor Standards for Speaking and Listening and for Language as well. Fully half (18 of 36 comparisons) noted areas of overlap between the habits and skills being discussed. Half of these (eight alignments) related to the ability to convey meaning through the presentation of artistic work.

#### 3. Responding

The Common Core Anchor standards for reading were a natural fit for alignment with the NCAS standards for responding, as all of these standards emphasize skills related to the analysis and interpretation of a work’s

meaning. Alignments here were clear and strong: 29 of 30 comparisons yielded positive alignment decisions, and 24 of these were primary-level

#### 4. Connecting

The two anchor standards for connecting in the National Core Arts Standards are largely concerned with the role that context plays in both our creation of and response to works of art – in relating arts learning to one’s own knowledge and personal experience, and to broader societal, cultural, and historical contexts.

The Anchor Standards for Connecting related to about one third of the Common Core Anchor Standards for Reading. In most of these cases, skills of analysis, assessment, and evaluation of text were connected to the ability (Noted in NCAS Anchor Standard 11) to relate artistic works to societal, cultural, and historical context to deepen understanding.

Just over half (eleven out of twenty) of the comparisons between the Anchor Standards for Writing and those for Connecting resulted in positive alignments. In general, abilities like analyzing substantive topics, relating writing style to audience and task, and demonstrating understanding of a subject under investigation, all require the kind of contextual knowledge referenced in the arts anchors. This kind of contextual knowledge related the connecting anchors to two-thirds of the Anchor Standards for Speaking and Listening and just under half of comparisons to the Anchor Standards for Language.

#### *Considering new media and technology*

In some cases, comparing only the Anchor Standards, as opposed to individual grade-level standards, posed certain limitations on findings. This was particularly noticeable in considering Anchor Standard for Writing #6 (*Use technology, including the internet, to produce and publish writing and to interact and collaborate with others*), and Anchor Standard for Speaking and Listening #5 (*Make use of digital media and visual displays of data to express information and enhance understanding of presentations*), as they compared to the NCAS Anchor Standards. Both of these Common Core Anchor Standards reference the use of technology. Within the arts standards, the use of new media and technology is referenced in the grade-level standards in the Creating category – not only for the standards in media arts, but for almost every other arts discipline as well. References to new media and technology are *absent*, however, at the Anchor Standard level, resulting in a decision that there was no correlation between these Common Core Anchor Standards and the NCAS Anchor Standards for Creating.

#### *Alignment with the Standards for Mathematical Practice*

The Standards for Mathematical Practice present a departure in structure from the Anchor Standards for English Language Arts. They are a series of eight paragraph-long descriptions of what it means for students to think mathematically, using process-oriented language to describe steps students may follow in doing their work. These standards additionally integrate concrete examples of these thought processes and problem-solving procedures in action. On first glance, it may seem that these standards would have little in common with arts objectives, as methods of working in art and in math are widely believed to be almost completely unrelated. In comparing the language of the Standards for Mathematical Practice and the National Core Arts Standards, however, it was found that the process-oriented approach toward standard creation was a powerful unifier; both sets of standards spoke in terms of planning for one’s work, analyzing the task or idea at hand, considering the role of context as it relates to a particular problem or idea, and consider tools and resources that will aid in solving a problem, among others. The eleven NCAS Anchor Standards were each compared to all eight Standards for Mathematical Practice, for a total of 88 comparisons. Of these, 63 resulted in at least one instance of alignment, and many produced multiple areas of connection within a single standard. An example, illustrating the overlaps between Standard for Mathematical Practice #1 (Make sense of problems and persevere in solving them) and the NCAS Anchor Standards for Creating, is featured on the following page. In this example, the habits, skills, or methods of working found in the arts standards are reflected multiple times within the context of the description of mathematical problem solving.

**Alignment of NCAS Anchor Standards for Creating with Standard for Mathematical Practice #1: Make sense of problems and persevere in solving them.**

Mathematically proficient students start by **explaining to themselves the meaning of a problem and looking for entry points to its solution**. They analyze givens, constraints, relationships, and goals. They **make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt**. They **consider analogous problems**, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They **monitor and evaluate their progress and change course if necessary**. Older students might, depending on the context of their problem, transform algebraic expressions or the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or **draw diagrams of important features and relationships**, graph data, and search for regularity or trends. Younger students might rely **on using concrete objects or pictures to help conceptualize** or solve a problem. Mathematically proficient students **check their answers to problems using a different method**, and they continually **ask themselves, “Does this make sense?”** They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

- **Generate and conceptualize artistic ideas and work**
- **Organize and develop artistic ideas and work**
- **Refine and complete artistic ideas and work**

**Discussion and conclusions**

The purpose of this research was not to consider the ways that arts involvement may contribute to strengthening students’ reading and math skills – in other words, this is not about transfer of arts learning to other areas, or about measuring the benefits of the arts in terms of non-arts outcomes – but to note the similarities in habits and processes described in standards across subject areas, and consider the ways that they may relate to one another in practice. The Common Core gives us a common language to describe the types of thinking – responding, analyzing, planning and continually revising one’s work, communicating effectively – that ideally will happen across the curriculum.

Among the most encouraging aspect of the findings of this study is the impressive breadth of the results. Meaningful connections to the Common Core are found throughout *all* of NCAS Anchor Standards, including those associated with creating as well as those concerned with performing or presenting, in addition to responding and connecting. The arts standards connect to *all* segments of the Common Core, extending beyond the standards for reading to include writing, speaking and listening, and the Standards for Mathematical Practice.

Although such rich and varied opportunities for cross-disciplinary connection exist, the majority of currently-available professional development and teaching resources for arts teachers to relate their work with the Common Core focus on a single area: the relationship between reading texts and responding to works of art. In these cases, educators are reminded that works of art are forms of text, and may be responded to and analyzed in the same way that a written text might. While this is certainly a rich area to mine for strong cross-disciplinary connections, this research highlights other Common Core connections that are equally promising, and for which the field of arts education needs further research and resources. In addition, in order for these research findings to be most useful, they need to be clearly and concretely connected with classroom practice. How would a teacher, for example, structure an instructional sequence in order to highlight the relationship between creating a work of art and creating or presenting a written narrative? How does one help students to recognize and articulate the similarities in the processes of planning and choice-making that are involved in creating a work of art and in solving a math problem?

The close examination of the Common Core standards required for this research presented a number of instances where arts teachers may be able to take the lead in promoting these types of cross-disciplinary connections. Anchor Standard 5 for Speaking and Listening, for example, notes that students should “*make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.*” As it is worded here, it implies that a student might prepare their research and then later create a graphic or digital slideshow of their ideas. Under the guidance of an arts teacher, however, students may be encouraged to approach their work differently, engaging with digital and visual tools in a deeper way that parallels the other forms of research for their presentation.

In summary, this research is a tool to inform practice, not an end in itself. As a field, the arts education community can complete the work by translating these findings to tools and resources for advocacy, curriculum planning, instruction, and assessment.

*The following pages feature the entire analysis of the relationship between each NCAS Anchor Standard and Common Core standard, including the rationale for decisions as to whether the skills described in each were correlated.*

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	No correlation	No correlation	No correlation
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	No correlation	The ability to <b>summarize key supporting details and ideas of a text</b> may relate to the ability to <b>organize and develop artistic ideas and work</b> .	The ability to <b>analyze the development of central ideas and themes of a text</b> may relate to the skills of <b>refining and completing artistic ideas and work</b> .
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	No correlation	No correlation	The ability to <b>analyze how and why ideas develop over the course of a text</b> may relate to the ability to <b>refine artistic ideas</b> .
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	No correlation	No correlation	The ability to <b>analyze how word choices shape meaning or tone</b> may relate to the ability to <b>refine artistic ideas and work</b> .
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	No correlation	No correlation	The ability to <b>analyze how portions relate to the whole</b> may relate to the ability to <b>refine artistic ideas and work</b> .
6. Assess how point of view or purpose shapes the content and style of a text.	The ability to <b>assess how point of view or purpose shapes content and style</b> may relate to the ability to <b>generate and conceptualize artistic ideas and work</b> .	The ability to <b>assess how point of view or purpose shapes content and style</b> may relate to the ability to <b>organize and develop artistic ideas and work</b> .	The ability to <b>assess how point of view or purpose shapes content and style</b> may relate to the ability to <b>refine and complete artistic ideas</b> .
7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words.	No correlation	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> may relate to the ability to <b>organize and develop artistic ideas</b> .	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> may relate to the ability to <b>refine and complete artistic ideas</b> .
8. Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.	No correlation	The ability to <b>delineate and evaluate arguments and claims</b> may relate to the ability to <b>organize and develop artistic ideas and work</b> .	The ability to <b>delineate and evaluate arguments and claims</b> may relate to the ability to <b>refine and complete artistic ideas</b> .

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	No correlation	No correlation	No correlation
10. Read and comprehend complex literary and informational texts independently and proficiently.	No correlation	No correlation	The ability to <b>read independently and proficiently</b> may relate to the ability to <b>refine ideas</b> .

Common Core Anchor Standards for WRITING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	The ability to <b>support claims in an analysis</b> , and to <b>use valid reasoning and evidence</b> may relate to the ability to <b>generate and conceptualize ideas</b> .	The ability to <b>support claims in an analysis of substantive topics or texts</b> may relate to the ability to <b>organize and develop artistic ideas</b> .	The ability to <b>support claims using valid reasoning and relevant and sufficient evidence</b> may relate to the ability to <b>refine and complete artistic ideas</b> .
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	The ability to <b>select, organize, and analyze content</b> may relate to the ability to <b>generate and conceptualize artistic ideas and work</b> .	The ability to <b>effectively select, organize, and analyze content</b> relate to the ability to <b>organize and develop ideas and work</b> .	The ability to <b>organize and analyze content</b> and to <b>convey complex ideas and information clearly and accurately</b> may relate to the ability to <b>refine and complete artistic ideas and work</b> .
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	The ability to <b>write narratives of real or imagined experiences</b> relates to the ability to <b>generate and conceptualize ideas and work</b> .	The ability to <b>write narratives of real or imagined experiences</b> relates to the ability to <b>organize and develop ideas and work</b> .	The ability to <b>write using effective technique, well-chosen details, and well-structured event sequences</b> , relates to the ability to <b>refine and complete ideas and work</b> .
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	The ability to <b>link development, organization, and style to talk, purpose, and audience</b> relates to the ability to <b>generate and conceptualize ideas and work</b>	The ability to <b>produce clear and coherent writing and consider task, purpose, and audience</b> relates to the ability to <b>organize and develop ideas and work</b>	The ability to <b>link development, organization, and style to talk, purpose, and audience</b> relates to the ability to <b>refine and complete ideas and work</b>
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	<b>Planning</b> relates to <b>generating and conceptualizing artistic ideas and work</b> .	<b>Planning, revising, editing, rewriting, and trying new approaches</b> relate to <b>organizing and developing artistic ideas and work</b> .	<b>Revising, editing, rewriting, and trying new approaches</b> relate to <b>refining and completing artistic ideas and work</b> .
6. Use technology, including the internet, to produce and publish writing and to interact and collaborate with others.*	No correlation*	No correlation*	No correlation*
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	<b>Conducting research projects based on focused questions</b> may relate to <b>generating and conceptualizing artistic ideas and work</b> .	<b>Conducting research projects based on focused questions</b> may relate to <b>organizing and developing artistic ideas and work</b> .	The ability to <b>conduct research</b> relates to the ability to <b>refine ideas</b> .

\*Note: Although the NCAS Anchor Standards for Creating do not align with Anchor Standard #6 for Writing, some of the NCAS grade-level standards in this category do reference the use of technology.



Common Core Anchor Standards for WRITING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	Gathering relevant information from multiple print and digital sources, and integrating ideas while avoiding plagiarism may relate to the ability to generate and conceptualize artistic ideas and work.	Gathering relevant information from multiple print and digital sources, and integrating ideas while avoiding plagiarism may relate to the ability to organize and develop artistic ideas and work.	Integrating information while avoiding plagiarism may relate to the ability to refine and complete artistic ideas and work.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.	No correlation	The ability to draw evidence to support analysis, reflection, and research may relate to the ability to organize and develop artistic ideas.	The ability to draw evidence to support analysis, reflection, and research may relate to the ability to refine and complete artistic ideas.
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single setting or a day or two) for a range of tasks, purposes, and audiences.	Writing routinely over extended time frames may relate to the ability to generate and conceptualize ideas.	Writing routinely over extended time frames may relate to organizing and developing ideas.	Writing routinely over extended time frames may relate to refining and completing artistic ideas and work.

Common Core Anchor Standards for SPEAKING AND LISTENING	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	4. Generate and conceptualize artistic ideas and work.	5. Organize and develop artistic ideas and work.	6. Refine and complete artistic ideas and work.
2. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>generate and conceptualize artistic ideas</b> .	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>organize and develop artistic ideas</b> .	The ability to <b>build on others' ideas and express [one's] own clearly and persuasively</b> may relate to the ability to <b>refine and complete artistic ideas and work</b> .
3. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	The ability to <b>integrate and evaluate information presented in diverse media</b> may relate to the ability to <b>generate and conceptualize artistic ideas</b> .	The ability to <b>integrate and evaluate information presented in diverse media</b> may relate to the ability to <b>organize and develop artistic ideas</b> .	The ability to <b>integrate and evaluate information presented in diverse formats</b> may relate to the ability to <b>refine ideas and work</b> .
4. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	No correlation	No correlation	No correlation
5. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	No correlation	No correlation	No correlation
6. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.*	No correlation	No correlation	No correlation
7. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	No correlation	No correlation	No correlation

*\*Note: Although the NCAS Anchor Standards for Creating do not align with Anchor Standard #5 for Speaking and Listening, some of the NCAS grade-level standards in this category **do** reference the use of digital media and/or visual displays of data.*

Common Core Anchor Standards for LANGUAGE	NCAS Anchor Standards		
	CREATING: Conceiving and developing new ideas and work		
	1. Generate and conceptualize artistic ideas and work.	2. Organize and develop artistic ideas and work.	3. Refine and complete artistic ideas and work.
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	No correlation	No correlation	No correlation
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	No correlation	No correlation	No correlation
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	No correlation	The ability to <b>make effective choices of language for meaning or style</b> may relate to the ability to <b>organize and develop artistic ideas and work.</b>	The ability to <b>make effective choices of language for meaning or style</b> may relate to the ability to <b>refine and complete artistic ideas and work.</b>
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	No correlation	No correlation	No correlation
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	<b>Demonstrating understanding of figurative language, word relationships, and nuance</b> may relate to the ability to <b>generate and conceptualize ideas.</b>	<b>Understanding figurative language, word relationships, and nuances in meaning</b> may relate to <b>organizing and developing artistic ideas and work.</b>	<b>Understanding figurative language, word relationships, and nuances in meaning</b> may relate to <b>refining and completing artistic ideas and work.</b>
6. Acquire and accurately use a range of 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 encountering an unknown term important to comprehension or expression.	No correlation	No correlation	No correlation

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	PERFORMING: Realizing artistic ideas and work through interpretation and presentation. PRESENTING: Interpreting and sharing artistic work. PRODUCING: Realizing and presenting artistic ideas and work.		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	The ability to <b>read closely to determine what a text says</b> relates to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	The ability to <b>determine central ideas or themes of a text</b> relates to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	The ability to <b>analyze how and why individuals, events, and ideas develop and interact over the course of a text</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	The ability to <b>interpret words and phrases as they are used in a text</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	The ability to <b>analyze the structure of texts</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
6. Assess how point of view or purpose shapes the content and style of a text.	The ability to <b>assess how point of view or purpose shapes a text's content and style</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words.	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation
8. Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.	The ability to <b>delineate and evaluate the argument of a text</b> may relate to the ability to <b>analyze and interpret artistic work</b> .	No correlation	No correlation

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	<b>PERFORMING: Realizing artistic ideas and work through interpretation and presentation.</b> <b>PRESENTING: Interpreting and sharing artistic work.</b> <b>PRODUCING: Realizing and presenting artistic ideas and work.</b>		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	The ability to <b>analyze how two or more texts address similar themes or topics</b> may relate to the ability to <b>analyze and interpret artistic work.</b>	No correlation	No correlation
10. Read and comprehend complex literary and informational texts independently and proficiently.	The ability to <b>comprehend complex texts</b> may relate to the ability to <b>analyze and interpret artistic work.</b>	No correlation	No correlation

Common Core Anchor Standards for WRITING	NCAS Anchor Standards		
	<b>PERFORMING: Realizing artistic ideas and work through interpretation and presentation.</b> <b>PRESENTING: Interpreting and sharing artistic work.</b> <b>PRODUCING: Realizing and presenting artistic ideas and work.</b>		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	The ability to <b>write arguments in an analysis of substantive topics or texts</b> may relate to the ability to <b>analyze, interpret, and select artistic work.</b>	No correlation	The ability to <b>write arguments to support [one's] claims</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	The ability to <b>effectively select, organize, and analyze content</b> relates to the ability to <b>analyze, interpret, and select artistic work for presentation.</b>	No correlation	The ability to <b>write informative texts to examine and convey complex ideas and information</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	No correlation	The ability to <b>develop real or imagined experiences using effective technique and well-chosen details</b> relates to the ability to <b>develop and refine artistic techniques and work.</b>	The ability to <b>develop real or imagined experiences using effective technique</b> relates to the ability to <b>convey meaning through the presentation of artistic work.</b>
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	No correlation	The ability to <b>produce writing in which the development, organization, and style are appropriate to task, purpose, and audience</b> relates to the ability to <b>develop and refine artistic techniques and work for presentation.</b>	The ability to <b>produce clear and coherent writing</b> relates to the ability to <b>convey meaning in the presentation of artistic work.</b>
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	No correlation	The ability to <b>plan, revise, edit, rewrite, or try a new approach</b> is related to the ability to <b>develop and refine artistic techniques and work.</b>	The ability to <b>develop and strengthen writing as needed</b> may relate to the ability to <b>convey meaning</b>
6. Use technology, including the internet, to produce and publish writing and to interact and collaborate with others.	No correlation	The ability to <b>use technology, to produce and publish writing</b> may relate to <b>refining artistic techniques and work for</b>	The ability to <b>use technology to produce and publish writing and to interact and collaborate with others</b> may relate to the ability to

Common Core Anchor Standards for WRITING	NCAS Anchor Standards		
	PERFORMING: Realizing artistic ideas and work through interpretation and presentation. PRESENTING: Interpreting and sharing artistic work. PRODUCING: Realizing and presenting artistic ideas and work.		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
		presentation.	convey meaning through the presentation of artistic work.
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	No correlation	No correlation	No correlation
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	The ability to <b>gather information, assess sources, and integrate information</b> may relate to the ability to <b>analyze, interpret, and select artistic work</b> .	No correlation	No correlation
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.	The ability to <b>draw evidence from texts to support analysis, reflection and research</b> relate to the ability to <b>analyze, interpret, and select content for presentation</b> .	No correlation	No correlation
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single setting or a day or two) for a range of tasks, purposes, and audiences.	No correlation	The ability to <b>write for a range of tasks, purposes, and audiences</b> may relate to the ability to <b>develop and refine artistic techniques and work for presentation</b> .	The ability to <b>write routinely for a range of tasks, purposes, and audiences</b> relates to the ability to <b>convey meaning</b> .

Common Core Anchor Standards for SPEAKING AND LISTENING	NCAS Anchor Standards		
	<b>PERFORMING:</b> Realizing artistic ideas and work through interpretation and presentation. <b>PRESENTING:</b> Interpreting and sharing artistic work. <b>PRODUCING:</b> Realizing and presenting artistic ideas and work.		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	No correlation	No correlation	The ability to <b>participate effectively in a range of conversations and collaborations with diverse partners</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	The ability to <b>integrate and evaluate information</b> relates to the ability to <b>analyze, interpret, and select artistic work.</b>	No correlation	No correlation
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	The ability to <b>evaluate a speaker's point of view</b> may relate to the ability to <b>analyze, interpret, and select artistic work.</b>	No correlation	No correlation
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	The ability to <b>present information such that listeners can follow the line of reasoning</b> may relate to the ability to <b>analyze, interpret, and select work for presentation.</b>	The ability to <b>present information such that the organization and style are appropriate to the task, purpose, and audience</b> may relate to the ability to <b>develop and refine artistic techniques and work for presentation.</b>	The ability to <b>present information using a style appropriate to task, purpose, and audience</b> may relate to the ability to <b>convey meaning through the presentation of work.</b>
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	No correlation	The ability to <b>use digital media and visual displays to enhance understanding of presentations</b> may relate to the ability to <b>develop and refine artistic techniques and work for presentation.</b>	The ability to <b>express information and enhance understanding through strategic use of digital media and visual displays</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	No correlation	The ability to <b>adapt speech to a variety of contexts and communicative tasks</b> may relate to the ability to <b>develop and refine artistic techniques and work for presentation.</b>	The ability to <b>adapt speech to a variety of contexts and communicative tasks</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>



Common Core Anchor Standards for LANGUAGE	NCAS Anchor Standards		
	<b>PERFORMING: Realizing artistic ideas and work through interpretation and presentation.</b> <b>PRESENTING: Interpreting and sharing artistic work.</b> <b>PRODUCING: Realizing and presenting artistic ideas and work.</b>		
	4. Analyze, interpret, and select artistic work for presentation.	5. Develop and refine artistic techniques and work for presentation.	6. Convey meaning through the presentation of artistic work.
10. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	No correlation	No correlation	The ability to <b>demonstrate command of the conventions of standard English</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
11. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	No correlation	No correlation	The ability to <b>demonstrate command of the conventions of standard English</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
12. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	The ability to <b>understand how language functions in different contexts and to make effective choices for meaning or style</b> may relate to the ability to <b>analyze, interpret, and select artistic work for presentation.</b>	The ability to <b>make effective choices for meaning or style</b> may relate to the ability to <b>develop and refine artistic techniques for presentation.</b>	The ability to <b>make effective choices for meaning or style</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
13. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	The ability to <b>use context clues and analyzing meaningful word parts</b> may relate to the ability to <b>analyze and interpret artistic work.</b>	No correlation	No correlation
14. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	The ability to <b>understand figurative language, word relationships, and nuances in word meanings</b> may relate to the ability to <b>analyze and interpret artistic work.</b>	No correlation	The ability to <b>demonstrate understanding of figurative language, word relationships, and nuances in word meanings</b> may relate to the ability to <b>convey meaning through the presentation of artistic work.</b>
15. Acquire and accurately use a range of 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 encountering an unknown term important to comprehension or expression.	No correlation	No correlation	No correlation

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	16. Perceive and analyze artistic work.	17. Interpret intent and meaning in artistic work.	18. Apply criteria to evaluate artistic work.
2. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	The ability to <b>read closely to determine what a text says explicitly and make logical inferences from it</b> , as well as <b>cite specific evidence to support their conclusions</b> relates to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>read closely to determine what a text says explicitly and make logical inferences from it</b> , as well as <b>cite specific evidence to support their conclusions</b> relates to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>determine what the text says explicitly and to make logical inferences from it</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
3. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	The ability to <b>determine central ideas or themes of a text</b> and to <b>analyze their development</b> relates to the ability to <b>perceive and analyze</b> .	The ability to <b>determine central ideas or themes of a text</b> and to <b>analyze their development</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>analyze the development of central ideas or themes of a text</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
4. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	The ability to <b>analyze how and why individuals, events, and ideas develop and interact over the course of a text</b> relates to the ability to <b>perceive and analyze</b> .	The ability to <b>analyze how and why individuals, events, and ideas develop and interact over the course of a text</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>analyze how and why individuals, events, and ideas develop and interact over the course of a text</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
5. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	The ability to <b>determine technical, connotative, and figurative meanings of words</b> relates to the ability to <b>perceive and analyze</b> .	The ability to <b>determine technical, connotative, and figurative meanings of words</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>determine technical, connotative, and figurative meanings of words</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
6. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	The ability to <b>analyze the structure of texts, including how specific sentences relate to each other and the whole</b> relates to the ability to <b>perceive and analyze</b> .	The ability to <b>analyze the structure of texts, including how specific sentences relate to each other and the whole</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>analyze the structure of texts</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
7. Assess how point of view or purpose shapes the content and style of a text.	The ability to <b>assess how point of view or purpose shapes the content and style of a text</b> is related to the ability to <b>perceive and analyze</b> .	The ability to <b>assess how point of view or purpose shapes the content and style of a text</b> is related to the ability to <b>interpret intent and meaning</b> .	The ability to <b>assess how point of view or purpose shapes the content and style of a text</b> is related to the ability to <b>apply criteria to evaluate artistic work</b> .
8. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words.	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> may relate to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>evaluate content</b> relates to the ability to <b>evaluate artistic work</b> .

Common Core Anchor Standards for READING	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	16. Perceive and analyze artistic work.	17. Interpret intent and meaning in artistic work.	18. Apply criteria to evaluate artistic work.
9. Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.	The ability to <b>delineate and evaluate the argument and claims in a text</b> relate to the ability to <b>perceive and analyze</b> .	The ability to <b>delineate and evaluate the argument and claims in a text</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>delineate and evaluate the argument and claims in a text</b> relates to the ability to <b>apply criteria to evaluate artistic work</b> .
10. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	The ability to <b>analyze how multiple texts address similar themes or topics</b> relates to the ability to <b>perceive and analyze</b> .	The ability to <b>analyze how multiple texts address similar themes or topics</b> relates to the ability to <b>interpret intent and meaning</b> .	The ability to <b>analyze how multiple texts address similar themes or topics</b> relates to the ability to <b>apply criteria to evaluate work</b> .
11. Read and comprehend complex literary and informational texts independently and proficiently.	The ability to <b>read and comprehend texts</b> relates to the ability to <b>perceive and analyze work</b> .	The ability to <b>read and comprehend texts</b> relates to the ability to <b>interpret intent and meaning</b> .	No correlation

Common Core Anchor Standards for WRITING	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	7. Perceive and analyze artistic work.	8. Interpret intent and meaning in artistic work.	9. Apply criteria to evaluate artistic work.
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	The ability to <b>analyze topics or texts</b> relates to the ability to <b>perceive and analyze work</b> .	The ability to <b>analyze substantive topics or texts</b> may relate to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>analyze substantive topics or texts</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	The ability to <b>effectively select, organize, and analyze content</b> relates to the ability to <b>perceive and analyze work</b> .	No correlation	No correlation
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	No correlation	No correlation	No correlation
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	No correlation	No correlation	No correlation
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	The ability to <b>develop and strengthen writing</b> may relate to the ability to <b>analyze work</b> .	No correlation	The ability to <b>strengthen writing by revising, editing, rewriting, or trying a new approach</b> may relate to the ability to <b>apply criteria to evaluate artistic work</b> .
6. Use technology, including the internet, to produce and publish writing and to interact and collaborate with others.	No correlation	No correlation	No correlation
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	No correlation	No correlation	No correlation
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	No correlation	No correlation	The ability to <b>assess the credibility and accuracy of digital and print sources</b> may relate to the ability to <b>apply criteria to evaluate work</b> .
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.	The ability to <b>draw evidence from texts to support analysis, reflection, and research</b> relates to the ability to <b>perceive and analyze work</b> .	No correlation	No correlation
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single setting or a day or two) for a range of tasks, purposes, and audiences.	No correlation	No correlation	No correlation

Common Core Anchor Standards for SPEAKING AND LISTENING	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	7. Perceive and analyze artistic work.	8. Interpret intent and meaning in artistic work.	9. Apply criteria to evaluate artistic work.
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	No correlation	No correlation	No correlation
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	The ability to <b>evaluate information presented in diverse media and formats</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>evaluate information presented in diverse media and formats</b> may relate to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>evaluate information presented in diverse media and formats</b> relates to the ability to <b>apply criteria to evaluate artistic work</b> .
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	The ability to <b>evaluate a speaker's point of view, reasoning, and use of evidence</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>evaluate a speaker's point of view</b> relates to the ability to <b>interpret intent and meaning in artistic work</b> .	The ability to <b>evaluate a speaker's point of view, reasoning, and use of evidence</b> relates to the ability to <b>apply criteria to evaluate artistic work</b> .
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	The ability <b>present information, findings, and supporting evidence such that listeners can follow the line of reasoning</b> relates to the ability to <b>perceive and analyze artistic work</b> .	No correlation	No correlation
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	No correlation	No correlation	No correlation
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	No correlation	No correlation	No correlation

Common Core Anchor Standards for LANGUAGE	NCAS Anchor Standards		
	RESPONDING: Understanding and evaluating how the arts convey meaning.		
	7. Perceive and analyze artistic work.	8. Interpret intent and meaning in artistic work.	9. Apply criteria to evaluate artistic work.
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	No correlation	No correlation	No correlation
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	No correlation	No correlation	No correlation
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	The ability to <b>understand how language functions in different contexts</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>understand how language functions in different contexts</b> may relate to the ability to <b>interpret intent and meaning in artistic work</b> .	No correlation
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	The ability to <b>determine or clarify meaning using context clues</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>determine or clarify meaning using context clues</b> may relate to the ability to <b>interpret intent and meaning in work</b> .	No correlation
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	The ability to <b>understand figurative language and nuance</b> may relate to the ability to <b>perceive and analyze artistic work</b> .	The ability to <b>understand figurative language and nuance</b> may relate to the ability to <b>interpret intent and meaning in work</b> .	No correlation
6. Acquire and accurately use a range of 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 encountering an unknown term important to comprehension or expression.	No correlation	No correlation	No correlation

Common Core Anchor Standards for READING	NCAS Anchor Standards	
	CONNECTING: Relating artistic ideas and work with personal meaning and external context.	
	10. Synthesize and relate knowledge and personal experiences to make art.	11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	No correlation	No correlation
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	No correlation	No correlation
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	No correlation	The ability to <b>analyze how and why individuals, events, and ideas develop and interact over the course of a text</b> may relate to the ability to <b>relate ideas and works with societal, cultural, and historical content to deepen understanding.</b>
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	No correlation	The ability to <b>interpret words and phrases and analyze meaning and tone</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding.</b>
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	No correlation	No correlation
6. Assess how point of view or purpose shapes the content and style of a text.	The ability to <b>assess how point of view or purpose shapes content and style</b> may relate to <b>synthesizing the relating knowledge and personal experience.</b>	The ability to <b>assess how point of view or purpose shapes the content and style of a text</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding.</b>
7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words.	No correlation	The ability to <b>integrate and evaluate content presented in diverse media and formats</b> relates to the ability to <b>relate works with societal, cultural, and historical context.</b>
8. Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.	No correlation	No correlation
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	No correlation	The ability to <b>analyze how two or more texts address similar themes or topics</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding.</b>
10. Read and comprehend complex literary and informational texts independently and proficiently.	No correlation	The ability to <b>comprehend complex texts</b> may relate to the ability to <b>relate ideas and works with societal, cultural, and historical context to deepen understanding.</b>

Common Core Anchor Standards for WRITING	NCAS Anchor Standards	
	CONNECTING: Relating artistic ideas and work with personal meaning and external context.	
	10. Synthesize and relate knowledge and personal experiences to make art.	11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	The ability to <b>write arguments to support claims in an analysis of substantive topics or texts</b> may relate to the ability to <b>synthesize and relate knowledge and personal experience</b> .	The ability to <b>write arguments that support claims in an analysis</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	The ability to <b>write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately</b> may relate to the ability to <b>synthesize and relate knowledge and personal experience</b> .	The ability to <b>effectively select, organize, and analyze content in order to write texts that convey information clearly and accurately</b> may relate to the ability to <b>relate artistic ideas and works with societal, cultural and historical context</b> .
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	The ability to <b>write narratives that develop real or imagined experiences</b> may relate to the ability to <b>synthesize and relate knowledge and personal experiences</b> .	The ability to <b>write narratives that develop real or imagined experiences</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	The ability to <b>produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience</b> may relate to the ability to <b>synthesize and relate knowledge and personal experience</b> .	The ability to <b>produce clear and coherent writing in which the development, organization, and style are appropriate to task</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	No correlation	No correlation
6. Use technology, including the internet, to produce and publish writing and to interact and collaborate with others.	No correlation	No correlation
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	No correlation	The ability to <b>demonstrate an understanding of a subject under investigation</b> may relate to the ability to <b>relate ideas and works with societal, cultural and historical context to deepen understanding</b> .
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	No correlation	The ability to <b>gather information from multiple sources and assess the credibility and accuracy of each source</b> may relate to the ability to <b>relate artistic ideas and works with societal, cultural, and historical context to deepen understanding</b> .



Common Core Anchor Standards for WRITING	NCAS Anchor Standards	
	CONNECTING: Relating artistic ideas and work with personal meaning and external context.	
	10. Synthesize and relate knowledge and personal experiences to make art.	11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.	No correlation	The ability to <b>draw evidence from literary or informational texts to support analysis, reflection, and research</b> may relate to the ability to <b>relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.</b>
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single setting or a day or two) for a range of tasks, purposes, and audiences.	No correlation	No correlation

Common Core Anchor Standards for SPEAKING AND LISTENING	NCAS Anchor Standards	
	CONNECTING: Relating artistic ideas and work with personal meaning and external context.	
	10. Synthesize and relate knowledge and personal experiences to make art.	11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	The ability to <b>participate effectively in a range of conversations and collaborations and to express one's own ideas clearly and persuasively</b> may relate to the ability to <b>synthesize and relate one's own knowledge and personal experiences</b> .	The ability to <b>participate effectively in a range of conversations and collaborations, building on others' ideas and expressing your own clearly and persuasively</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	The ability to <b>integrate and evaluate information presented in diverse formats</b> may relate to the ability to <b>synthesize and relate knowledge and personal experiences</b> .	The ability to <b>integrate and evaluate information</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	No correlation	The ability to <b>evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	No correlation	The ability to <b>present information in a style appropriate to task, purpose, and audience</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	No correlation	No correlation
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	The ability to <b>adapt speech to a variety of contexts and communicative tasks</b> may relate to the ability to <b>synthesize and relate knowledge and personal experience</b> .	The ability to <b>adapt speech to a variety of contexts and communicative tasks</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical content to deepen understanding</b> .

Common Core Anchor Standards for LANGUAGE	NCAS Anchor Standards	
	CONNECTING: Relating artistic ideas and work with personal meaning and external context.	
	10. Synthesize and relate knowledge and personal experiences to make art.	11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	No correlation	The ability to <b>demonstrate command of the conventions of standard English grammar and usage</b> may relate to the ability to <b>relate ideas with societal understanding</b> .
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	No correlation	The ability to <b>demonstrate command of the conventions of standard English capitalization, punctuation, and spelling</b> may relate to the ability to <b>relate ideas with societal understanding</b> .
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	No correlation	The ability to <b>apply knowledge of language to understand how language functions in different contexts</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical understanding</b> .
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	No correlation	The ability to <b>clarify the meaning of unknown and multiple-meaning words using context clues</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical understanding</b> .
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	No correlation	No correlation
6. Acquire and accurately use a range of 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 encountering an unknown term important to comprehension or expression.	No correlation	The ability to <b>accurately use a range of general academic and domain-specific words and phrases</b> may relate to the ability to <b>relate ideas with societal, cultural, and historical understanding</b> .

OVERVIEW OF ALIGNMENT: STANDARDS FOR MATHEMATICAL PRACTICE

		Make sense of problems and persevere in solving them.	Reason abstractly and quantitatively.	Construct viable arguments and critique the reasoning of others.	Model with mathematics.	Use appropriate tools strategically.	Attend to precision.	Look for and make use of structure.	Look for and express regularity in repeated reasoning.
CREATING	Generate and conceptualize artistic ideas and work.	✓	✓	✓	✓	✓	✓	✓	✓
	Organize and develop artistic ideas and work	✓	✓	✓	✓	✓	✓	✓	✓
	Refine and complete artistic ideas and work	✓		✓	✓	✓	✓		✓
PERFORMING	Analyze, interpret, and select artistic work for presentation.	✓				✓		✓	
	Develop and refine artistic techniques and work for presentation.	✓	✓	✓	✓	✓	✓	✓	✓
	Convey meaning through the presentation of artistic work.	✓	✓	✓	✓		✓		
RESPONDING	Perceive and analyze artistic work.	✓	✓	✓	✓	✓	✓	✓	✓
	Interpret intent and meaning in artistic work.	✓	✓	✓	✓		✓	✓	
	Apply criteria to evaluate artistic work.	✓	✓	✓	✓	✓	✓		✓
CONNECTING	Synthesize and relate knowledge and personal experiences to make art.				✓				
	Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.			✓	✓	✓			

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**1. Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

<b>CREATING</b>	<b>Generate and conceptualize artistic ideas and work.</b>	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Explaining to themselves the meaning of a problem and looking for entry points to its solution</b></li> <li>• <b>Drawing diagrams of important features and relationships</b></li> <li>• <b>Using concrete objects or pictures to help conceptualize and solve a problem.</b></li> <li>• <b>Asking "Does this make sense?"</b></li> </ul>
	<b>Organize and develop artistic ideas and work.</b>	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Analyzing givens, constraints, relationships, and goals</b></li> <li>• <b>Making conjectures about the form and meaning of the solution</b></li> <li>• <b>Planning a solution pathway rather than simply jumping into a solution attempt.</b></li> <li>• <b>Considering analogous problems</b></li> <li>• <b>Monitoring and evaluating their progress and change course if necessary</b></li> <li>• <b>Searching for regularity or trends</b></li> </ul>
	<b>Refine and complete artistic ideas and work</b>	The ability to <b>check answers to problems using a different method</b> may relate to the ability to <b>refine and complete ideas and work</b> .
<b>PERFORMING/ PRESENTING/ PRODUCING</b>	<b>Analyze, interpret, and select artistic work for presentation.</b>	The following skills or habits described in this standard relate to the ability to <b>analyze, interpret, and/or select work</b> : <ul style="list-style-type: none"> <li>• <b>Starting by explaining to themselves the meaning of a problem and looking for entry points to its solution (?)</b></li> <li>• <b>Analyzing givens, constraints, relationships, and goals</b></li> <li>• <b>Considering analogous problems</b></li> </ul>
	<b>Develop and refine artistic techniques and work for presentation.</b>	The following skills or habits described in this standard relate to the ability to <b>develop and refine techniques and work</b> : <ul style="list-style-type: none"> <li>• <b>Trying special cases and simpler forms of the original problem in order to gain insight into its solution</b></li> <li>• <b>Monitoring and evaluating their progress and changing course if necessary</b></li> <li>• <b>Continually asking themselves "Does this make sense?"</b></li> </ul>
	<b>Convey meaning through the presentation of artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>convey meaning</b> : <ul style="list-style-type: none"> <li>• <b>Explaining correspondences between equations, verbal descriptions, tables, and graphs</b></li> <li>• <b>Drawing diagrams of important features and relationships</b></li> <li>• <b>Understanding the approaches of others to solving complex problems and identify correspondences between different approaches</b></li> </ul>

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**1. Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

<b>RESPONDING</b>	<b>Perceive and analyze artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>perceive and analyze</b> : <ul style="list-style-type: none"> <li>• <b>Planning a solution pathway</b></li> <li>• <b>Trying special cases and simpler forms of the original problem</b></li> <li>• <b>Understanding the approaches of others</b></li> </ul>
	<b>Interpret intent and meaning in artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>interpret intent and meaning</b> : <ul style="list-style-type: none"> <li>• <b>Explaining to themselves the meaning of a problem</b></li> <li>• <b>Making conjectures about the form and meaning of the solution</b></li> </ul>
	<b>Apply criteria to evaluate artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>apply criteria to evaluate work</b> : <ul style="list-style-type: none"> <li>• <b>Analyzing givens, constraints, relationships, and goals</b></li> <li>• <b>Asking themselves "Does this make sense?"</b></li> </ul>
<b>CONNECTING</b>	<b>Synthesize and relate knowledge and personal experiences to make art.</b>	No correlation
	<b>Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.</b>	No correlation

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**2. Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

<b>CREATING</b>	<b>Generate and conceptualize artistic ideas and work.</b>	The ability to <b>make sense of quantities and their relationships in problem situations</b> may relate to the ability to <b>generate and conceptualize ideas and work</b> .
	<b>Organize and develop artistic ideas and work.</b>	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>The ability to decontextualize and the ability to contextualize</b></li> <li>• <b>Creating a coherent representation of the problem at hand</b></li> <li>• <b>Attending to the meaning of quantities</b></li> <li>• <b>Knowing and flexibly using different properties of operations and objects</b></li> <li>• <b>Representing a situation symbolically; manipulating the representing symbols as if they have a life of their own</b></li> <li>• <b>Probing into referents for the symbols involved</b></li> </ul>
	<b>Refine and complete artistic ideas and work</b>	No correlation
<b>PERFORMING/ PRESENTING/ PRODUCING</b>	<b>Analyze, interpret, and select artistic work for presentation.</b>	No correlation
	<b>Develop and refine artistic techniques and work for presentation.</b>	The ability to <b>decontextualize and to recontextualize</b> may relate to the ability to <b>develop and refine techniques and work</b> .
	<b>Convey meaning through the presentation of artistic work.</b>	The ability to <b>create a coherent representation of the problem at hand</b> may relate to the ability to <b>convey meaning</b> .
<b>RESPONDING</b>	<b>Perceive and analyze artistic work.</b>	The ability to make sense of quantities and their relationships in problem situations may relate to the ability to <b>perceive and analyze</b> .
	<b>Interpret intent and meaning in artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>interpret intent and meaning</b> : <ul style="list-style-type: none"> <li>• <b>Decontextualizing and recontextualizing</b></li> <li>• <b>Creating a coherent representation of the problem at hand</b></li> <li>• <b>Attending to the meaning of quantities</b></li> </ul>
	<b>Apply criteria to evaluate artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>apply criteria to evaluate work</b> : <ul style="list-style-type: none"> <li>• <b>Analyzing givens, constraints, relationships, and goals</b></li> <li>• <b>Asking themselves “Does this make sense?”</b></li> </ul>

Common Core STANDARDS FOR MATHEMATICAL PRACTICE

**2. Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

<b>CONNECTING</b>	<b>Synthesize and relate knowledge and personal experiences to make art.</b>	No correlation
	<b>Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.</b>	No correlation



**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**3. Construct viable arguments and critique the reasoning of others.**

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

CREATING	Generate and conceptualize artistic ideas and work.	The ability to <b>analyze situations by breaking them into cases</b> may relate to the ability to <b>generate and conceptualize ideas and work</b> .
	Organize and develop artistic ideas and work.	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Making conjectures and building a logical progression of statements to explore the truth of their conjectures.</b></li> <li>• <b>Constructing arguments using concrete referents such as objects, drawings, diagrams, and actions</b></li> </ul>
	Refine and complete artistic ideas and work	The ability to <b>justify their conclusions, communicate them to others, and respond to the arguments of others</b> may relate to the ability to <b>refine and complete ideas and work</b> .
PERFORMING/ PRESENTING/ PRODUCING	Analyze, interpret, and select artistic work for presentation.	No correlation
	Develop and refine artistic techniques and work for presentation.	The following skills or habits described in this standard relate to the ability to <b>develop and refine techniques and work</b> : <ul style="list-style-type: none"> <li>• <b>Constructing arguments</b></li> <li>• <b>Making conjectures and building a logical progression of statements to explore the truth of their conjectures</b></li> <li>• <b>Comparing the effectiveness of two plausible arguments</b></li> </ul>
	Convey meaning through the presentation of artistic work.	The ability to <b>justify [one’s] conclusions, communicate them to others, and respond to the arguments of others</b> relate to the ability to <b>convey meaning</b> .
RESPONDING	Perceive and analyze artistic work.	The ability to <b>analyze situations by breaking them into cases</b> may relate to the ability to <b>perceive and analyze</b> .
	Interpret intent and meaning in artistic work.	The ability to <b>make conjectures and build a logical progression of statements to explore the truth of their conjectures</b> may relate to the ability to <b>interpret intent and meaning</b> .
	Apply criteria to evaluate artistic work.	The following skills or habits described in this standard relate to the ability to <b>apply criteria to evaluate work</b> : <ul style="list-style-type: none"> <li>• <b>Using stated assumptions, definitions, and previously established results in constructing arguments</b></li> <li>• <b>Recognizing and using counterexamples</b></li> <li>• <b>Making plausible arguments that take into account the context from which the data arose</b></li> <li>• <b>Determining the domains to which an argument applies</b></li> </ul>
CONNECTING	Synthesize and relate knowledge and personal experiences to make art.	No correlation
	Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.	The ability to <b>make plausible arguments that take into account the context from which the data arose</b> may relate to the ability to <b>relate ideas and works with societal, cultural or historical context to deepen understanding</b> .

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**4. Model with mathematics.**

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

CREATING	Generate and conceptualize artistic ideas and work.	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Making assumptions and approximations to simplify a complicated situation</b></li> <li>• <b>Mapping relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas.</b></li> </ul>
	Organize and develop artistic ideas and work.	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Making assumptions and approximations to simplify a complicated situation</b></li> <li>• <b>Identify important quantities in a practical situation</b></li> </ul>
	Refine and complete artistic ideas and work	The following skills or habits described in this standard relate to the ability to <b>refine and complete ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Analyze relationships mathematically to draw conclusions</b></li> <li>• <b>Interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</b></li> <li>• <b>Knowing a work may need revision later</b></li> </ul>
PERFORMING/ PRESENTING/ PRODUCING	Analyze, interpret, and select artistic work for presentation.	No correlation
	Develop and refine artistic techniques and work for presentation.	The ability to <b>make assumptions and approximations to simplify a complicated situation</b> may relate to the ability to <b>develop and refine techniques and work</b> .
	Convey meaning through the presentation of artistic work.	The ability to <b>reflect on whether the results make sense, possibly improving the model if it has not served its purpose</b> , may relate to the ability to <b>convey meaning</b> .
RESPONDING	Perceive and analyze artistic work.	The following skills or habits described in this standard relate to the ability to <b>perceive and analyze</b> : <ul style="list-style-type: none"> <li>• <b>Making assumptions and approximations to simplify a complicated situation</b></li> <li>• <b>Identifying important quantities in a practical situation and mapping their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas.</b></li> <li>• <b>Analyzing relationships mathematically to draw conclusions</b></li> </ul>
	Interpret intent and meaning in artistic work.	The ability to <b>interpret their mathematical results in the context of the situation</b> may relate to the ability to <b>interpret intent and meaning</b> .
	Apply criteria to evaluate artistic work.	The ability to <b>reflect on whether results make sense</b> and to <b>analyze relationships to draw conclusions</b> may relate to the ability to <b>apply criteria to evaluate work</b> .
CONNECTING	Synthesize and relate knowledge and personal experiences to make art.	The ability to <b>solve problems arising in everyday life, society, and the workplace</b> may relate to the ability to <b>synthesize and relate knowledge and personal experiences</b> .
	Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.	The ability to <b>solve problems arising in everyday life, society, and the workplace</b> may relate to the ability to <b>relate ideas and works with societal, cultural and historical context to deepen understanding</b> .

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**5. Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

<b>CREATING</b>	Generate and conceptualize artistic ideas and work.	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Considering the available tools when solving a mathematical problem</b></li> <li>• <b>Making sound decisions about when each of these tools might be helpful</b></li> <li>• <b>Using resources to pose or solve problems</b></li> </ul>
	Organize and develop artistic ideas and work.	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Detecting possible errors by strategically using estimation and other mathematical knowledge</b></li> <li>• <b>Knowing that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data</b></li> <li>• <b>Identifying relevant external mathematical resources, such as digital content, and using them to pose or solve problems.</b></li> </ul>
	Refine and complete artistic ideas and work	The ability to <b>explore and deepen [one’s] understanding of concepts</b> may relate to the ability to <b>refine and complete ideas and work</b> .
<b>PERFORMING/ PRESENTING/ PRODUCING</b>	Analyze, interpret, and select artistic work for presentation.	The following skills or habits described in this standard relate to the ability to <b>analyze, interpret, and/or select work</b> : <ul style="list-style-type: none"> <li>• <b>Considering available tools when solving a problem</b></li> <li>• <b>Being sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each might be helpful</b></li> </ul>
	Develop and refine artistic techniques and work for presentation.	The following skills or habits described in this standard relate to the ability to <b>develop and refine techniques and work</b> : <ul style="list-style-type: none"> <li>• <b>Detecting possible errors by strategically using estimation and other mathematical knowledge.</b></li> <li>• <b>Knowing that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions.</b></li> <li>• <b>Using technological tools to explore and deepen their understanding of concepts</b></li> </ul>
	Convey meaning through the presentation of artistic work.	No correlation
<b>RESPONDING</b>	Perceive and analyze artistic work.	The following skills or habits described in this standard relate to the ability to <b>perceive and analyze</b> : <ul style="list-style-type: none"> <li>• <b>Making sound decisions about when [certain] tools might be helpful</b></li> <li>• <b>Detecting possible errors by strategically using estimation and other mathematical knowledge</b></li> </ul>
	Interpret intent and meaning in artistic work.	No correlation
	Apply criteria to evaluate artistic work.	The ability to <b>analyze graphs of functions and solutions generated using a graphing calculator</b> may relate to the ability to <b>apply criteria to evaluate work</b> .

Common Core STANDARDS FOR MATHEMATICAL PRACTICE

**5. Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

<b>CONNECTING</b>	<b>Synthesize and relate knowledge and personal experiences to make art.</b>	No correlation
	<b>Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.</b>	The ability to <b>identify relevant external mathematical resources</b> , and to <b>use other mathematical knowledge</b> when solving a problem may relate to the ability to <b>relate ideas with societal, cultural, and historical context to deepen understanding.</b>

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**6. Attend to precision.**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

CREATING	Generate and conceptualize artistic ideas and work.	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Using clear definitions</b></li> <li>• <b>Stating the meaning of the symbols they choose</b></li> </ul>
	Organize and develop artistic ideas and work.	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Calculating accurately and efficiently</b></li> <li>• <b>Expressing numerical answers with a degree of precision appropriate for the problem context</b></li> <li>• <b>Giving carefully formulated explanations</b></li> <li>• <b>Examining claims and making explicit use of definitions</b></li> </ul>
	Refine and complete artistic ideas and work	The ability to <b>examine claims</b> may relate to the ability to <b>refine ideas and work</b> .
PERFORMING/ PRESENTING/ PRODUCING	Analyze, interpret, and select artistic work for presentation.	No correlation
	Develop and refine artistic techniques and work for presentation.	The ability to <b>calculate accurately and efficiently and express numerical answers with a degree of precision appropriate for the problem context</b> may relate to the ability to <b>develop and refine techniques and work</b> .
	Convey meaning through the presentation of artistic work.	The following skills or habits described in this standard relate to the ability to <b>convey meaning</b> : <ul style="list-style-type: none"> <li>• <b>Communicating precisely to others</b></li> <li>• <b>Using clear definitions in discussion with others and in their own reasoning</b></li> <li>• <b>Stating the meaning of the symbols they choose</b></li> <li>• <b>Specifying units of measure</b></li> <li>• <b>Giving carefully formulated explanations to each other</b></li> </ul>
RESPONDING	Perceive and analyze artistic work.	The ability to <b>state the meaning of symbols one has chosen</b> may relate to the ability to <b>perceive and analyze work</b> .
	Interpret intent and meaning in artistic work.	The following skills or habits described in this standard relate to the ability to <b>interpret intent and meaning</b> : <ul style="list-style-type: none"> <li>• <b>Stating the meaning of the symbols they choose</b></li> <li>• <b>Giving carefully formulated explanations to each other</b></li> </ul>
	Apply criteria to evaluate artistic work.	The ability to <b>examine claims and make explicit use of definitions</b> may relate to the ability to <b>apply criteria to evaluate work</b> .
CONNECTING	Synthesize and relate knowledge and personal experiences to make art.	No correlation
	Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.	No correlation

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**7. Look for and make use of structure.**

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

CREATING	Generate and conceptualize artistic ideas and work.	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• Looking closely to discern a pattern or structure</li> <li>• Recognizing the significance of an existing line in a geometric figure</li> <li>• Stepping back for an overview and to shift perspective</li> </ul>
	Organize and develop artistic ideas and work.	The following skills or habits described in this standard relate to the ability to <b>organize and develop ideas and work</b> : <ul style="list-style-type: none"> <li>• Stepping back for an overview and to shift perspective</li> <li>• Seeing complicated things, such as some algebraic expressions, as single objects or as being composed of several objects</li> </ul>
	Refine and complete artistic ideas and work	No correlation
PERFORMING/ PRESENTING/ PRODUCING	Analyze, interpret, and select artistic work for presentation.	The following skills or habits described in this standard relate to the ability to <b>analyze, interpret, and/or select work</b> : <ul style="list-style-type: none"> <li>• Looking closely to discern a pattern or structure</li> <li>• Seeing complicated things, such as some algebraic expressions, as single objects or as being composed of several objects</li> </ul>
	Develop and refine artistic techniques and work for presentation.	The ability to <b>see complicated things as single objects or as being composed of several objects</b> may relate to the ability to <b>refine techniques and work</b> .
	Convey meaning through the presentation of artistic work.	No correlation
RESPONDING	Perceive and analyze artistic work.	The following skills or habits described in this standard relate to the ability to <b>perceive and analyze</b> : <ul style="list-style-type: none"> <li>• Looking closely to discern a pattern or structure</li> <li>• Recognizing the significance of an existing line in a geometric figure</li> <li>• Seeing complicated things, such as some algebraic expressions, as single objects or as being composed of several objects</li> </ul>
	Interpret intent and meaning in artistic work.	The ability to <b>step back for an overview and to shift perspective</b> may relate to the ability to <b>interpret intent and meaning</b> .
	Apply criteria to evaluate artistic work.	No correlation
CONNECTING	Synthesize and relate knowledge and personal experiences to make art.	No correlation
	Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.	No correlation

**Common Core STANDARDS FOR MATHEMATICAL PRACTICE**

**8. Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

<b>CREATING</b>	<b>Generate and conceptualize artistic ideas and work.</b>	The following skills or habits described in this standard may relate to the ability to <b>generate and conceptualize ideas and work</b> : <ul style="list-style-type: none"> <li>• <b>Noticing if calculations are repeated</b></li> <li>• <b>Looking both for general methods and for shortcuts</b></li> </ul>
	<b>Organize and develop artistic ideas and work.</b>	The ability to <b>notice the regularity in the way terms cancel when expanding, which might lead them to the general formula for the sum of a geometric series</b> , may relate to the ability to <b>organize and develop ideas and work</b> .
	<b>Refine and complete artistic ideas and work</b>	The ability to <b>maintain oversight of the process, as well as evaluate the reasonableness of their intermediate results</b> , may relate to the ability to <b>refine and complete ideas and work</b> .
<b>PERFORMING/ PRESENTING/ PRODUCING</b>	<b>Analyze, interpret, and select artistic work for presentation.</b>	No correlation
	<b>Develop and refine artistic techniques and work for presentation.</b>	The following skills or habits described in this standard relate to the ability to <b>develop and refine techniques and work</b> : <ul style="list-style-type: none"> <li>• <b>Maintaining oversight of the process, while attending to the details</b></li> <li>• <b>Continually evaluating the reasonableness of their intermediate results</b></li> </ul>
	<b>Convey meaning through the presentation of artistic work.</b>	No correlation
<b>RESPONDING</b>	<b>Perceive and analyze artistic work.</b>	The following skills or habits described in this standard relate to the ability to <b>perceive and analyze</b> : <ul style="list-style-type: none"> <li>• <b>Noticing if calculations are repeated, and looking both for general methods and for shortcuts</b></li> <li>• <b>Noticing the regularity in the way terms cancel when expanding</b></li> <li>• <b>Maintaining oversight of the process, while attending to the details</b></li> </ul>
	<b>Interpret intent and meaning in artistic work.</b>	No correlation
	<b>Apply criteria to evaluate artistic work.</b>	The ability to <b>continually evaluate the reasonableness of their intermediate results</b> may relate to the ability to <b>apply criteria to evaluate work</b>
<b>CONNECTING</b>	<b>Synthesize and relate knowledge and personal experiences to make art.</b>	No correlation
	<b>Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.</b>	No correlation