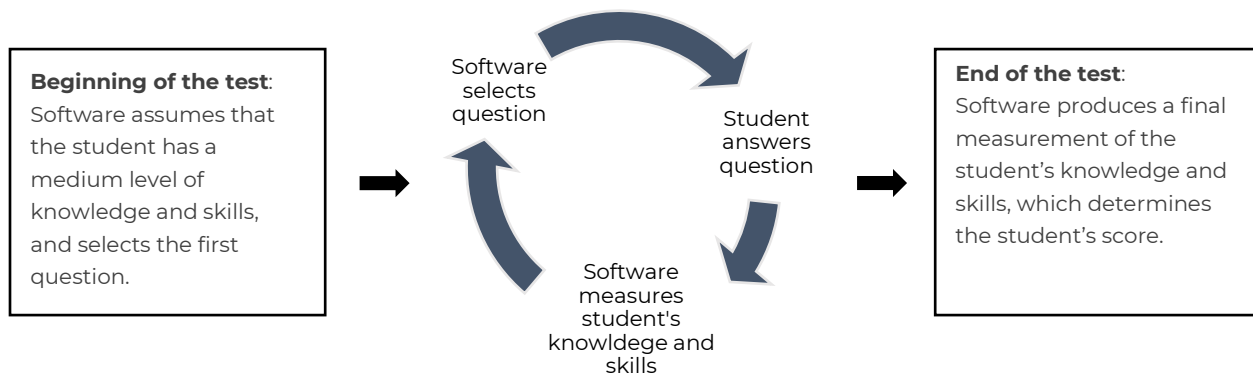


Beginning in the 2022-2023 testing season, the Maryland State Department of Education (MSDE) introduced Computer-Adaptive Testing (CAT) to assess students in mathematics. In a computer-adaptive test, there is a pool of questions of different difficulty levels, and each student is only tested on a subset of those questions. Test questions for each student are selected from the pool based on how the student has answered prior questions while meeting the requirements of content, test design, and policy.

Each time the student answers a question, the test software will measure what the student knows and can do based on their performance up to that point. This measurement will determine the difficulty of the next question. The purpose is to zero in and measure, as precisely as possible, the student's knowledge and skills in the tested subject and grade level.



The student must answer each question before moving to the next. Once the test is complete, the software will produce a final measurement of the student's knowledge and skills based on how many questions were answered correctly, and the difficulty level of these questions. More difficult questions, if answered correctly, will result in a higher measurement. A higher measurement, in turn, will be converted into a higher test score.

All questions in the CAT, no matter their level of difficulty, are grade-level appropriate. Furthermore, all students are tested on the same test blueprint, which describes the structure and content of the test, including the topics that will be tested and the number and types of questions that will be used. This ensures that all students are tested on the same standards.

## BENEFITS OF COMPUTER-ADAPTIVE TESTING

<b>Tailored to Each Student</b>	<ul style="list-style-type: none"> <li>• Since questions are tailored to each student, CAT provides a more personalized testing experience.</li> <li>• All students experience an appropriate level of challenge.</li> </ul>
<b>More Precise Measurement</b>	<ul style="list-style-type: none"> <li>• CAT has greater precision to measure students' knowledge and skills for all students, in particular, students who are struggling and students who are more advanced compared to their peers.</li> </ul>
<b>More Actionable Results</b>	<ul style="list-style-type: none"> <li>• CAT scores reflect more accurately what students know and can do.</li> <li>• Results are more helpful for educators to identify which students may need greater support and which students may be ready for more advanced work.</li> </ul>

## FREQUENTLY ASKED QUESTIONS

### 1. In a computer-adaptive test, each student may answer a different set of questions. So, how can test results be aggregated and compared?

To ensure comparability of results, the same test blueprint is used to test all students. The test blueprint describes the structure and content of the test, including the topics that will be tested and the number and types of questions used. Questions in a computer-adaptive test are tailored to each student, but all questions, no matter their difficulty level, are grade-level appropriate. Harder questions, when answered correctly, will lead to a higher test score.

### 2. Will the traditional, linear test still be administered in mathematics after the introduction of computer-adaptive testing?

Yes, computer-adaptive testing has been introduced for mathematics grades 3 to 8, and for Algebra I. However, the traditional or linear form of the test will still be administered in Algebra II and Geometry. In addition, the traditional or linear form of the test will be available for any student who needs accessibility features and/or requires this format based on their approved accommodations. English Learners who are approved to be assessed in Spanish will also take the linear version of the test.

### 3. How long are the computer-adaptive tests in mathematics and how much time do students have to answer all questions?

The MCAP mathematics assessments have approximately 35 questions organized into four sections. All students have the opportunity to answer the same number of questions. Students must answer each question before moving to the next, and they have up to 40 minutes per section.

**4. Will students be able to review their answers before submitting them?**

Yes, within each section, students will be able to go back and review their answers before submitting the section. When a student reviews an answer and the answer changes from wrong to right, the student will earn a higher score. However, the new answer will not change any question that the student has already seen. Once all the questions in a section are answered and submitted, the student will no longer be able to go back and review the questions in that section.

**5. How are unanswered questions handled in the math computer-adapted tests?**

Students must answer each question before moving to the next. However, there may be cases where a student may leave questions unanswered. For example, a student may answer each question and move through the test but run out of time before getting to answer all test questions. Leaving questions unanswered will have an impact on the reported score. For reporting, the student's score will be adjusted down based on the number of unanswered questions.

**6. How are constructed response questions handled in the math computer-adapted tests?**

Constructed response questions are questions where a student must provide a written explanation of how they solved a math problem. Answers to constructed response questions are left unscored during the test, since they will be scored at a later time by scoring professionals and/or by an artificial intelligence engine. The student's responses to this type of question will have no impact on the difficulty level of subsequent questions.