| **Advisory Board on Teacher Education**  **and Licensure** | **Seal of the Commonwealth of Virginia** |
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**AGENDA ITEM: 1**

**DATE: November 16, 2020**

**TOPIC: Recommendation for a Passing Score for the Praxis® Middle School Science (5442) Test for the Middle Education 6-8 Science Endorsement**

# **Statutory and Regulatory Authority**:

The *Code of Virginia* provides the authority for the Board of Education to promulgate *Licensure Regulations for School Personnel*.

Section[**22.1-298.1**](https://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-298.1/) of the *Code of Virginia*, states in part, the following:

§ [**22.1-298.1**](https://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-298.1/) **Regulations governing licensure.**

*C. The Board of Education's regulations shall include requirements that a person seeking initial licensure:*

*1. Demonstrate proficiency in the relevant content area, communication, literacy, and other core skills for educators by achieving a qualifying score on professional assessments or meeting alternative evaluation standards as prescribed by the Board;*

*2. Complete study in attention deficit disorder;*

*3. Complete study in gifted education, including the use of multiple criteria to identify gifted students; and*

*4. Complete study in methods of improving communication between schools and families and ways of increasing family involvement in student learning at home and at school.*

*Code of Virginia,* Section [22.1-16. Bylaws and regulations generally.](https://law.lis.virginia.gov/vacode/title22.1/chapter2/section22.1-16/)

*Code of Virginia,* Section [22.1-299. License required of teachers.](https://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-299/)

*Code of Virginia,* Section [22.1-305.2. Advisory Board on Teacher Education and Licensure.](https://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-305.2/)

The [*Licensure Regulations for School Personnel*](https://law.lis.virginia.gov/admincode/title8/agency20/chapter23/) state, in part, the following:

## [8VAC20-22-40](https://law.lis.virginia.gov/admincode/title8/agency20/chapter23/section40/). Conditions for Licensure.

*… B. All candidates who hold at least a baccalaureate degree from a regionally accredited college or university and who seek an initial Virginia teaching license shall obtain passing scores on professional teacher's assessments prescribed by the Virginia Board of Education. With the exception of the career switcher program that requires assessments as prerequisites, individuals shall complete the professional teacher's assessment requirements within the three-year validity of the initial provisional license….*

## [8VAC20-22-70](https://law.lis.virginia.gov/admincode/title8/agency20/chapter23/section70/). Additional Endorsements.

1. *An individual who holds a teaching license may add an additional teaching endorsement to the license by passing a rigorous academic subject test for endorsements in which a test is prescribed by the Virginia Board of Education. This testing option does not apply to individuals (i) who are seeking an early/primary education preK-3 or elementary education preK-6 endorsement, special education endorsements, or a reading specialist endorsement or (ii) who hold a Technical Professional License, Vocational Evaluator License, Pupil Personnel Services License, School Manager License, or Division Superintendent License.*

**Background:**

Currently, the Board of Education requires the following assessments for initial licensure:

• Virginia Communication and Literacy Assessment (VCLA);

• Praxis Subject Assessments; and

• Reading for Virginia Educators (RVE) for specified endorsements.

The Board prescribes the Praxis Subject Assessments as a professional teacher’s assessment requirement for initial licensure in Virginia. The current Board of Education’s prescribed assessment for middle education science is the Praxis® Middle School Science (5440).

The Praxis® Middle School Science (5442) test will replace the Praxis® Middle School Science (5440) test. This new test was designed and developed through work with practicing middle school science teachers, teacher educators, and higher education content specialists to reflect the science knowledge teachers need to teach the middle school science curriculum and to reflect state and national standards, including the National Science Teaching Association Preparation Standards for middle school science. Content and practices measured reflect the Disciplinary Core Ideas and Science and Engineering Practices established by the National Research Council in A Framework for K-12 Science Education and included in the Next Generation Science Standards.

In January 2020, a multistate standard-setting study was designed and conducted by the Educational Testing Service (ETS) to support the decision-making process of education agencies establishing a passing score (cut score) for the Praxis® Middle School Science (5442) test.

Panelists from 17 states and Washington, D.C., participated on the panel. The education agencies recommended panelists with (a) experience as either middle school science teachers or college faculty who prepare middle school science teachers and (b) familiarity with the knowledge and skills required of beginning middle school science teachers. ETS selected the participating panelist from the agencies’ nominations.

A detailed summary of the study, Multistate Standard-Setting Technical Report -- PRAXIS® MIDDLE SCHOOL SCIENCE (5442) is attached. The technical report contains three sections. The first section describes the content and format of the test. The second section describes the standard-setting processes and methods. The third section presents the results of the standard-setting study.

The [Praxis® Middle School Science Study Companion](https://www.ets.org/s/praxis/pdf/5442.pdf) document describes the purpose and structure of the test. In brief, the test measures the knowledge and competencies necessary for a beginning teacher of middle school science. 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.

### Multistate Standard-Setting Study

The Multistate standard-setting study for the Praxis® Middle School Science (5442) test is detailed in the attached report.

The following table presents the estimated conditional standard error of measurement (CSEM) around the recommended passing score. A standard error represents the uncertainty associated with a test score. The scale scores associated with one and two CSEM above and below the recommended passing score are provided. The conditional standard error of measurement provided is an estimate.

**Conditional Standard Error of Measurement Summaries**

**PRAXIS® MIDDLE SCHOOL SCIENCE (5442)**

|  | Raw Score | Scale Score Equivalent |
| --- | --- | --- |
| Recommended passing score (CSEM) | 61 (4.90) | 152 |
| - 2 CSEM | 52 | 140 |
| - 1 CSEM | 57 | 147 |
| +1 CSEM | 66 | 159 |
| +2 CSEM | 71 | 166 |

ETS provides a recommended passing score from the multistate standard-setting study to help

education agencies determine an appropriate operational passing score. For the Praxis Middle School Science test, the recommended passing score is 61 out of a possible 100 raw-score points. The scale score associated with a raw score of 61 is 152 on a 100–200 scale.

Information regarding the multistate standard-setting process will be presented to the Advisory Board members by Malik K. McKinley, Sr.,Director of Client Relations, Professional Educator Programs, Office for Teacher Licensure and Certification, Student and Teacher Assessment Division, Educational Testing Service.

## **Action**:

The Advisory Board on Teacher Education and Licensure is to receive the presentation by

Mr. McKinley on the multistate standard setting and recommend to the Board of Education a passing score for the Praxis® Middle School Science (5442) test.