

# Massachusetts Advances Deeper Learning Through Performance-Based Assessment

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**Massachusetts** is using its role as a federally approved [Innovative Assessment Demonstration Authority](#) state to pilot performance-based assessments that deepen student learning and provide richer insight into student progress.

This case study highlights an innovative approach to leveraging assessments that lead to more meaningful teaching and learning. The real innovation doesn't lie in the federal flexibility but in the state's long-standing commitment to high expectations and authentic learning experiences that serve all students. With an eye toward innovation, Massachusetts set out to create a new science assessment for fifth and eighth grades. The new assessment emphasizes high-level thinking through technology-enhanced performance-based tasks that represents a shift from a good science assessment to a great one.

## Key Innovation

The new assessment is designed to support the department's deeper learning goals for all students. Deeper learning is [defined](#) as mastery of challenging standards, modern skills and authentic, relevant work. The science assessment leverages technology by providing students the opportunity to use simulations and a storyboard to conduct experiments and then answer questions about what they have learned. This provides a chance to approach assessing standards in a way that mirrors the dynamic learning that takes place in the classroom. The computer-based performance tasks actively engage students in simulated science experiments where they apply findings to answer questions.

Massachusetts is piloting a model in science that replaces traditional multiple-choice-heavy tests with performance tasks that consist of:

- A storyboard.
- An interactive simulation in which students conduct an investigation, collect data or make observations.
- Selected-response items and constructed-response items aligned to state standards.

Standards are the cornerstone of the Massachusetts assessment. Students can demonstrate scientific practices and principles on these assessments —not just knowledge. The system allows students to showcase their abilities and not just what they know.

As a state that develops all its test questions rather than outsourcing them, the design process relies on teacher input. The general Massachusetts Comprehensive Assessment System [test development process](#) involves extensive review and field testing before any test question counts toward a student’s score.

There are two committees made up of educators to review both content and concerns related to bias and sensitivity. These groups work with the department to develop, review and approve all test items that are on assessments. The department emphasized the work of making all assessments culturally responsive. In this new assessment, the department sought to ensure the characters featured in storylines and questions are relevant to students. In addition to the formal test development process, the department also solicits feedback from the teachers who administer the new science assessment to gauge student interaction and gather additional feedback.

Together with teacher input, groups of districts volunteered to help develop the assessment before field testing. These districts helped the department consider the technology, what access to technology and accommodations for certain student groups would be required, before field testing began.

## Implementation and Capacity Building

The department has taken its time in developing the assessment to make sure they get it right rather than just done. The process has included field testing the tasks and questions over a two-year period. All fifth and eighth grade students are part of the field test, which adds a single performance task to the slightly shortened operational science assessment. The field testing will finish with the administration of the 2026 science assessment. The department’s goal is for the assessment to be operational in 2027.

As the department embarked on a new type of assessment, it required tapping into a different skill set and putting aside some of the lessons learned from creating more traditional assessments. There is a recognition that creating a new assessment type requires working on multiple fronts and extensive stakeholder involvement. An example of that work is in the area of instructional support, which has a science performance assessment [ambassador program](#). These ambassadors are district employees who support educators and students in their districts to become familiar with the science assessment practices that support deeper learning.

## State-Led Purpose

Massachusetts intentionally chose to improve an area of assessment to reinforce its broader vision for high standards and rigorous assessment. Massachusetts has long set high academic expectations for students, and the science pilot continues this pattern. The state's [goals](#) for the innovative science assessment are to:

- Serve as a model of deeper learning and illustrate the desired shift in classroom instruction.
- Measure what students can do instead of just what they know.
- Be more engaging, culturally inclusive and relevant for students.
- Create more equitable opportunities for all students to demonstrate what they know and can do.

This effort, which emphasizes inquiry, analysis and application, demonstrates how assessments can serve as more than accountability tools. If implemented as intended, this effort can provide educators with usable end-of-year feedback to reinforce high-quality instruction and support statewide science goals.

## Next Steps

As the new assessment enters its final year of [field testing](#), one of the considerations that will need to be addressed is timing. Assessing a student's scientific knowledge using performance-based tasks has proven to be more time-consuming than a standard multiple-choice test. During field testing, each student is given only one performance-based task with multiple response items to test during the operational spring assessment. Additional timing consideration for the assessment may arise as the test is rolled out in 2027 since the department would like to maintain testing times. At this time, the department can't know the exact effect performance tasks will have on testing times when students are expected to complete five performance tasks.

Massachusetts will continue monitoring results to determine whether performance-based assessment can expand beyond science into other subjects and grades.

See additional [special reports](#) in this series for more information.