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# NATIONAL BOARD

*for Professional Teaching Standards*<sup>®</sup>

# COMPONENT 1: CONTENT KNOWLEDGE AT-A-GLANCE

**Note:** This Component At-a-Glance provides an informational overview of the assessment center process while the assessment development is being finalized. The final documentation will be posted online at <u>www.boardcertifiedteachers.org</u>. Candidates will be notified via email when the documentation is posted in late fall 2014. *All information is subject to change*.

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### **Overview**

Component 1: Content Knowledge is a computer-based assessment that asks you to demonstrate knowledge of and pedagogical practices for teaching your content area. You must demonstrate knowledge of developmentally appropriate content, which is necessary for teaching across the full age range and ability level of your chosen certificate area. This is assessed through the completion of three constructed response exercises and approximately 45 selected response items.

This document provides the names and descriptions of the three constructed response exercises and the content covered in the selected response items for each certificate area.

# Early and Middle Childhood/Art

#### Part 1 – Constructed Response Items

#### **Exercise 1: Art-Making and Forming Processes**

In this exercise, you will demonstrate your knowledge and understanding of the creative process to analyze artists' choices of media, tools, and techniques for two traditional or contemporary works of art.

#### **Exercise 2: Studying and Interpreting Art**

In this exercise, you will use your knowledge of art criticism and your understanding of specific art concepts to describe and analyze a work of art.

#### **Exercise 3: The Nature and Value of Art**

In this exercise, you will use your knowledge and understanding of aesthetic theory and the nature and value of art to analyze a work of art and to justify the judgments you will make about the work.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Art Education (Standards I, III, V, VII)	35%
<ul> <li>Goals of Art Education</li> <li>Reflecting on the Goals of Art Education in Order to Make Principled Decisions about Practice</li> <li>Art Education Goals in Relation to Other Disciplines in the Curriculum</li> <li>Goals of General Education and Lifelong Learning</li> <li>Making Connections to the Cultures of Communities</li> <li>Guarding Against Bias and Stereotype</li> <li>Building Curriculum on the Goals of Art Education</li> <li>Creating and Maintaining Healthy and Safe Learning Environments</li> </ul>	
Content of Art and Art Making (Standard IV)	35%
<ul> <li>Art Making</li> <li>Technology</li> <li>Art Criticism</li> <li>Art History</li> <li>Aesthetics</li> </ul>	
Complex Attributes of Works of Art (Standard IV) <ul> <li>Classification of Art Forms and Types</li> <li>Expressive Qualities of Art</li> <li>Universal Themes or Ideas</li> <li>Context of Art</li> </ul>	30%

# Early Adolescence through Young Adult/Art

#### Part 1 – Constructed Response Items

#### **Exercise 1: Art-Making and Forming Processes**

In this exercise, you will demonstrate your knowledge and understanding of the creative process to analyze artists' choices of media, tools, and techniques for two traditional or contemporary works of art.

#### Exercise 2: Studying and Interpreting Art

In this exercise, you will use your knowledge of art criticism and your understanding of specific art concepts to describe and analyze a work of art.

#### Exercise 3: The Nature and Value of Art

In this exercise, you will use your knowledge and understanding of aesthetic theory and the nature and value of art to analyze a work of art and to justify the judgments you will make about the work.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Art Education (Standards I, III, V, VIII)	35%
<ul> <li>Goals of Art Education</li> <li>Reflecting on the Goals of Art Education in Order to Make Principled Decisions about Practice</li> <li>Art Education Goals in Relation to Other Disciplines in the Curriculum Goals of General Education and Lifelong Learning</li> <li>Making Connections to the Cultures of Communities</li> <li>Curriculum Design</li> <li>Building Curriculum on the Goals of Art Education</li> <li>The Complex Nature of Teaching Art</li> <li>Using a Range of Instructional Strategies</li> <li>Helping Students Make Art While Teaching How and Why Works of Art Are Made</li> <li>Helping Students Experience and Understand Art</li> <li>Creating and Maintaining Healthy and Safe Learning Environments</li> </ul>	
Content and Creation of Art (Standard IV)	35%
<ul> <li>Art Forms and Forming Processes</li> <li>Influence of Technology on Art</li> <li>Form, Qualities, and Styles of Art</li> <li>Ideational Aspects of Art</li> </ul>	
Study of Art (Standard IV)	30%
<ul> <li>Complex Attributes of Works of Art</li> <li>Contexts of Art</li> <li>Theories and Philosophies of Art</li> </ul>	

# Early Adolescence/English Language Arts

#### Part 1 – Constructed Response Items

#### **Exercise 1: Literary Genres**

In this exercise, you will use your knowledge of English language arts to identify literary genres and to analyze the connection between an author's choices and use of literary devices and meaning. You will discuss the genre, its purpose, and the theme and how the author's choices and use of literary devices affect the meaning of the text.

#### **Exercise 2: Teaching Reading**

In this exercise, you will use your knowledge of English language arts to analyze one student's response to a text and discuss strategies that the student could use to correct a misconception in the reading.

#### **Exercise 3: Teaching Writing**

In this exercise, you will use your knowledge of English language arts to analyze student writing and discuss strategies to improve writing skills.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Reading and Viewing (Standard V)	40%
<ul><li>The purposes of reading</li><li>Genres</li><li>Instructional strategies for reading and viewing</li></ul>	
Writing and Producing (Standard VI)	40%
<ul> <li>Knowledge about writing and producing</li> <li>Instructing students in writing and producing</li> <li>Resources for writing and producing</li> <li>Assessment of writing and producing</li> </ul>	
Speaking and Listening; Language Study (Standards VII and VIII)	20%
<ul> <li>Pedagogy and strategies for teaching speaking and listening</li> <li>Integration of speaking and listening with other strands of English language arts</li> <li>The evolving nature of the English language</li> <li>Language in context</li> <li>Instructional approaches in the study of the English language</li> </ul>	

# Adolescence and Young Adulthood/English Language Arts

#### Part 1 – Constructed Response Items

#### **Exercise 1: Literary Genres**

In this exercise, you will use your knowledge of English language arts to identify literary genres and to analyze the connection between an author's choices and use of literary devices and meaning. You will discuss the genre, its purpose, and the theme and how the author's choices and use of literary devices affect the meaning of the text.

#### **Exercise 2: Teaching Reading**

In this exercise, you will use your knowledge of English language arts to analyze one student's response to a text and discuss strategies that the student could use to correct a misconception in the reading.

#### **Exercise 3: Teaching Writing**

In this exercise, you will use your knowledge of English language arts to analyze student writing and discuss strategies to improve writing skills.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Reading and Viewing (Standard V)	40%
<ul><li>The purposes of reading</li><li>Genres</li><li>Instructional strategies for reading and viewing</li></ul>	
<ul> <li>Writing and Producing (Standard VI)</li> <li>Knowledge about writing and producing</li> <li>Instructing students in writing and producing</li> <li>Resources for writing and producing</li> <li>Assessment of writing and producing</li> </ul>	40%
<ul> <li>Speaking and Listening; Language Study (Standards VII and VIII)</li> <li>Pedagogy and strategies for teaching speaking and listening</li> <li>Integration of speaking and listening with other strands of English language arts</li> <li>The evolving nature of the English language</li> <li>Language in context</li> <li>Instructional approaches in the study of the English language</li> </ul>	20%

## Early and Middle Childhood/English as a New Language

#### Part 1 – Constructed Response Items

#### Exercise 1: Domains of English Language Development

In this exercise, you will use your knowledge of domains of English language development to identify four strategies and/or activities that would enhance proficiencies in four of five domains (listening, speaking, reading, writing, and visual literacy).

#### Exercise 2: Linguistic Structure of English

In this exercise, you will use your knowledge of the linguistic structure of the English language to analyze errors in a student work sample and to describe appropriate strategies for addressing the identified errors with the student described.

#### **Exercise 3: English Language Acquisition**

In this exercise, you will use your knowledge of English language acquisition to analyze a description of an English language learner and to describe appropriate strategies for enhancing the English language acquisition of the learner.

#### Part 2 - Selected Response Items (SRI)

Standards Conten	t Approximate Percentage of SRI Section*
<ul> <li>Knowledge of Culture and Diversity (Standard II)</li> <li>Knowledge and Understanding of Culture a</li> <li>Culturally Responsive Learning Environment</li> <li>Student Advocacy</li> </ul>	
·	
Knowledge of the English Language (Standard IV	) 25%
Listening	
Speaking	
Reading	
Writing	
Phonology	
<ul> <li>Vocabulary</li> <li>Grammar</li> </ul>	
<ul> <li>Grammar</li> <li>Discourse</li> </ul>	
<ul><li>Social English Language</li><li>Academic English Language</li></ul>	
Knowledge of English Language Acquisition (Sta	ndard V)
Language Exposure	ndard V) 40%
Language Awareness	
Interaction and Practice	
<ul> <li>Interdependence of Language and Content</li> </ul>	
<ul> <li>Interdependence of Reading, Writing, Spea</li> </ul>	
Literacy	
Explicit Instruction	
Instructional Feedback	
Language Transfer	
<ul> <li>Educational Background</li> </ul>	
Culture and Socioeconomic Variables	
Age and Length of Time in the United State	
Other Factors Affecting Language Develop	
	anguage Acquisition
Myths and Misconceptions about English L	
Myths and Misconceptions about English L	
	15%

# Early Adolescence and Young Adulthood/English as a New Language

#### Part 1 – Constructed Response Items

#### Exercise 1: Domains of English Language Development

In this exercise, you will use your knowledge of domains of English language development to identify four strategies and/or activities that would enhance proficiencies in four of five domains (listening, speaking, reading, writing, and visual literacy).

#### Exercise 2: Linguistic Structure of English

In this exercise, you will use your knowledge of the linguistic structure of the English language to analyze errors in a student work sample and to describe appropriate strategies for addressing the identified errors with the student described.

#### Exercise 3: English Language Acquisition

In this exercise, you will use your knowledge of English language acquisition to analyze a description of an English language learner and to describe appropriate strategies for enhancing the English language acquisition of the learner.

#### Part 2 - Selected Response Items (SRI)

	Standards Content	Approximate Percentage of SRI Section*
Knowle	edge of Culture and Diversity (Standard II)	20%
•	Knowledge and Understanding of Culture and Diversity	2070
•	Culturally Responsive Learning Environments	
٠	Student Advocacy	
Knowle	edge of the English Language (Standard IV)	25%
•	Listening	2070
•	Speaking	
•	Reading	
•	Writing	
•	Phonology	
•	Vocabulary	
•	Grammar	
•	Discourse	
•	Social English Language	
•	Academic English Language	
	Edge of English Language Acquisition (Standard V)Language ExposureLanguage AwarenessInteraction and PracticeInterdependence of Language and ContentInterdependence of Reading, Writing, Speaking, Listening, and VisualLiteracyExplicit InstructionInstructional FeedbackLanguage TransferEducational BackgroundCulture and Socioeconomic VariablesAge and Length of Time in the United StatesOther Factors Affecting Language DevelopmentMyths and Misconceptions about English Language Acquisition	40%
Assess	ment (Standard VII)	
•	Variety in Assessment Techniques	15%
	Initial Placement Assessment	

# Early Childhood and Young Adulthood/Exceptional Needs Specialist

#### Part 1 – Constructed Response Items

#### **Exercise 1: Numeracy**

In this exercise, you will use your knowledge of numeracy skills and instruction for students with exceptional needs.

#### Exercise 2: Assessment

In this exercise, you will use your knowledge of assessment and students with exceptional needs.

#### **Exercise 3: Collaboration**

In this exercise, you will use your knowledge of professional collaboration in the field of exceptional needs.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Students and Knowledge of Philosophy, History and Law (Standards I and II)	20%
<ul> <li>Child Growth and Development</li> <li>Effective Advocacy: Knowledge of Philosophy, History, and Law</li> <li>Exemplifying High Ethical Ideals</li> </ul>	
Diversity and Family Partnerships (Standards III and IV)	20%
<ul> <li>Creating Equitable, Fair, and Diverse Environments</li> <li>Ensuring Access to Quality Learning Experiences</li> <li>Collaborating with Parents to Support Students' Education</li> </ul>	
Communication and Social Development and Behavior (Standards VI and VII)	30%
<ul> <li>Understanding Language Acquisition and Development</li> <li>Using Unique Strategies to Develop Communication Skills</li> <li>Collaborating with Others to Facilitate Student Language Development</li> <li>Teaching and Fostering Social Skills</li> <li>Developing Students' Self-Confidence and Self-Determination</li> <li>Fostering and Supporting Positive Behavior</li> </ul>	
Assessment and Curriculum and Instruction (Standards V and VIII)	30%
<ul> <li>Using Diverse Assessment Methods for Different Purposes</li> <li>Academic Core Curriculum – Literacy</li> <li>Individualizing Curriculum and Integrating Life Skills Development Across Disciplines, Contexts, and Settings</li> <li>Fostering Student Transitions and Career Development</li> </ul>	

# Early Childhood/Generalist

#### Part 1 – Constructed Response Items

#### Exercise 1: Literacy

In this exercise, you will use your knowledge of reading development to plan an appropriate instructional strategy that builds on a student's strengths in reading to foster the student's reading development.

#### **Exercise 2: Analyzing Student Work in Mathematics**

In this exercise, you will use your content and pedagogical knowledge of math to identify a major math misconception or error in a given student's work, identify appropriate concepts/skills needed for the student to solve a problem accurately, provide an instructional strategy to address the student's misconception or error, and provide a rationale for the strategy.

#### Exercise 3: Children's Play

In this exercise, you will use your knowledge of children's play to identify significant aspects of child development and ways to support that development through your role as the teacher.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Child Development, Equity, Fairness, and Appreciation of Diversity (Standards I, III)	30%
<ul> <li>Fostering Cognitive Development</li> <li>Fostering Language Development</li> <li>Fostering Moral and Ethical Development</li> <li>Knowledge, Skills, and Dispositions Related to Equity, Fairness, and Diversity</li> </ul>	
<ul> <li>Knowing and Integrating Subject Matter: Language and Literacy, Technology, Resources (Standards IV, VI)</li> <li>Language and Literacy Listening and Speaking</li> </ul>	35%
<ul> <li>Writing</li> <li>Technology</li> <li>Learning Materials and Resources</li> </ul>	
Knowing and Integrating Subject Matter: Science, Social Studies, Arts, Health, Physical Education (Standard IV)	35%
<ul> <li>Science</li> <li>Social Studies</li> <li>Visual Arts, Music, and Drama</li> <li>Health and Physical Education</li> </ul>	

# Middle Childhood/Generalist

#### Part 1 – Constructed Response Items

#### Exercise 1: Supporting Reading Skills

In this exercise, you will use your content and pedagogical knowledge of reading to analyze and interpret a transcript of a student's oral reading of a given reading passage to identify a strength and a weakness in the student's oral reading and to identify and justify appropriate strategies to support the student's ongoing reading development.

#### **Exercise 2: Analyzing Student Work in Mathematics**

In this exercise, you will use your content and pedagogical knowledge of math to identify a major math misconception or error in a student's work, identify appropriate concepts/skills the student needs to solve a problem accurately, provide an instructional strategy to address the student's misconception or error, and provide a rationale for the strategy.

#### **Exercise 3: Making Connections in Science**

In this exercise, you will use your knowledge of fundamental science content, including a cross-curricular concept. You will also demonstrate your knowledge of pedagogical appropriateness and describe a developmentally appropriate learning experience that will help students understand real-world phenomena.

Standards Content (Standard IV)	Approximate Percentage of SRI Section*
English Language Arts, the Arts, and Health and Wellness	30%
<ul> <li>Balanced Literacy</li> <li>Choosing Texts</li> <li>Analyzing Texts</li> <li>Value and Purposes of Visual and Performing Arts through Cross- Curricular Contexts</li> <li>Health Enhancing Skills</li> </ul>	
Science and Mathematics	35%
<ul> <li>Number Sense and Algebraic Thinking</li> <li>Geometry</li> <li>Data Analysis</li> <li>Knowledge of Science Domains: Life, Earth/Space, and Physical Sciences</li> <li>Vocabulary of Science</li> <li>Misconceptions and Evolution of Scientific Thinking</li> <li>Science Tools, Models, and Representations and Engineering Design Principles</li> </ul>	
<ul> <li>Social Studies</li> <li>Knowledge of Social Studies Content: History, Geography, Civics/Government, Economics</li> <li>Themes of Social Studies</li> <li>Primary and Secondary Sources and Critical Thinking in Social Studies</li> </ul>	35%

#### Part 2 – Selected Response Items (SRI)

# Early Adolescence and Young Adulthood/Health

#### Part 1 – Constructed Response Items

#### Exercise 1: Risk Behaviors

In this exercise, you will show an understanding of the impact of risk behaviors (e.g., alcohol, tobacco, and other drug use; poor nutrition; sedentary lifestyle; intentional and unintentional injuries; sexual risk behaviors) on personal health and wellness.

#### **Exercise 2: Relationships and Family Life**

In this exercise, you will demonstrate the content knowledge and skills needed to manage healthy and unhealthy relationships.

#### **Exercise 3: Components of Health**

In this exercise, you will display knowledge of the interrelationships of the components of health (physical, mental, emotional, social, and spiritual) and the application of life skills pertaining to these components.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
<ul> <li>Knowledge of Subject Matter/Personal Health (Standard II)</li> <li>Personal Health</li> <li>Nutrition</li> <li>Prevention and Control of Disease</li> <li>Mental and Emotional Health</li> <li>Substance Use and Abuse</li> </ul>	25%
<ul> <li>Knowledge of Subject Matter/Environmental and Consumer Health (Standard II) <ul> <li>Injury Prevention and Safety</li> <li>Consumer Health</li> <li>Environmental Health</li> <li>Dynamic, Relevant, and Practical Knowledge for Teaching Health Education</li> </ul> </li> <li>Skills-based Learning/The Individual (Standard III)</li> </ul>	20%
<ul> <li>Goal-setting</li> <li>Decision-making</li> <li>Problem-solving skills</li> <li>Stress management</li> <li>Identification and evaluation of and access to health information and health-promoting products and services</li> </ul>	
<ul> <li>Skills-based Learning/Interacting with Others (Standard III)</li> <li>Interpersonal communication</li> <li>Strategies to resolve conflicts</li> <li>Effective ways to influence and support others in making positive health choices</li> <li>Refusal skills</li> <li>Assertiveness</li> <li>Negotiation and collaboration techniques</li> <li>Influence of various factors such as peers, cultural beliefs, the media, and technology on health</li> </ul>	30%

# Early Childhood and Young Adulthood/Library Media

#### Part 1 – Constructed Response Items

#### **Exercise 1: Program Administration and Management**

In this exercise, you will use your knowledge of organizational management to identify and analyze management issues pertaining to effective administration of a library media center and to propose and explain strategies to address these issues.

#### **Exercise 2: Technologies**

In this exercise, you will use your knowledge of instructional technologies to identify the technological needs of a library media program in a given situation with respect to hardware, software, and connectivity. You will also explain three significant issues you would address to accomplish the objective of the project.

#### **Exercise 3: Collection Development**

In this exercise, you will use your knowledge of collection development to describe three weaknesses of the needs assessment for a given library media program. You will also explain three modifications you would make to strengthen the needs assessment for the program and describe how you would promote a new acquisition.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Library and Information Studies (Standard III)	40%
<ul> <li>Principles of the Profession</li> <li>Effective Organization and Practice</li> <li>Collections</li> <li>Information Seeking</li> <li>Information and Communication Technologies</li> </ul>	
Administration (Standards V, VI, IX)	25%
<ul> <li>Evaluating the Library Media Program</li> <li>Technologies for Program Administration</li> <li>Outreach and Advocacy</li> </ul>	
Access, Equity, Diversity, and Ethics (Standards III, VII, VIII)	35%
<ul> <li>Access</li> <li>Practicing Professional Ethics</li> <li>Knowledge of Ethical and Legal Tenets</li> <li>Teaching Ethical Information Behavior and Digital Citizenship</li> </ul>	

# Early and Middle Childhood Literacy/Reading-Language Arts

#### Part 1 – Constructed Response Items

#### **Exercise 1: Analyzing Student Reading**

In this exercise, you will analyze a transcript of a student's oral reading, identify two significant patterns with respect to reading miscues and/or fluency, and discuss an appropriate teaching strategy to address one of the identified patterns.

#### **Exercise 2: Writing Development**

In this exercise, you will identify one area of strength and one area of need in a student's writing sample and describe a developmentally appropriate teaching strategy to address each of them.

#### **Exercise 3: Literacy Across the Curriculum**

In this exercise, you will demonstrate your ability to integrate literacy and content-area learning. Using the gradelevel content-area text provided, you will create a learning experience that effectively supports students' development of literacy strategies and content knowledge.

Standards Content	Approximate Percentage of SRI Section*
<ul> <li>Knowledge of Learners and Collaborating with Families (Standards I, XII)</li> <li>Knowing Each Student as an Intellectual, Social, Emotional, Cultural, and Language Learner</li> <li>Understanding Learning and Child Development Theories</li> <li>Assisting Families in Supporting Their Children's Learning Development</li> </ul>	20%
<ul> <li>Equity, Fairness, and Diversity; the Learning Environment; and Literacy Assessment (Standards II, III, IV, V)</li> <li>Promoting Fairness and Equity</li> <li>Establishing the Intellectual Environment</li> <li>Selecting Resources</li> <li>Knowledge of Assessment and Selecting and Administering Assessments</li> </ul>	25%
<ul> <li>Reading and Writing (Standards VI and VII)</li> <li>Knowledge and Instruction of Reading</li> <li>Knowledge and Instruction of Writing</li> <li>Connections of Reading and Writing to the Other Language Arts and to Other Disciplines</li> </ul>	20%
<ul> <li>Listening and Speaking; Viewing and Visual Literacy (Standards VIII and IX)</li> <li>Knowledge and Instruction of Listening and Speaking</li> <li>Knowledge and Instruction of Viewing and Visual Literacy</li> </ul>	35%

#### Part 2 – Selected Response Items (SRI)

# Early Adolescence/Math

#### Part 1 – Constructed Response Items

#### **Exercise 1: Algebra and Functions**

In this exercise, you will use your knowledge of algebra and functions to model problem situations, employ algebraic techniques and procedures, and explain a functional relationship depicted in a given situation.

#### **Exercise 2: Geometry**

In this exercise, you will use your knowledge of geometry to perform the transformations of dilation, reflection, rotation, and translation on a two-dimensional figure and explain how the two figures are congruent and/or similar. In addition, you will explain the volume formula of a three-dimensional figure and how it relates to the volume of a figure with the same type of base.

#### **Exercise 3: Data Analysis and Statistics**

In this exercise, you will use your knowledge of data analysis to provide various graphical representations and interpretations of a given set of data.

#### Part 2 – Selected Response Items (SRI)

Standards Content (Standard II)	Approximate Percentage of SRI Section*
Contexts for Mathematics	15%
Historical Development of Mathematical Ideas	
<ul> <li>Mathematical Applications in Fields Related to Mathematics</li> </ul>	
Precise Communication of Mathematical Ideas	
Problem Solving and Number Sense	45%
Numbers and Operations	
Algebra and Functions	
Geometry	
Modeling and Analysis	40%
Trigonometry	
Discrete Mathematics	
Data Analysis and Statistics	
Calculus	

# Adolescence and Young Adulthood/Math

#### Part 1 – Constructed Response Items

#### **Exercise 1: Families of Functions**

In this exercise, you will use your knowledge of families of functions to analyze the characteristics of a function and the relationship between a function and its inverse function. You will graph a function and its inverse and discuss how the graphs are related to each other. You will also find a symbolic representation of the inverse function and demonstrate that the symbolic representation found is the inverse function.

#### **Exercise 2: Geometry**

In this exercise, you will use your knowledge of geometry to construct a proof, explain the relationship between two important geometric concepts, and express the volume of a solid generated by the rotation of a two-dimensional object about an axis.

#### **Exercise 3: Data Analysis and Statistics**

In this exercise, you will use your knowledge of data analysis and statistics to analyze and graph a given set of data, interpret and model data for given statistical characteristics, and estimate probabilities.

Standards Content (Standard II)	Approximate Percentage of SRI Section*
Contexts for Mathematics	15%
<ul> <li>Historical Development of Mathematical Ideas</li> <li>Mathematical Applications in Fields Related to Mathematics</li> </ul>	
<ul> <li>Precise Communication of Mathematical Ideas</li> </ul>	
Problem Solving and Number Sense	40%
Numbers and Operations	
Algebra and Functions	
Geometry	
Modeling and Analysis	45%
Trigonometry	
Discrete Mathematics	
Data Analysis and Statistics	
Calculus	

#### Part 2 - Selected Response Items (SRI)

# Early and Middle Childhood/Physical Education

#### Part 1 – Constructed Response Items

#### **Exercise 1: Exercise Science**

In this exercise, you will use your knowledge of health-related fitness components and principles of fitness to plan a developmentally appropriate physical education activity.

#### **Exercise 2: Motor Learning and Movement Forms**

In this exercise, you will apply your knowledge of motor skills and movement concepts to teaching movement patterns associated with a physical activity.

#### **Exercise 3: Physical Activity and Wellness**

In this exercise, you will analyze a scenario that describes a student's current physical activity levels or daily activities, and make recommendations for a wellness program that is appropriate for the student according to his or her needs, current situation, and age.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Exercise Science (Standard II)	35%
<ul> <li>Major muscle groups and functions</li> <li>Biomechanical principles</li> <li>Effects of physical activity on the human body, and exercise heart rate and recovery heart rate</li> </ul>	
Motor Development, Motor Learning, and Movement Forms in Context (Standard II)	35%
<ul> <li>Progression from beginning to mature motor patterns, including fine and gross motor skills</li> <li>Developmentally appropriate movements and progressions</li> <li>Critical elements that promote skill acquisition</li> <li>Developmentally appropriate scope and sequence of movement forms</li> </ul>	
Physical Activity and Wellness; Legal and Safety Issues (Standards II, IV)	30%
<ul> <li>Health- and skill-related components of physical activity</li> <li>FITT Principle guidelines and principles of exercise</li> <li>Basic nutrition principles and guidelines</li> <li>Comprehensive fitness, including hypokinetic conditions and the effect of behavioral choices on personal well- being</li> <li>Legal and safety issues, including applicable laws and initiatives related to the successful participation of all students, including students with exceptionalities</li> </ul>	

# Early Adolescence and Young Adulthood/Physical Education

#### Part 1 – Constructed Response Items

#### **Exercise 1: Exercise Science**

In this exercise, you will use your knowledge of health-related fitness components and principles of fitness to plan a developmentally appropriate physical education activity.

#### **Exercise 2: Motor Learning and Movement Forms**

In this exercise, you will apply your knowledge of motor skills and movement concepts to teaching movement patterns associated with a physical activity.

#### **Exercise 3: Physical Activity and Wellness**

In this exercise, you will analyze a scenario that describes a student's current physical activity levels or daily activities, and make recommendations for a wellness program that is appropriate for the student according to his or her needs, current situation, and age.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
<ul> <li>Exercise Science (Standard II)</li> <li>Major muscle groups and functions</li> <li>Biomechanical principles</li> <li>Effects of physical activity on the human body, and exercise heart rate and recovery heart rate</li> </ul>	35%
<ul> <li>Motor Development, Motor Learning, and Movement Forms in Context (Standard II)</li> <li>Progression from beginning to mature motor patterns, including fine and gross motor skills</li> <li>Developmentally appropriate movements and progressions</li> <li>Critical elements that promote skill acquisition</li> <li>Developmentally appropriate scope and sequence of movement forms</li> </ul>	35%
<ul> <li>Physical Activity and Wellness; Legal and Safety Issues (Standards II, IV)</li> <li>Health- and skill-related components of physical activity</li> <li>FITT Principle guidelines and principles of exercise</li> <li>Basic nutrition principles and guidelines</li> <li>Comprehensive fitness, including hypokinetic conditions and the effect of behavioral choices on personal well- being</li> <li>Legal and safety issues, including applicable laws and initiatives related to the successful participation of all students, including students with exceptionalities</li> </ul>	30%

# Early Childhood and Young Adulthood/School Counseling

#### Part 1 – Constructed Response Items

#### Exercise 1: School Counseling Program

In this exercise, you will demonstrate your knowledge of the development, implementation, and management of a school counseling program.

#### **Exercise 2: Counseling Theories and Techniques**

In this exercise, you will demonstrate your knowledge of counseling theories and techniques as applied to a given scenario.

#### **Exercise 3: School Climate**

In this exercise, you will demonstrate your understanding of factors related to school climate and approaches for establishing and maintaining a positive and productive learning environment.

#### Part 2 - Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
School Counseling Program, Leadership, Advocacy, and Professional Identity (Standards I, X)	40%
Foundations of the program	
Accountability of the program	
Ethics	
Human Growth and Development (Standard III)	30%
<ul> <li>Theories of human growth and development and their application in working with individual students</li> </ul>	
Developmental stages	
<ul> <li>Developmental assets and strategies for helping students build developmental assets</li> </ul>	
<ul> <li>Developmental needs of students with exceptionalities</li> </ul>	
<ul> <li>Consulting with stakeholders regarding developmental considerations in education for all students</li> </ul>	
Counseling Theories, Equity, and Fairness (Standards IV, V)	30%
History and philosophy of major counseling theories and techniques	
<ul> <li>Building and maintaining strong relationships with highly developed communication skills</li> </ul>	
<ul> <li>Theories and policies related to multicultural counseling and differences among diverse populations</li> </ul>	
Relationship between motivation and behavior	
Promoting fairness and equity	

# Early Adolescence/Science

#### Part 1 – Constructed Response Items

#### Exercise 1: Data Analysis

In this exercise, you will use your knowledge of science to read a description of a student-designed experiment, study a student collection of data, and analyze a student conclusion concerning the experiment.

#### **Exercise 2: Contexts of Science**

In this exercise, you will use your knowledge of science to describe a scientific event or discovery and discuss the scientific knowledge necessary to understand the event or discovery, explain how another science discipline is related to the event or discovery, and describe how the event or discovery has affected society.

#### **Exercise 3: Development of Scientific Concepts**

In this exercise, you will demonstrate your knowledge of scientific conceptual development by evaluating and describing a student's conceptual understanding of scientific concepts, and by describing instruction that would help move the student toward the accepted understanding of the scientific concept.

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Science Practices and Context (Standard II)	30%
Nature of Science	
Understanding of Inquiry	
Context of Science	
Knowledge of Science Content (Standard II)	50%
Earth and Space Science	
Life Science	
Physical Science	
Curriculum, Instruction, and Learning Environment (Standards III, V)	20%
Crosscutting Principles	
Assessing and addressing preconceptions	
Safety	

# Adolescence and Young Adulthood/Science-Biology

#### Part 1 – Constructed Response Items

#### Exercise 1: Data Analysis

In this exercise, you will use your knowledge of science to read a description of a student-designed experiment, study a student collection of data, and analyze a student conclusion concerning the experiment.

#### **Exercise 2: Contexts of Science**

In this exercise, you will use your knowledge of science to describe a scientific event or discovery and discuss the scientific knowledge needed to understand the event or discovery, explain how another science discipline is related to the event or discovery, and describe how the event or discovery has affected society.

#### **Exercise 3: Development of Scientific Concepts**

In this exercise, you will demonstrate your knowledge of scientific conceptual development by evaluating and describing a student's conceptual understanding of scientific concepts, and by describing instruction that would help move the student toward the accepted understanding of the scientific concept.

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Science Practices and Context (Standard II)	20%
<ul> <li>Nature of Science</li> <li>Understanding of Inquiry</li> <li>Context of Science</li> </ul>	
Knowledge of Science Content (Standard II)	60%
<ul> <li>Earth and Space Science</li> <li>Life Science</li> <li>Physical Science–Chemistry</li> <li>Physical Science–Physics</li> </ul>	(45% in specialty 15% from other disciplines)
<ul> <li>Curriculum, Instruction, and Learning Environment (Standards III, V)</li> <li>Crosscutting Principles</li> <li>Assessing and addressing preconceptions</li> <li>Safety</li> </ul>	20%

# Adolescence and Young Adulthood/Science-Chemistry

#### Part 1 – Constructed Response Items

#### Exercise 1: Data Analysis

In this exercise, you will use your knowledge of science to read a description of a student-designed experiment, study a student collection of data, and analyze a student conclusion concerning the experiment.

#### **Exercise 2: Contexts of Science**

In this exercise, you will use your knowledge of science to describe a scientific event or discovery and discuss the scientific knowledge needed to understand the event or discovery, explain how another science discipline is related to the event or discovery, and describe how the event or discovery has affected society.

#### **Exercise 3: Development of Scientific Concepts**

In this exercise, you will demonstrate your knowledge of scientific conceptual development by evaluating and describing a student's conceptual understanding of scientific concepts, and by describing instruction that would help move the student toward the accepted understanding of the scientific concept.

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Standards Content	Approximate Percentage of SRI Section*
Knowledge of Science Practices and Context (Standard II)	20%
<ul> <li>Nature of Science</li> <li>Understanding of Inquiry</li> <li>Context of Science</li> </ul>	
Knowledge of Science Content (Standard II)	60%
<ul> <li>Earth and Space Science</li> <li>Life Science</li> <li>Physical Science–Chemistry</li> <li>Physical Science–Physics</li> </ul>	(45% in specialty 15% from other disciplines)
<ul> <li>Curriculum, Instruction, and Learning Environment (Standards III, V)</li> <li>Crosscutting Principles</li> <li>Assessing and addressing preconceptions</li> <li>Safety</li> </ul>	20%

# Adolescence and Young Adulthood/Science-Earth/Space

#### Part 1 – Constructed Response Items

#### Exercise 1: Data Analysis

In this exercise, you will use your knowledge of science to read a description of a student-designed experiment, study a student collection of data, and analyze a student conclusion concerning the experiment.

#### **Exercise 2: Contexts of Science**

In this exercise, you will use your knowledge of science to describe a scientific event or discovery and discuss the scientific knowledge needed to understand the event or discovery, explain how another science discipline is related to the event or discovery, and describe how the event or discovery has affected society.

#### **Exercise 3: Development of Scientific Concepts**

In this exercise, you will demonstrate your knowledge of scientific conceptual development by evaluating and describing a student's conceptual understanding of scientific concepts, and by describing instruction that would help move the student toward the accepted understanding of the scientific concept.

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Science Practices and Context (Standard II)	20%
<ul> <li>Nature of Science</li> <li>Understanding of Inquiry</li> <li>Context of Science</li> </ul>	
Knowledge of Science Content (Standard II)	60%
<ul> <li>Earth and Space Science</li> <li>Life Science</li> <li>Physical Science–Chemistry</li> <li>Physical Science–Physics</li> </ul>	(45% in specialty 15% from other disciplines)
<ul> <li>Curriculum, Instruction, and Learning Environment (Standards III, V)</li> <li>Crosscutting Principles</li> <li>Assessing and addressing preconceptions</li> <li>Safety</li> </ul>	20%

# Adolescence and Young Adulthood/Science-Physics

#### Part 1 – Constructed Response Items

#### Exercise 1: Data Analysis

In this exercise, you will use your knowledge of science to read a description of a student-designed experiment, study a student collection of data, and analyze a student conclusion concerning the experiment.

#### **Exercise 2: Contexts of Science**

In this exercise, you will use your knowledge of science to describe a scientific event or discovery and discuss the scientific knowledge needed to understand the event or discovery, explain how another science discipline is related to the event or discovery, and describe how the event or discovery has affected society.

#### **Exercise 3: Development of Scientific Concepts**

In this exercise, you will demonstrate your knowledge of scientific conceptual development by evaluating and describing a student's conceptual understanding of scientific concepts, and by describing instruction that would help move the student toward the accepted understanding of the scientific concept.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Knowledge of Science Practices and Context (Standard II)	20%
<ul> <li>Nature of Science</li> <li>Understanding of Inquiry</li> <li>Context of Science</li> </ul>	
Knowledge of Science Content (Standard II)	60%
<ul> <li>Earth and Space Science</li> <li>Life Science</li> </ul>	(45% in specialty
<ul> <li>Physical Science–Chemistry</li> <li>Physical Science–Physics</li> </ul>	15% from other disciplines)
Curriculum, Instruction, and Learning Environment (Standards III, V)	20%
<ul> <li>Crosscutting Principles</li> <li>Assessing and addressing preconceptions</li> <li>Safety</li> </ul>	

# Early Adolescence/Social Studies-History

#### Part 1 – Constructed Response Items

#### Exercise 1: Documents

In this exercise, you will use your knowledge of U.S. history and political science to analyze an excerpt from a historical document.

#### Exercise 2: United States Economic Policy

In this exercise, you will use your knowledge of political science and economics to describe two political or economic factors that would influence the U.S. government's enactment of an identified economic policy and analyze two ways in which the policy may affect the U.S. and/or global economy.

#### **Exercise 3: Regional Economic and Geographic Trends**

In this exercise, you will use your knowledge of economics and geography to identify an economic or geographic trend in a map or graph and explain two reasons for the trend. You will also analyze one economic and one geographic effect of this trend on the region identified in the map or graph.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Integrating Content (Standard IV)	25%
<ul><li>Instructional Strategies</li><li>Resources</li></ul>	
Knowing Content—History (Standard III)	42%
<ul><li>History</li><li>World History</li><li>United States History</li></ul>	
Knowing Content—Social Studies (Standard III)	33%
<ul><li>Economics</li><li>Geography</li><li>Civics and Government</li></ul>	

# Adolescence and Young Adulthood/Social Studies-History

#### Part 1 – Constructed Response Items

#### Exercise 1: Documents

In this exercise, you will use your knowledge of U.S. history and political science to analyze an excerpt from a historical document.

#### Exercise 2: United States Economic Policy

In this exercise, you will use your knowledge of political science and economics to describe two political or economic factors that would influence the U.S. government's enactment of an identified economic policy and analyze two ways in which the policy may affect the U.S. and/or global economy.

#### **Exercise 3: Regional Economic and Geographic Trends**

In this exercise, you will use your knowledge of economics and geography to identify an economic or geographic trend in a map or graph and explain two reasons for the trend. You will also analyze one economic and one geographic effect of this trend on the region identified in the map or graph.

#### Part 2 – Selected Response Items (SRI)

Standards Content	Approximate Percentage of SRI Section*
Integrating Content (Standard IV)	25%
<ul><li>Instructional Strategies</li><li>Resources</li></ul>	
Knowing Content—History (Standard III)	42%
<ul><li>History</li><li>World History</li><li>United States History</li></ul>	
Knowing Content—Social Studies (Standard III)	33%
<ul><li>Economics</li><li>Geography</li><li>Civics and Government</li></ul>	