



To: State Board of Education
From: Michael Rowland
Cc'ed: Karli Saracini, Joan Luneau, Melissa Jacks, David Baca
Date: June 2020
Re: Middle School Science Assessment Update

Middle School Science (5442) Licensure Assessment

Current Middle School Science (4-8) Licensure Assessment:	Proposed Middle School Science (4-8) Licensure Assessment:
Praxis® Middle School Science (5440)	Praxis® Middle School Science (5442) Recommended Cut Score: 147 (-1 SEM)
	Effective September 1, 2020

Rationale

Educational Testing Service (ETS) has updated its middle school science licensure test. The Praxis® Middle School Science (5440) is currently the test for Middle School Science (4-8) licensure. The updated test is the Praxis® Middle School Science (5442).

The Praxis® Middle School Science (5442) Study Companion describes the purpose and structure of the test. The test is designed to measure the knowledge and competencies necessary for a beginning middle school science teacher. The development of the test questions and the construction of the test reflect the National Science Teacher Association (NSTA) standards and recognize that there are conceptual and procedural schemes that unify the various scientific disciplines. These fundamental concepts and processes (systems; models; constancy and change; equilibrium; form and function) are useful in understanding the natural world.

The test content is developed and reviewed in collaboration with practicing middle school science teachers, teacher-educators, and higher education content specialists to keep the test updated and representative of current standards.

The two and a half-hour assessment contains 125 multiple-choice items covering four content areas: Nature and Impact of Science and Engineering (approximately 17 items), Physical Science (approximately 38 items), Life Science (approximately 38 items), and Earth and Space Science (approximately 32 items). The reporting scale for the Praxis Middle School Science test ranges from 100 to 200 scale-score points.

In January 2020, ETS conducted a multistate standard setting study in Princeton, NJ. One Arkansas science educator participated in the study. As a result, a study value of 152 was determined with 147 being the score with a -1 standard error of measurement (SEM). In February 2020, ETS representatives facilitated a state review of the Praxis® Middle School Science (5442) in Little Rock. Feedback from Arkansas educators indicate the Praxis® Middle School Science (5442) with a cut score of 147 is an appropriate test for Middle School Science (4-8) licensure.

For the Middle School Science (4-8) licensure assessment, the Division recommends adopting the Praxis® Middle School Science (5442) with a cut score of 147 replacing the Middle School Science (5440), effective September 1, 2020.