

Massachusetts Tests for Educator Licensure (MTEL™)

FIELD 52: ACADEMICALLY ADVANCED TEST OBJECTIVES

Subarea	Multiple-Choice	Range of Objectives	Approximate Test Weighting
I.	Curricular Content	01–04	50%
II.	Promoting Learning in Academically Advanced Students	05–07	<u>30%</u>
			80%
	Open-Response		
III.	Application of Knowledge and Understanding	08	20%

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**Massachusetts Tests for Educator Licensure (MTEL™)
Test Objectives
Field 52: Academically Advanced**

SUBAREAS:

CURRICULAR CONTENT
PROMOTING LEARNING IN ACADEMICALLY ADVANCED STUDENTS
APPLICATION OF KNOWLEDGE AND UNDERSTANDING

CURRICULAR CONTENT [50%]

0001 Understand literature.

For example: understanding the characteristics of major literary genres (e.g., fiction, nonfiction, drama, poetry); demonstrating knowledge of the elements of fiction (e.g., plot, character, setting, theme); analyzing and interpreting literary devices (e.g., figurative language, imagery, symbolism, rhyme); analyzing excerpts to identify tone, voice, and other stylistic or thematic features; comparing and contrasting information presented in two passages; evaluating the logic, credibility, objectivity, or affective impact of nonfiction passages; demonstrating knowledge of literary response skills; understanding major authors, works, movements, themes, and periods of American and British literature; characteristics of world mythology, folk literature, and traditional narratives; and familiarity with well-known authors and works in African, Asian, European, and Latin American literature.

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0002 Understand rhetoric and composition.

For example: understanding principles of rhetoric and uses of language as they apply to various forms and purposes of oral and written communication (e.g., general principles of classical rhetoric; structural devices; application of modern rhetorical principles; strategies for speaking or writing effectively for a variety of audiences, purposes, and contexts; use of arrangement and organization, style and tone, and form of delivery); understanding the composition process (e.g., distinguishing features of various forms of writing; methods for defining a research problem; processes for generating and developing written texts; techniques for gathering, analyzing, and evaluating information; effective sentence, paragraph, and essay development; techniques for improving text organization; selection of appropriate details to support an argument or opinion; use of appropriate rhetorical, logical, and stylistic criteria for assessing written work; revising written texts to improve clarity and economy of expression); understanding the conventions of Standard spoken and written American English (e.g., accurate spelling, punctuation, and capitalization; techniques for editing written texts to achieve conformity with conventions of Standard American English usage and grammatical expression); and demonstrating an understanding of the applications of technology in the writing process.

0003 Understand number theory, algebra, patterns, and functions.

For example: understanding principles of number theory and the real number system; solving problems using number concepts (e.g., percent increase, ratios and proportions); analyzing how number properties relate to algebraic properties; simplifying algebraic expressions; analyzing properties of functions; modeling and solving problems using linear and quadratic functions and systems; understanding graphs, properties, and applications of exponential, polynomial, rational, and absolute value functions and relations; understanding the use of graphing calculators and computers to find numerical solutions to problems; understanding the conceptual basis of introductory calculus (e.g., the concept of limit, the relationship between slope and rates of change, the relationship between integration and the area under a curve); and modeling and solving problems using differentiation and integration.

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0004 Understand geometry, trigonometry, data analysis, probability, and discrete mathematics.

For example: using concepts of measurement; understanding the principles of Euclidean geometry and using them to prove theorems (e.g., congruence of triangles, properties of polygons) and justify geometric constructions; modeling and solving problems involving two- and three-dimensional figures; using coordinate and transformational geometry to prove theorems and solve problems (e.g., representing geometric figures in the coordinate plane; types of symmetry; properties of tessellations); applying right triangle trigonometry and the laws of sines and cosines; analyzing graphs and properties of trigonometric functions and their inverses; using trigonometric functions to model and solve real-world periodic phenomena; solving problems using probability (simple and compound) and statistics (data display, measures of central tendency and variability); and understanding the principles of discrete/finite mathematics (e.g., properties of sets, recursive patterns and relations, iteration, finite differences, linear programming, properties of matrices, characteristics and applications of graphs and trees).

PROMOTING LEARNING IN ACADEMICALLY ADVANCED STUDENTS [30%]

0005 Understand the assessment of cognitive abilities and of problem-solving skills in academically advanced students.

For example: demonstrating knowledge of types, uses, benefits, and limitations of formal and informal assessments (e.g., standardized tests, case studies, student portfolios, observations, interviews); creating, selecting, and evaluating assessment instruments and methods, including those used in prereferral situations; using a variety of assessment instruments to identify students who are academically advanced regardless of demographic group and to make recommendations regarding placement, programming, and service delivery; demonstrating an understanding of what constitutes high achievement in major subject areas; using formative and summative assessments to modify instruction and monitor student progress; demonstrating familiarity with terminology used in the assessment of academically advanced students (e.g., ceiling effects, performance gap, out-of-level testing); and communicating assessment and evaluation scores and other results to the appropriate audience.

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0006 Understand reasons, uses, and research evidence for differentiated instructional and grouping practices for academically advanced students.

For example: demonstrating knowledge of research-supported strategies and practices for providing instruction for academically advanced students (e.g., acceleration of formal learning by subject or grade level, tiered instruction, curriculum compacting, independent study, mentorships); demonstrating knowledge of important aspects of the instructional process for academically advanced students (e.g., designing advanced learning experiences, creating opportunities for analytical and creative thinking, providing accelerated pacing, promoting the use of research and experimentation); demonstrating knowledge of the principles and practices of differentiated instruction; demonstrating knowledge of the uses of different grouping practices for academically advanced students (e.g., ability grouping, cluster grouping, interest grouping, cross-age grouping); identifying ways to provide systematic, accelerated and enriched instruction in disciplinary and interdisciplinary studies; and identifying ways to modify instruction based on students' specific areas of strength and need.

0007 Understand program options, supplements, and curricular resources for academically advanced students.

For example: demonstrating knowledge of a variety of program options to meet the needs of academically advanced students (e.g., separate advanced academic programs; enrichment and advanced academic pull-out programs; distance learning; after-school, weekend, and summer programs; community-based programs); recognizing the types of services, networks, professional organizations, and general resources available to academically advanced students, their families, and educators; identifying sources of specialized materials and programming for academically advanced students; demonstrating an understanding of current curriculum options for academically advanced students in most schools; and promoting the use of varied and challenging ways for academically advanced students to demonstrate excellence to an appropriate audience.

**Field 52: Academically Advanced
Test Objectives**

APPLICATION OF KNOWLEDGE AND UNDERSTANDING [20%]

This section of the test will consist of two open-response items addressing content from the preceding objectives.

- 0008 Prepare an organized, developed analysis related to topics from one or more of the following: curricular content and promoting learning in academically advanced students.**

For example: demonstrating knowledge and understanding of one or more of the following topics: literature with a focus on American and British authors; principles of rhetoric and composition; number theory, algebra, patterns, and functions; geometry, trigonometry, data analysis, probability, and discrete mathematics; the assessment of cognitive abilities and of problem-solving skills in academically advanced students; reasons, uses, and research evidence for differentiated grouping and for instructional practices for academically advanced students; and program options, supplements, and curricular resources for academically advanced students.