

## Standards for Middle Grades Teachers

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The middle level teacher in North Carolina is prepared to teach young adolescents in grades six through nine. These standards include both middle level standards and content standards for each of the four disciplines--language arts, math, science, and social studies. Teacher preparation programs are expected to meet both developmental middle level standards and content area standards.

These standards are correlated with the following: North Carolina Standard Course of Study, North Carolina Teacher Education Program Approval Standards, the Core Standards for Teachers developed by the North Carolina Professional Teaching Standards Commission, National Council of Teachers of English, National Council of Teachers of Mathematics, National Science Teachers Association, National Council of Teachers of Social Studies, National Middle School Association Teacher Preparation Standards (2001), the Interstate New Teacher Assessment and Support Consortium Standards, and the National Boards for Professional Teaching Standards Core Propositions. These standards are performance based to reflect the knowledge, skills, and dispositions needed to be an effective middle school teacher.

While two concentrations are strongly encouraged, candidates for middle grades licensure are required to complete one teaching concentration in the core areas of language arts, mathematics, science, or social studies and an enhanced literacy component of reading, writing, or English as a second language. If an institution chooses to require two teaching concentrations, the enhanced literacy competencies can be met through the concentrations.

## STANDARDS AND INDICATORS

**Standard 1: Middle level teachers understand the major concepts, theories, and research related to young adolescent development, and they provide opportunities that support student development and learning.**

Indicator 1: Middle level teachers understand the intellectual, physical, social, emotional, and moral development of young adolescents and use that knowledge to establish productive learning environments based on mutually respectful relationships.

Indicator 2: Middle level teachers demonstrate with enthusiasm their multi-faceted role as a teacher of young adolescents - role model, coach, and mentor - sharing the responsibility for engaging them in their own learning.

Indicator 3: Middle level teachers understand the role of classroom, family, peer group, community, and society in young adolescent development and engage students in activities related to their corresponding responsibilities, needs, and growing self-awareness.

Indicator 4: Middle level teachers understand issues of young adult health and developing sexuality.

**Standard 2: Middle level teachers understand major concepts, principles, theories and research underlying the philosophical foundations of the developmentally responsive middle level programs and schools, and they work successfully within these organizational components.**

Indicator 1: Middle level teachers understand, articulate and apply developmentally responsive practices that reflect the philosophical foundations, rationale, and characteristics of middle level programs (e.g. flexible scheduling, common planning periods, advisor/advisee program).

Indicator 2: Middle level teachers know and analyze the historical and contemporary models of schooling and best practices for the education of young adolescents.

Indicator 3: Middle level teachers understand, support, and work successfully within teams and with colleagues to maximize student learning and school improvement.

**Standard 3: Middle level teachers understand major concepts, principles, theories, standards, and research related to middle grades curriculum and use this knowledge in their practice.**

Indicator 1: Middle level teachers demonstrate their command of content knowledge by designing, modifying, implementing, and assessing curricula based on the North Carolina Standard Course of Study (NCSCS) and other relevant middle level resources (e.g. national content standards, local content standards).

Indicator 2: Middle level teachers plan interdisciplinary curriculum based on core and elective curricula that are relevant, challenging, and exploratory.

**Standard 4: Middle level teachers understand the major concepts, principles, theories, and research related to working collaboratively with family and community members, and they use that knowledge to maximize the learning of young adolescents.**

Indicator 1: Middle level teachers understand and plan instruction that connects subjects to the diverse experiences of all young adolescents.

**Standard 5: Middle level teachers understand and use the central concepts, tools of inquiry, standards, and structures of *content* in their teaching field(s) and create meaningful learning experiences that develop young adolescents' competence in subject matter and skills.**

Indicator 1: Middle level teachers know and use their depth and breadth of content knowledge to maximize student learning through effective content-specific teaching strategies.

Indicator 2: Middle level teachers know and are committed to teaching in ways that help young adolescents understand the interdisciplinary connections between course-specific knowledge, other areas of curriculum, and their life experiences and interests.

**Standard 6: Middle level teachers understand, value, and integrate literacy skills (i.e., reading, writing, speaking, and listening) into all content areas.**

Indicator 1: Middle level teachers integrate literacy skills into mathematics, science, social studies and/or language arts.

Indicator 2: Middle level teachers understand the processes of reading and strategies to enhance the comprehension, interpretation, and evaluation of text in mathematics, science, social studies, and/or language arts for all students, including those who read below grade level.

Indicator 3: Middle level teachers understand the connection between reading and writing and model a wide range of strategies effective to purpose, audience, and context in mathematics, science, social studies, and/or language arts.

Indicator 4: Middle level teachers understand the writing process and model this process in mathematics, science, social studies, and/or language arts.

Indicator 5: Middle level teachers understand the nature of the ESL learner and model a wide range of effective strategies for this diverse population.

**Standard 7: Middle level teachers understand and use the major concepts, principles, theories, and research related to effective instruction, and they *employ a variety of strategies* for a developmentally appropriate climate to meet the varying abilities and learning styles of all young adolescents.**

Indicator 1: Middle level teachers understand, value, plan, and use a variety of teaching and learning strategies that motivate young adolescents with varying abilities, learning styles, and interests.

Indicator 2: Middle level teachers provide experiences that actively encourage observing, questioning, and interpreting knowledge and ideas from diverse perspectives.

Indicator 3: Middle level teachers maximize the learning of young adolescents by establishing positive learning environments and employing effective classroom management techniques.

**Standard 8: Middle level teachers understand and use formal and informal assessment strategies to evaluate learning and teaching to ensure the continuous intellectual, social, and physical development of young adolescents.**

Indicator 1: Middle level teachers understand and use a variety of traditional and alternative assessment measures and communicate the results knowledgeably and responsibly to appropriate audiences (e.g. students' families, educators, community members).

Indicator 2: Middle level teachers know, plan, and implement instructional practices based on formal and informal student assessment (including student self-assessment) and use those results to monitor and improve their teaching.

Indicator 3: Middle level teachers maintain useful records and create effective plans for evaluation of student work and achievement.

**Standard 9: Middle level teachers understand the complexity of teaching young adolescents, and they engage in practices and behaviors that develop their competence as professionals.**

Indicator 1: Middle level teachers engage in and support professional development practices (e.g. consult with colleagues, attend professional development activities, and seek additional resources to enhance competence).

Indicator 2: Middle level teachers understand and reflect on young adolescent development, the instructional process, and professional relationships in addressing the diverse needs of young adolescents.

## Attachment A

### Middle Level Language Arts Content Standards

**Standard 1: Middle level English language arts teachers understand the function, the influence, and the diversity of oral language.**

Indicator 1: Middle level English language arts teachers effectively communicate ideas by highlighting oral language that is well- suited to the purpose and audience (e.g. dialect, formal usage, connotations).

Indicator 2: Middle level English language arts teachers understand and respect the diversity in language use, patterns and dialects.

Indicator 3: Middle level English language arts teachers understand and model and teach effective listening skills and strategies.

**Standard 2: Middle level English language arts teachers understand the function, the influence, and the range of written language.**

#### ***Reading/Literature***

Indicator 1: Middle level English language arts teachers understand how to apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate text.

Indicator 2: Middle level English language arts teachers know and incorporate literary works from the four major genres (fiction, nonfiction, poetry, and drama)

Indicator 3: Middle level English language arts teachers understand how authors' choice of language and style effect a work.

#### ***Writing***

Indicator 4: Middle level English language arts teachers Understand and use the conventions of Standard English appropriate to the purpose, audience and context.

Indicator 5: Middle level English language arts teachers understand the connection between reading/literature and writing process.

Indicator 6: Middle level English language arts teachers model a wide range of strategies effective to purpose, audience and context as they write.

Indicator 7: Middle level English language arts teachers understand how word choice and style effect the work.

**Standard 3: Middle level English language arts teachers understand the function, the influence, and the range of other media/technology.**

Indicator 1: Middle level English language arts teachers understand the impact that media/technology other communication.

Indicator 2: Middle level English language arts teachers understand how to gather, evaluate, and use other media/technology

**Standard 4: Middle level English language arts teachers understand and use a variety of instructional strategies and assessments to develop students' understanding of oral language, written language and other media technology.**

Indicator 1: Middle level English language arts teachers recognize students' level of understanding in order to implement the appropriate instructional practice.

Indicator 2: Middle level English language arts teachers understand the reading interests of students and have a solid foundation of books available.

Indicator 3: Middle level English language arts teachers are able to demonstrate the connections between and among oral language, written language and other media technology.

## Attachment B

### Middle Level Mathematics Content Standards

**Standard 1: Middle level mathematics teachers understand and use the major concepts, theories, and development of number sense, numeration, numerical operations, and algebraic thinking.**

Middle level mathematics teachers:

Indicator 1: Demonstrate number sequences, patterns, and functional relationships as they apply to real numbers.

Indicator 2: Demonstrate numeration systems with physical models.

Indicator 3: Develop symbolic logic, induction, and equivalence relations.

Indicator 4: Develop and apply number theory concepts in mathematical problem situations and in real world settings.

Indicator 5: Demonstrate basic set theory.

Indicator 6: Use software for promoting and extending concepts of numeration.

**Standard 2: Middle level mathematics teachers understand and use the major concepts of geometry, measurement, spatial sense, and the properties of relationships of two- and three-dimensional space.**

Middle level mathematics teachers:

Indicator 1: Demonstrate Euclidean geometry.

Indicator 2: Use reasoning, conjecturing, and written arguments to verify generalizations and develop proof.

Indicator 3: Apply transformations in two- and three-dimensional space and use and explain congruence, similarity, and symmetry.

Indicator 4: Use various representational systems to solve problems.

Indicator 5: Demonstrate geometric connections within mathematics, other content areas, and life situations.

Indicator 6: Use spatial reasoning and visualization to solve problems.

Indicator 7: Use systems of measurement within mathematics, other content areas, and life situations.

Indicator 8: Use technology to develop and apply geometric concepts.

**Standard 3: Middle level mathematics teachers demonstrate knowledge of the major concepts, theories, and development of patterns, relationships, and functions.**

Middle level mathematics teachers:

- Indicator 1: Use algebraic processes, concepts, and techniques to solve a variety of relevant and authentic problems.
- Indicator 2: Represent situations and number patterns with tables, graphs, verbal rules, and linear and non-linear equations, and explore connections between these representations.
- Indicator 3: Use physical models, charts, graphs, equations, and inequalities to describe mathematical relationships in and out of the classroom.
- Indicator 4: Use diverse examples of functions arising from a variety of problem situations and investigate the properties of these functions through appropriate technologies, including graphing utilities and graphing calculators.
- Indicator 5: Use realistic problems involving areas, volumes, curve lengths, average and instantaneous rates of change, and relate these problems to the concepts of differentiation and integration.
- Indicator 6: Use matrices to represent systems of equations and solve problems making use of technology as appropriate.
- Indicator 6: Demonstrate recursive definitions of sequence and functions, and use recursion and technology to model these processes.

**Standard 4: Middle level mathematics teachers understand and use the major concepts of probability and statistics including collecting, displaying, analyzing, and drawing conclusions from data.**

Middle level mathematics teachers:

- Indicator 1: Demonstrate an ability to formulate questions, design studies, and collect data to address those questions.
- Indicator 2: Represent data in a variety of dispersion and central tendencies.
- Indicator 3: Use statistics and probability as valuable strategies for decision making.
- Indicator 4: Develop and evaluate inferences, predictions, and arguments that are based on data from a sufficiently large and unbiased sample.
- Indicator 5: Use organized lists, permutations, and combination to construct a sample space for determining theoretical probabilities and understand the connection to experimental probabilities.

Indicator 6: Use appropriate technology to collect, display, organize, and interpret data.

**Standard 5: Middle level mathematics teachers understand and use the processes of problem solving, reasoning and proof, communication, connection, and representation as the foundation for the teaching and learning of mathematics.**

Indicator 1: Middle level mathematics teachers understand and practice a variety of problem solving strategies.

Indicator 2: Middle level mathematics teachers understand and practice reasoning and proof as aspects of mathematics.

Indicator 3: Middle level mathematics teachers understand and use a variety of strategies to communicate mathematics.

Indicator 4: Middle level mathematics teachers identify and use connections that facilitate mathematical understanding.

Indicator 5: Middle level mathematics teachers understand and use mathematical representations.

**Standard 6: Middle level mathematics teachers understand and use a variety of instructional strategies and tools to promote student understanding of mathematics.**

Indicator 1: Middle level mathematics teachers recognize students' level of mathematical understanding in order to implement the appropriate instructional practice.

Indicator 2: Middle level mathematics teachers are able to identify, prescribe, and use a variety of tools.

## Attachment C

### Middle Level Science Content Standards

**Standard 1: Middle level science teachers should understand and use the main ideas in the *life, physical, and earth sciences*.**

Indicator 1: Middle level science teachers demonstrate knowledge of the major concepts, theories, historical developments, and exhibit scientific literacy in the life sciences including the following:

- Genetics
- Cellular parts and processes
- Growth, development, and reproduction
- Structure and function of organisms and their parts
- Human biology and disease
- Evolution
- Ecological relationships and interdependence
- Impact of human beings on the environment

Indicator 2: Middle level science teachers demonstrate knowledge of the major concepts, theories, historical developments, and exhibit scientific literacy in the physical sciences including the following:

- Atomic theory and periodic law
- Structure and properties of matter
- Chemical reactions
- Forces and motion
- Electricity and magnetism
- Waves and optics
- Energy

Indicator 3: Middle level science teachers demonstrate knowledge of the major concepts, theories, historical developments, and exhibit scientific literacy in earth science including the following:

- Geology: composition, structure, formation, properties, changes in, and uses of the earth and earth materials (rocks, minerals, fossils)
- Astronomy: origin and evolution of the universe and solar system, Earth-Moon-Sun system, deep space
- Meteorology and oceanography (global and local)
- Interacting systems and dynamics of the Earth (energy, ecosystems)
- Interaction of the Earth and living systems (pollution, conservation)

**Standard 2: Middle level science teachers demonstrate their knowledge and ability to unify concepts and processes in the *life, physical, and earth sciences*.**

Indicator 1: Middle level science teachers understand that the study of science is universal and

multidisciplinary and that the different sciences are integrated in many ways.

**Standard 3: Middle level science teachers understand the nature of science and the development of scientific thought and use that knowledge in their teaching.**

Indicator 1: Middle level science teachers understand that scientific theories and laws are consistent with observations and evidence and that knowledge gained has been subjected to challenges, skepticism, and public discussion.

Indicator 2: Middle level science teachers understand that scientific knowledge has been built on previous work, with contributions from diverse cultures, and that scientific advances have affected and changed society.

Indicator 3: Middle level science teachers understand that measurement is the basis upon which scientific laws and theories are based and that advancements in technology have made invaluable contributions to society.

**Standard 4: Middle level science teachers understand mathematical concepts and processes and use that knowledge in their science instruction.**

Indicator 1: Middle level science teachers should have a working knowledge of algebra, geometry, trigonometry, and probability and statistics.

Indicator 2: Middle level science teachers know how to chart and graph data and to interpret data from a variety of charts and graphs.

**Standard 5: Middle level science teachers model safe and appropriate scientific investigations and procedures to develop problem solving and critical thinking skills.**

Indicator 1: Middle level science teachers know and use necessary and appropriate safety laws, codes, and standards for all science activities.

Indicator 2: Middle level science teachers develop inquiry-based lessons and investigations that direct students to confront specific science concepts or issues and scientific knowledge.

Indicator 3: Middle level science teachers demonstrate the ability to anticipate questions, misconceptions, and necessary materials that help facilitate student learning of science concepts and issues in inquiry-based lessons and investigations.

Indicator 4: Middle level science teachers demonstrate the ability to model and facilitate the development of young adolescents' process skills in science inquiry and investigation.

**Standard 6: Middle level science teachers demonstrate their ability to design instruction that unifies science disciplines conceptually and procedurally to help young adolescents understand the natural world.**

Indicator 1: Middle level science teachers know the meaning of and use unifying concepts and processes to facilitate the learning of scientific concepts and principles by providing an interdisciplinary approach to the teaching of science.

## Attachment D

### Middle Level Social Studies Content Standards

**Standard 1: Middle level social studies teachers have a broad knowledge of world cultures, understand the interdisciplinary nature of social studies, and use this knowledge in their teaching.**

Indicator 1: Middle level social studies teachers understand and use the following geographic concepts:

- ❖ Five themes of geography
- ❖ Six essential elements of geography
- ❖ Map and globe skills
- ❖ Interpretation of thematic maps and other graphic representations

Indicator 2: Middle level social studies understand and use the following economic concepts:

- ❖ Supply and demand
- ❖ Interdependence/international trade
- ❖ Limited resources - resource allocation
- ❖ Opportunity cost
- ❖ Economic systems
- ❖ Free enterprises/market economy
- ❖ Planned/command economy
- ❖ Mixed economy
- ❖ Industrialization and technology
- ❖ Commercial and subsistence agriculture
- ❖ United States financial and banking institutions

Indicator 3: Middle level social studies teachers understand and use the following political science components:

- ❖ Local, state, and national governments
- ❖ United States founding documents
- ❖ United States judicial system
- ❖ Comparative governments
- ❖ International relations

Indicator 4: Middle level social studies teachers understand and use the following concepts of North Carolina, United States, and World history:

- ❖ Sense of chronology
- ❖ Cause and effect/multiple causation
- ❖ Continuity and change
- ❖ Differences in historical perspectives
- ❖ Social movements
- ❖ Economic cycles
- ❖ Conflicts and resolution

**Standard 2: Middle level social studies teachers connect social studies with the broad curriculum.**

Indicator 1: Middle level social studies teachers integrate communication skills and competencies in their instruction.

Indicator 2: Middle level social studies teachers enhance students' understanding of cultures and historical periods by incorporating the humanities (e.g. world and American literature, visual and performing arts, and languages).

Indicator 3: Middle level social studies teachers enhance instruction by making connections with scientific discoveries and technological innovations.

Indicator 4: Middle level social studies teachers incorporate mathematics in their instruction.

**Standard 3: Middle level social studies teachers understand the relevant applications of social studies and use that knowledge in their instruction.**

Indicator 1: Middle level social studies teachers facilitate student consideration, creation, or reflection of relevant applications of the content (e.g. citizenship, historical perspectives, and global interdependence).

**Standard 4: Middle level social studies teachers plan developmentally appropriate instruction that expands the horizons of young adolescents beyond local communities.**

Indicator 1: Middle level social studies teachers provide positive cultural learning experiences through multicultural literature and other activities.