

United States Academic Pentathlon® **2026-27 Curriculum and Content Standards**

Overview

The United States Academic Pentathlon's curriculum is an interdisciplinary curriculum in which a selected theme is integrated across five different subject areas: fine arts, literature, mathematics, science, and social science. The theme for the 2026–2027 U.S. Academic Pentathlon curriculum is *Journeys of Transformation: An Exploration of Travel and Transportation*. While in most subjects the majority of the topics relate to the overall curricular theme, some topics that cover fundamentals may also be included to encourage a thorough understanding of the subject area as a whole. The U.S. Academic Pentathlon mathematics curriculum is unrelated to the theme and focuses on standard middle school mathematics topics.

Fine Arts

U.S. Academic Pentathlon and the National Standards for Music

USAP's curriculum allows students and teachers to address four of the nine content standards for music. The five standards that are not met all involve the performance, composition, or notation of music. U.S. Academic Pentathlon's music curriculum is centered on musicology (as opposed to composition or performance) and is designed to be accessible to all students, including those who cannot read musical notation and those who have no formal training in musical performance.

U.S. Academic Pentathlon's 2026–2027 music curriculum addresses aspects of the following national content standards for music:

- STANDARD 6: Listening to, Analyzing, and Describing Music
- STANDARD 7: Evaluating Music and Music Performances
- STANDARD 8: Understanding Relationships between Music, the Other Arts, and Disciplines outside the Arts
- STANDARD 9: Understanding Music in Relation to History and Culture

U.S. Academic Pentathlon and the National Standards for Visual Arts

U.S. Academic Pentathlon's curriculum allows students and teachers to address five of the six content standards for visual arts. The only standard not directly met by U.S. Academic Pentathlon's curriculum (Standard 1: Understanding and Applying Media Techniques and

Processes), can easily be incorporated as a part of U.S. Academic Pentathlon's curriculum by having students create their own works of art in addition to studying the works of others.

U.S. Academic Pentathlon's 2026-27 art curriculum addresses aspects of the following national content standards for visual arts:

- STANDARD 2: Using Knowledge of Structures and Functions
- STANDARD 3: Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas
- STANDARD 4: Understanding the Visual Arts in Relation to History and Cultures
- STANDARD 5: Reflecting Upon and Assessing the Characteristics and Merits of their Work and the Work of Others
- STANDARD 6: Making Connections between Visual Arts and Other Disciplines

Literature

United States Academic Pentathlon 2026 – 2027 Literature Resource Guide correlation with Common Core State Standards (CCSS) and The National Council of Teachers of English (NCTE) standards

Journeys of Transformation: An Exploration of Travel and Transportation in Literature

The literature choices for the 2026 – 2027 United States Academic Pentathlon require students to work through several CCSS standards for both informational and fictional texts. Specific relevant standards are listed by sections which correlate to this year's literature resource guide.

All these standards additionally fall under the first **three NCTE standards**:

1. Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
2. Students read a wide range of literature from many periods in many genres to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.
3. Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).

Section I

Critical Reading

This section addresses the following CCSS standards:

Craft and Structure:

- [CCSS.ELA-LITERACY.RL.6.4](#)
 - Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.
- [CCSS.ELA-LITERACY.RL.6.5](#)
 - Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
- [CCSS.ELA-LITERACY.RL.6.6](#)
 - Explain how an author develops the point of view of the narrator or speaker in a text.

Section II

The Lightning Thief and the theme of Journeys of Transformation

The Framework of the Hero's Journey and the Significance of Travel addresses the following CCSS standards:

1. Reading: Literature (RL)

- CCSS.ELA-LITERACY.RL.6.2 / RL.7.2 / RL.8.2 — Key Ideas & Details (Theme and Summary)
 - Grade 6: Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
 - Grade 7: Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.
 - Grade 8: Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.
 - Application: The text explicitly analyzes the theme of Journeys of Transformation and tracks how Percy's physical journey across America drives his internal character arc and growth.
- CCSS.ELA-LITERACY.RL.6.3 / RL.7.3 / RL.8.3 — Key Ideas & Details (Character & Plot Development)
 - Grade 6: Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.
 - Grade 7: Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

- Grade 8: Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.
- Application: The passage highlights how specific geographic stops (bus in New Jersey, Gateway Arch in St. Louis, Lotus Casino, Underworld in LA) function as tests that force Percy to mature and adapt.
- CCSS.ELA-LITERACY.RL.6.9 / RL.7.9 / RL.8.9 — Integration of Knowledge & Ideas (Mythology & Modern Adaptations)
 - Grade 6: Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.
 - Grade 7: Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.
 - Grade 8: Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.
 - Application: This is a direct alignment. The text examines how Riordan draws on classical Greek myth and Campbell's monomyth pattern, rendering them new by translating ancient settings to modern American landmarks.

2. Reading: Informational Text (RI)

- CCSS.ELA-LITERACY.RI.6.1 / RI.7.1 / RI.8.1 — Key Ideas & Details (Textual Evidence)
 - Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Application: Students reading this informational overview must use textual evidence to understand the structural phases of the Hero's Journey (Separation, Initiation, Return) and Campbell's conceptual framework.
- CCSS.ELA-LITERACY.RI.6.4 / RI.7.4 / RI.8.4 — Craft & Structure (Domain-Specific Vocabulary)
 - Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
 - Application: Introduces domain-specific literary/archetypal vocabulary (monomyth, ordinary world, call to adventure, threshold, road of trials, atonement with the father, ultimate boon, magic flight, master of two worlds).
- CCSS.ELA-LITERACY.RI.6.5 / RI.7.5 / RI.8.5 — Craft & Structure (Text Structure & Organization)
 - Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.

- Application: The text uses structured subheadings (The Framework of the Hero's Journey, The Significance of Travel in *The Lightning Thief*) to build an analytical framework first and then apply it directly to the novel.
3. Integration of Knowledge & Visuals
- CCSS.ELA-LITERACY.RI.6.7 / RL.7.7 / RI.8.7 — Integration of Knowledge & Ideas
 - Grade 6: Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
 - Grade 7/8: Integrate and evaluate content presented in diverse formats and media, including visually and interactively.
 - Application: The text explicitly prompts the integration of non-textual visuals (mapping Percy's journey using interactive or printable websites/maps).

Section III

The Lightning Thief by Rick Riordan

The main literary work addresses the following CCSS standards:

1. Reading: Literature (RL)
- CCSS.ELA-LITERACY.RL.6.1 / RL.7.1 / RL.8.1 — Key Ideas & Details (Text Evidence & Inferences)
 - 6th: Cite textual evidence to support analysis of what the text says explicitly as well as inferences.
 - 7th: Cite several pieces of textual evidence to support analysis of explicit text and inferences.
 - 8th: Cite the textual evidence that most strongly supports analysis of explicit text and inferences.
 - Application: Answering chapter analysis questions, identifying character motivations, and substantiating claims about Percy's growth with direct quotes.
 - CCSS.ELA-LITERACY.RL.6.2 / RL.7.2 / RL.8.2 — Key Ideas & Details (Theme & Objective Summary)
 - Determine a theme or central idea of a text and analyze its development over the course of the text (including character responses, settings, and plot); provide an objective summary.
 - Application: Tracing overarching Pentathlon themes (e.g., identity, family, transformation, heroism) and summarizing specific plot movements.
 - CCSS.ELA-LITERACY.RL.6.3 / RL.7.3 / RL.8.3 — Key Ideas & Details (Plot & Character Dynamics)

- 6th: Describe how a story's plot unfolds in a series of episodes and how characters change toward resolution.
- 7th: Analyze how particular story elements interact (e.g., how setting shapes characters or plot).
- 8th: Analyze how lines of dialogue or incidents propel action, reveal character aspects, or provoke decisions.
- Application: Examining how specific quest stops (e.g., Lotus Casino, St. Louis Arch, Underworld) test Percy, Grover, and Annabeth, forcing character evolution.
- CCSS.ELA-LITERACY.RL.6.4 / RL.7.4 / RL.8.4 — Craft & Structure (Figurative Language & Word Choice)
 - Determine the meaning of words and phrases as used in text, including figurative, connotative, and technical meanings; analyze the impact of rhymes, repetition, and word choices on tone/meaning.
 - Application: Analyzing Riordan's use of humor, idioms, similes, and modern slang alongside mythological allusions.
- CCSS.ELA-LITERACY.RL.6.6 / RL.7.6 / RL.8.6 — Craft & Structure (Point of View & Perspective)
 - Analyze how an author develops a narrator/character's point of view, perspective, or tone, and how differences in perspective create effects like suspense or humor.
 - Application: Studying Percy's first-person narrative voice ("I Accidentally Vaporize My Pre-Algebra Teacher") and how his perspective shapes the reader's view of the gods and monsters.
- CCSS.ELA-LITERACY.RL.6.9 / RL.7.9 / RL.8.9 — Integration of Knowledge & Ideas (Classical Adaptation)
 - 6th–7th: Compare/contrast fictional portrayals and historical/literary sources.
 - 8th: Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths or traditional stories (e.g., describing how material is rendered new).
 - Application: Comparing classical Greek myths (Perseus, Theseus, Kronos, the Olympians) with Riordan's modernized 21st-century adaptations.
- CCSS.ELA-LITERACY.RL.6.10 / RL.7.10 / RL.8.10 — Range of Reading & Level of Text Complexity
 - Read and comprehend literature at the high end of the grades 6–8 text complexity band independently and proficiently.

Section IV

Shorter Selections

The two myths address the following CCSS standards:

Reading Literature: Key Ideas and Details

- CCSS.ELA-LITERACY.RL.6.1 / 7.1 / 8.1 (Textual Evidence): Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Grade 6: Cite textual evidence.
 - Grade 7: Cite several pieces of textual evidence.
 - Grade 8: Cite the textual evidence that most strongly supports the analysis.
 - Application: Supporting character motivation and symbolic analysis (e.g., the shield representing intellect) using specific details from Upton's and Kingsley's texts and *The Lightning Thief*.
- CCSS.ELA-LITERACY. RL.6.2 / 7.2 / 8.2 (Theme & Summary): Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.
 - Grade 6: Determine a theme and how it is conveyed through details; provide a summary distinct from personal opinions.
 - Grade 7: Determine a theme and analyze its development over the course of the text; provide an objective summary.
 - Grade 8: Analyze theme development in relation to characters, setting, and plot; provide an objective summary.
 - Application: Tracking the inevitability of fate from Acrisius's initial attempt to escape the prophecy to its accidental fulfillment at the athletic contest.
- CCSS.ELA-LITERACY.RL.6.3 / 7.3 (Plot, Character & Interaction): Analyze how story elements interact and unfold.
 - Grade 6: Describe how a plot unfolds in a series of episodes and how characters respond or change as the plot moves toward resolution.
 - Grade 7: Analyze how particular story elements interact (e.g., how setting shapes characters or plot).
 - Application: Tracing Perseus's growth from a boastful youth into a calculated warrior through his response to supernatural conflicts and divine guidance.

Reading Literature: Integration of Knowledge and Ideas

- CCSS.ELA-LITERACY.RL.6.9 / 7.9 / 8.9 (Comparative Analysis & Adaptation): Analyze how texts draw on, adapt, or compare traditional stories and modern works.
 - Grade 6: Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics.
 - Grade 7: Compare and contrast a fictional portrayal and a mythological/historical account to understand how authors use or alter traditional material.

- Grade 8: Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, describing how the material is rendered new.
- Application: Analyzing how Rick Riordan adapts ancient elements for *The Lightning Thief* (e.g., Hermes's winged shoes - Luke's sneakers; Athena's shield - Annabeth's strategy and the reflective garden globe).

Essays and Ted Talks address the following CCSS standards:
Reading Informational Text & Literature: Key Ideas and Details

- CCSS.ELA-LITERACY.RI.6.1 / 7.1 / 8.1 (Textual Evidence - Informational): Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Grade 6: Cite textual evidence to support analysis of the text.
 - Grade 7: Cite several pieces of textual evidence to support analysis and inferences.
 - Grade 8: Cite the textual evidence that most strongly supports the analysis.
 - Application: Pulling specific quotes from Stevenson's *Roads* (e.g., "saving imperfection," "rural voluptuary," "trodden serpent") to justify claims about slow observation, personification, and contrast. Also, Citing explicit moments and timestamps from both transcripts (e.g., Hoppe's choice on September 11th; Swartz's comparison of Missouri, Alaska, and Hawaii) to justify claims regarding personal growth and adaptability.
- CCSS.ELA-LITERACY.RI.6.2 / 7.2 / 8.2 & RL.6.2 / 7.2 / 8.2 (Central Idea, Theme & Objective Summary): Determine a central idea/theme of a text and analyze its development over the course of the text; provide an objective summary.
 - Grade 6: Determine a central idea/theme and how it is conveyed through details; provide a summary distinct from personal opinions.
 - Grade 7: Analyze the development of a central idea/theme over the course of the text; provide an objective summary.
 - Grade 8: Analyze the development of a central idea/theme in relation to supporting ideas, characters, setting, or plot; provide an objective summary.
 - Application: Evaluating Stevenson's theme of "loving industry" (that true appreciation of nature comes from patient observation). Also, tracking Hoppe's central idea that life is a "jungle" navigated step-by-step using timing, attitude, and energy, or evaluating Swartz's central thesis that travel expands worldviews through positive, negative, and imagined experiences.
- CCSS.ELA-LITERACY.RI.6.3 / 7.3 / 8.3 (Analysis of Events, Individuals, and Ideas): Analyze how key individuals, events, or ideas are introduced, illustrated, and elaborated in a text.
 - Grade 6: Analyze how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).
 - Grade 7: Analyze the interactions between individuals, events, and ideas in a text.

- Grade 8: Analyze how a text makes distinctions among individuals, ideas, or events (e.g., through comparisons, analogies, or categories).
- Application: Examining how Stevenson contrasts a natural path with an engineered railroad, examining how Hoppe uses personal anecdotes (rejection for a principal position, moving 1,000 miles) and historical events (9/11) to illustrate internal choice, or how Swartz uses a tripartite structure (past bad trip, past good trip, future dream trip) to elaborate on the impact of travel.

Reading Informational Text & Literature: Craft and Structure

- CCSS.ELA-LITERACY.RI.6.4 / 7.4 / 8.4 & RL.6.4 / 7.4 / 8.4 (Figurative Language & Word Choice): Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices.
 - Grade 6: Determine the figurative and connotative meaning of words and phrases in context.
 - Grade 7: Analyze the impact of specific word choices on meaning and tone, including rhymes and repetitions.
 - Grade 8: Analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
 - Application: Examining Stevenson's use of personification ("lithe contortions," "cunningly adapts," "coquettish reticence"), similes ("like a trodden serpent"), and foreign terms/allusions (Sehnsucht, Hogarth's line of beauty, Werther). Also analyzing Hoppe's extended metaphor of a "jungle" versus a traditional "road," her allusion to Robert Frost's poem, and building motifs ("brick by brick"), or Swartz's sensory imagery and symbolic use of a "friendship bracelet."

Reading Informational Text: Integration of Knowledge and Ideas

- CCSS.ELA-LITERACY.RI.6.8 / 7.8 / 8.8 (Evaluating Claims and Reasoning): Trace and evaluate the argument and specific claims in a text.
 - Grade 6: Trace and evaluate the argument and specific claims in a text, distinguishing claims supported by reasons and evidence from claims that are not.
 - Grade 7: Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient.
 - Grade 8: Differentiate between facts, reasoned judgments, and opinions in a text; evaluate whether the reasoning is sound and the evidence is relevant.
 - Application: Evaluating Stevenson's argument that "moderation, and a regimen tolerably austere... are healthful and strengthening to the taste" over the overwhelming "stage effects" of grand scenery. Also, evaluating how effectively each TEDx speaker uses personal narrative, timing, and emotional appeal to persuade an audience about life choices and world perspectives.

- CCSS.ELA-LITERACY.RI.6.9 / 7.9 / 8.9 & RL.6.9 / 7.9 / 8.9 (Connecting Concepts & Modern Contexts): Compare and contrast how two or more texts address similar themes or concepts, or connect historical/literary texts to modern ideas.
 - Grade 6: Compare and contrast one author's presentation of events with that of another.
 - Grade 7: Compare and contrast a fictional portrayal or essay with historical/modern contexts to understand how ideas are adapted.
 - Grade 8: Analyze how two or more texts provide conflicting information or build upon similar themes and patterns of thought.
 - Application: Synthesizing how Hoppe's "road never traveled" and Swartz's "power of travel" build upon and reframe earlier texts (such as Frost's *The Road Not Taken*, Stevenson's *Roads*, or Riordan's *The Lightning Thief*) regarding journey, fate, and personal growth.

Poetry

All the poems in this section address the following CCSS standards:

Reading Literature: Key Ideas and Details

- CCSS.ELA-LITERACY.RL.6.1 / 7.1 / 8.1 (Textual Evidence & Citation): Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Grade 6: Cite textual evidence to support analysis of explicit claims and inferences.
 - Grade 7: Cite several pieces of textual evidence to support analysis and inferences.
 - Grade 8: Cite the textual evidence that most strongly supports the analysis.
 - Application: (Frost's poem) Direct citation of line numbers and specific phrases (e.g., "yellow wood" [1], "wanted wear" [8], "telling this with a sigh" [16]) to analyze the speaker's internal conflict and self-justification.
- CCSS.ELA-LITERACY.RL.6.2 / 7.2 / 8.2 (Theme Development & Objective Summary): Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary.
 - Grade 6: Determine a theme and how it is conveyed through details; provide a summary distinct from personal opinions.
 - Grade 7: Determine a theme and analyze its development over the course of the text; provide an objective summary.
 - Grade 8: Analyze theme development in relation to characters, setting, and plot; provide an objective summary.
 - Application: (St. Vincent Millay's poem) Tracking the central theme of wanderlust and the persistent pull of the unknown versus the comfort of domestic stability.
- CCSS.ELA-LITERACY.RL.6.3 / 7.3 (Poetic Progressions & Conflict): Analyze how story/poetic elements interact and unfold.
 - Grade 6: Describe how a poem's speaker/plot moves toward resolution and how characters respond to choices.

- Grade 7: Analyze how particular story or poetic elements interact (e.g., how the shift from overwhelming macro-landscapes like waterfalls to micro-details like wooden clogs alters the speaker's emotional state).
- Application: (Bishop's poem) Tracing the speaker's internal arc from feeling overwhelmed by Brazil's geography (Stanza 1), to questioning the morality of travel (Stanza 2), to appreciating subtle cultural nuances (Stanza 3), to wrestling with philosophical inquiry (Stanzas 4–5).

Reading Literature: Craft and Structure

- CCSS.ELA-LITERACY.RL.6.4 / 7.4 / 8.4 (Figurative Language, Irony, & Imagery): Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices, rhymes, and literary devices.
 - Grade 6: Determine the figurative and connotative meaning of words and phrases in context.
 - Grade 7: Analyze the impact of specific word choices and poetic devices (e.g., rhyme scheme, rhythm, repetition) on meaning and tone.
 - Grade 8: Analyze the impact of specific word choices on meaning and tone, including analogies, allusions, and situational irony.
 - Application: Evaluating the extended metaphor of the diverging roads representing life choices, the autumn imagery of the "yellow wood," and the situational irony in lines 9–10 where the speaker admits both roads were worn "really about the same."
- CCSS.ELA-LITERACY.RL.6.5 / 7.5 / 8.5 (Poetic Structure & Stanza Organization): Analyze how a particular sentence, stanza, or section fits into the overall structure of a text and contributes to the development of the theme.
 - Grade 6: Analyze how a particular stanza contributes to the development of the theme.
 - Grade 7: Analyze how a poem's form or structure contributes to its meaning.
 - Grade 8: Analyze how the structure of a specific text creates effects such as tension, longing, or anticipation.
 - Application: (St. Vincent Millay's poem) Examining how Stanzas 1 and 2 establish the omnipresence of the train through sensory details, building to the thematic turn in Stanza 3 where the train is elevated to an absolute symbol of freedom and motion.

Reading Literature: Integration of Knowledge and Ideas

- CCSS.ELA-LITERACY.RL.6.9 / 7.9 / 8.9 (Cross-Textual Comparative Analysis): Analyze how a text draws on, adapts, or connects to other literary works and themes.
 - Grade 6: Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics.
 - Grade 7: Compare and contrast a fictional/poetic portrayal with historical or literary accounts of similar journeys.

- Grade 8: Analyze how modern or complementary works draw on themes, patterns of events, or character types from traditional poems, classical mythology, and pop culture.
- Application: Synthesizing all three selected works to compare their approaches to physical and metaphorical journeys:
- Frost (“The Road Not Taken”): The inevitability of decision-making and post-hoc narrative construction.
 - Millay (“Travel”): Unconditional wanderlust and the instinctual pull toward motion over stability.
 - Bishop (“Questions of Travel”): The critical, philosophical examination of travel, human motivation, and the ambiguity of "home" (additionally connecting to mythological quests like Perseus or modern adaptations like The Lightning Thief regarding fate vs. agency).

Science

Next Generation Science Standardsⁱ: Middle School Science – Disciplinary Core Ideas

Standards Background The Next Generation Science Standards were developed by the National Research Council, the National Science Teachers Association, the American Association for the Advancement of Science, and Achieve (an independent, bipartisan, non-profit education reform organization) and were released for adoption in the spring of 2013. Each of the Next Generation Science Standards is comprised of three dimensions: Practices, Crosscutting Concepts, and Disciplinary Core Ideas.

The focus of this document will be on the dimensions of Disciplinary Core Ideas and Crosscutting Concepts. Rather than cover a broad spectrum of topics and scientific fields of study, USAP’s science curriculum explores a specific topic in greater depth than is typical for a high school-level curriculum. As a result, the number of the Next Generation Science Standards that are addressed each year by USAP’s science curriculum may be limited; however, when viewed over the course of multiple years, USAP’s science curricula have met many of the standards.

Disciplinary Core Ideas (DCIs)

- **LS1.A: Structure and Function**
 - Covered in: *Section II (Nervous System, Hormones)*
 - Focus: How anatomical and cellular structures receive, process, and transmit information, dictating organismal response.
- **LS1.B: Growth and Development of Organisms**
 - Covered in: *Section IV (From Birth to Migration)*
 - Focus: How behavioral tendencies and physiological readiness develop through an organism's life stages.
- **LS1.D: Information Processing**

- Covered in: *Section II (Nervous System, Time telling) & Section III (Communication, Emotions)*
- Focus: How sensory receptors process information, store memory, and translate signals into behavioral actions.
- **LS2.D: Social Interactions and Group Behavior**
 - Covered in: *Section III (Social Behavior, Foraging, Predatory/Anti-Predatory)*
 - Focus: How group behaviors (flocking, hunting, schooling) and communication increase individual and species survival rates.
- **LS4.B: Natural Selection & LS4.C: Adaptation**
 - Covered in: *Section II (Fixed vs. Adaptive) & Section IV (Why Migrate)*
 - Focus: How innate and learned adaptive behaviors evolve to maximize fitness in changing environments.
- **LS4.D: Biodiversity and Humans**
 - Covered in: *Section III (Domestication) & Section IV (Anthropogenic Effects on Migration)*
 - Focus: The impact of human activities, habitat fragmentation, and artificial selection on animal survival and behavior.

Crosscutting Concepts (CCCs)

- **Cause and Effect:** Identifying mechanism-driven behaviors (hormones trigger action; human disturbance disrupts migration patterns).
- **Structure and Function:** Relating neural, sensory, and anatomical adaptations directly to specific survival tactics.
- **Systems and System Models:** Analyzing organisms as internal biological systems that interact within ecological systems.
- **Stability and Change:** Evaluating internal biological clocks (circadian rhythms) and adaptive responses to fluctuating environments.

Science and Engineering Practices (SEPs)

- **Analyzing and Interpreting Data:** Covered directly in *Section I.C (How Behavior Is Measured and Studied)* via observational ethograms and quantitative field metrics.
- **Constructing Explanations:** Formulating evolutionary explanations for complex behaviors like migration strategies or social hierarchies.

Social Science

The United States Academic Pentathlon and the Curriculum Standards for Social Studies Rather than cover a broad spectrum of topics, time periods, and cultures, USAP's social science curriculum usually explores a specific topic in greater depth than is typical for a high school-level curriculum. As a result, the number of NCSS standards that are addressed each year by USAP's social science curriculum may be limited; however, when viewed over the course of multiple years, USAP's social science curricula have met many of the NCSS standards.

USAP's 2026–2027 curriculum (social science, economics, literature, and science) addresses aspects of nine of the ten NCSS curricular themes:

- Culture
- Time, Continuity, and Change
- People, Places, and Environments
- Individual Development and Identity
- Individuals, Groups, and Institutions
- Power, Authority, and Governance
- Production, Distribution, and Consumption
- Science, Technology, and Society
- Global Connections

USAP's 2026–2027 social science curriculum in concert with other Academic Decathlon subject areas addresses aspects of the standards within one area of focus delineated by the NCSS standards for civics, five areas of focus delineated by the NCSS standards for geography, seven areas of focus delineated by the NCSS standards for U.S. History, and two areas of focus delineated by the NCSS standards for World History:

- *Geography: K-12.1: The World In Spatial Terms*
- *Geography: K-12.2: Places And Regions*
- *Geography: K-12.4: Human Systems*
- *Geography: K-12.5: Environment And Society*
- *Geography: K-12.6: The Uses Of Geography*
- *U.S. History: 5-12.1: Era 1: Three Worlds Meet (Beginnings To 1620)*
- *U.S. History: 5-12.2: Era 2: Colonialization And Settlement (1585–1763)*
- *U.S. History: 5-12.4: Era 4: Expansion And Reform (1801–1861)*
- *U.S. History: 5-12.6: Era 6: The Development Of The Industrial United States (1870–1900)*
- *U.S. History: 5-12.7: Era 7: The Emergence Of Modern America (1890–1930)*
- *U.S. History: 5-12.8: Era 8: The Great Depression And World War Ii (1929–1945)*
- *U.S. History: 5-12.9: Era 9: Postwar United States (1945 To Early 1970s)*
- *World History: 5-12.6: Era 6: The Emergence Of The First Global Age, 1450-1770*
- *World History: 5-12.9: Era 9: The Twentieth Century Since 1945: Promises And Paradoxes*

Mathematics

U.S. Academic Pentathlon® and the Common Core Standards for Math

GRADE 6:

Number System

- CCSS.MATH.CONTENT.6.NS.C.6
Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
- CCSS.MATH.CONTENT.6.NS.C.5
Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- CCSS.MATH.CONTENT.6.NS.C.6.A
Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.
- CCSS.MATH.CONTENT.6.NS.C.6.C
Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
- CCSS.MATH.CONTENT.6.NS.C.5
Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- CCSS.MATH.CONTENT.6.NS.C.7.C
Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*
- CCSS.MATH.CONTENT.6.NS.A.1
Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div$*

$(c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{3}{4}$ -cup servings are in $\frac{2}{3}$ of a cup of yogurt? How wide is a rectangular strip of land with length $\frac{3}{4}$ mi and area $\frac{1}{2}$ square mi?

Ratios and Proportions

- CCSS.MATH.CONTENT.6.RP.A.2
Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $\frac{3}{4}$ cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."*
- CCSS.MATH.CONTENT.6.RP.A.3.B
Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
- CCSS.MATH.CONTENT.6.RP.A.3.C
Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.
- CCSS.MATH.CONTENT.6.RP.A.3.D
Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
- CCSS.MATH.CONTENT.6.RP.A.1
Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
- CCSS.MATH.CONTENT.6.RP.A.3
Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Geometry

- CCSS.MATH.CONTENT.6.G.A.1
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
- CCSS.MATH.CONTENT.6.G.A.3
Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
- CCSS.MATH.CONTENT.6.G.A.2
Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is

the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

GRADE 7:

Number System

- CCSS.MATH.CONTENT.7.NS.A.1
Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
- CCSS.MATH.CONTENT.7.NS.A.3
Solve real-world and mathematical problems involving the four operations with rational numbers.
- CCSS.MATH.CONTENT.7.NS.A.1.A
Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
- CCSS.MATH.CONTENT.7.NS.A.1.B
Understand $p + q$ as the number located a distance $|q|$ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
- CCSS.MATH.CONTENT.7.NS.A.1.C
Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
- CCSS.MATH.CONTENT.7.NS.A.1.D
Apply properties of operations as strategies to add and subtract rational numbers.
- CCSS.MATH.CONTENT.7.NS.A.2
Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
- CCSS.MATH.CONTENT.7.NS.A.2.A
Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
- CCSS.MATH.CONTENT.7.NS.A.2.B
Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers,

then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.

- CCSS.MATH.CONTENT.7.NS.A.2.C

Apply properties of operations as strategies to multiply and divide rational numbers.

- CCSS.MATH.CONTENT.7.NS.A.2.D

Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

Ratios and Proportions

- CCSS.MATH.CONTENT.7.RP.A.1

Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks $1/2$ mile in each $1/4$ hour, compute the unit rate as the complex fraction $^{1/2}/_{1/4}$ miles per hour, equivalently 2 miles per hour.*

- CCSS.MATH.CONTENT.7.RP.A.2

Recognize and represent proportional relationships between quantities.

- CCSS.MATH.CONTENT.7.RP.A.2.C

Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.*

- CCSS.MATH.CONTENT.7.RP.A.3

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Geometry

- CCSS.MATH.CONTENT.7.G.A.1

Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

GRADE 8:

Number System

- CCSS.MATH.CONTENT.8.NS.A.1

Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

- CCSS.MATH.CONTENT.8.NS.A.2

Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that*

$\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.

Expressions and Equations

- CCSS.MATH.CONTENT.8.EE.B.5

Graph proportional relationships, interpreting the unit rate as the slope of the graph.

Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

Geometry

- CCSS.MATH.CONTENT.8.G.A.2

Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

- CCSS.MATH.CONTENT.8.G.C.9

Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

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