

## Diagnostic Assessments – Frequently Asked Questions (FAQ)

### **What is the purpose of the ESTAR and MSTAR Diagnostic Assessments? What decisions can they help you make?**

The purpose of the ESTAR and MSTAR Diagnostic Assessments is to help teachers identify students' level of understanding and misconception of critical content areas in pre-algebra. Subsequently, this information can be used to plan instruction targeted to address those gaps.

### **How was the blueprint for the Diagnostic Assessments developed?**

The blueprint for the Diagnostic Assessment is the foundational document used to create the mathematics tests and items. The test blueprint is what guides all of the decisions in the design of the assessment, including the content to be assessed by the items and the number of items written to assess each mathematical concept. For the ESTAR and MSTAR Diagnostic Assessments, the test blueprint was mapped out by the number of items to be written for each learning progression sub-level, level of cognitive engagement, and relative difficulty.

A development team involving mathematicians, mathematics researchers, and Texas mathematics educators was created to begin assimilating a general framework for the learning progressions. Researchers looked at evidence from the NRC publication called *Adding It Up* on how students learn, examined research on the subject from leading experts, and incorporated content from the Texas Essential Knowledge and Skills. Next, they created a title for two key content areas for algebra-readiness – Understanding Positive Rational Numbers and Variables, Expressions, and Equations. A team of researchers organized the standards according to “what comes next” in students’ understanding.

Further synthesis of the research literature about mathematics learning for algebra content expounded the two identified learning progressions to articulate a sublevel description of each standard. Rigorous internal and external reviews by mathematics experts and Texas mathematics educators finalized this document as the blueprint for the diagnostic assessments.

### **More specifically, how have Texas teachers been involved in the development and review of the Diagnostic Assessments?**

Leaders in Texas education have been involved in the ESTAR and MSTAR Diagnostic Assessments throughout the development process. As you now know, Texas educators participated in the development of the blueprint, and teachers from districts from across the state of Texas were invited to write the mathematics items that are included in the Diagnostic Assessments.

Texas teachers also served as reviewers for the items. We received valuable feedback about the grade level appropriateness of the items, the accuracy of the mathematical content of those items, and how the knowledge and skills assessed by the items reflect classroom level practices and instruction. That feedback was incorporated in the final revision process.

Finally, the items written for the Diagnostic Assessments were pilot tested with thousands of students in a cross-section of Texas districts. The pilot test was critical to the development of the assessments and provided us with essential information about how the items performed, whether the knowledge and skills articulated in the learning progression developed in the sequence we hypothesized, and whether the items accurately represented students' mathematical knowledge and skills, as well as their common errors and misconceptions.

### **Is there other training to support the use of the Diagnostic Assessments?**

Teachers are encouraged to take TXAR Professional Development courses for the ESTAR and MSTAR Diagnostic Assessments, including the course on Learning Progressions, MSTAR Implementation Tools, and Diagnostic Assessment Training.

### **How are the Diagnostic Assessments different from the ESTAR and MSTAR Universal Screeners?**

The ESTAR and MSTAR Universal Screeners and Diagnostic Assessments are intended to work together, yet they serve different purposes. The Universal Screeners identify students who are at risk for not being successful in algebra. The Diagnostic Assessments are given only to those students who are at risk (that is, students in Tier 2 or 3). The Diagnostic Assessments delve into the WHY students are struggling and helps determine which specific concepts student do not understand. In order to provide this level of detailed information about student performance, the Diagnostic Assessments have more questions and take longer to administer than the Universal Screeners.

### **How are the ESTAR and MSTAR Diagnostic Assessments different from other benchmark testing for the state assessment?**

The ESTAR and MSTAR Diagnostic Assessments are focused specifically on key algebra-readiness skills. Other benchmark tests or benchmark screening assessments will have a different blueprint and/or may cover a broader range of content.

### **How long will it take a student to complete an ESTAR or MSTAR Diagnostic Assessment?**

ESTAR and MSTAR Diagnostic Assessments are designed to give you detailed information about student understanding. In order to provide reliable information, each diagnostic assessment is longer than the ESTAR and MSTAR Universal Screeners. They typically take 45 minutes to complete; however, the number of questions the student sees is based on his or her responses. The assessment will limit the number of questions the student sees if the student struggles within a specific Learning Progression level. Students may take breaks during the assessment and may also pause the assessment and resume it at a later time.

### **Some of my students did not answer as many questions as other students on the same ESTAR or MSTAR Diagnostic Assessment. Is that ok?**

The ESTAR and MSTAR Diagnostic Assessments are designed with a stopping rule that discontinues the administration of items within a Sublevel once the student has shown a lack of understanding. Given that all students have different levels of knowledge and skills as well as different strengths and weaknesses, this may mean that students respond to more items on the assessment overall or even more items within a level of the assessment than their peers. This stopping rule is intended to prevent the student from becoming frustrated by limiting the number of items the student sees. In particular, it prevents a student from seeing questions that she is likely to answer incorrectly based on her pattern of previous responses.

### **Should the Diagnostic Assessment be used to replace your district's benchmarking system for the state assessment?**

No. The ESTAR and MSTAR Diagnostic Assessments should be given to help teachers and administrators understand why students are struggling with specific algebra-readiness knowledge and skills. Teachers can use this information to design specific interventions for students in Tiers 2 and 3.

### **How do the ESTAR and MSTAR Universal Screeners, the ESTAR and MSTAR Diagnostic Assessments, and STAAR relate?**

The ESTAR and MSTAR Assessments are components of STAAR.

The Universal Screeners serve two purposes. First, they help us identify students who may be at risk for not meeting our expectations in algebra and algebra-readiness skills. Second, they help us understand the intensity of support that those students need in order to be on track for success in algebra. The Universal Screeners are designed to be administered to all students during specific testing windows in the fall, winter, and spring. The purpose of the diagnostic assessments is to help identify why students

are struggling and to diagnose students' current level of understanding and areas of persistent misconceptions in algebra-readiness content. They should be administered following the Universal Screener in the fall, winter, and spring to only students in Tier Two or Tier Three who have been identified as at risk for not being ready for algebra.

**Are teachers expected to administer the ESTAR and MSTAR Diagnostic Assessments to every student?**

The ESTAR and MSTAR Diagnostic Assessments are only given to those students who are considered at risk for algebra readiness based on the results of the Universal Screener and other progress monitoring tools. These are optional tools to help support teachers' decision making.

**What format will the assessments take and how will they be administered?**

The ESTAR and MSTAR Diagnostic Assessments are available on the Project Share platform ([projectsharetexas.org/](http://projectsharetexas.org/)). While the assessments were designed to be completed online, teachers will also have the option to print English or Spanish versions of each assessment. The ESTAR and MSTAR Diagnostic Assessments will be made available for predetermined testing windows during the fall, winter, and spring and will overlap with the administration of the ESTAR and MSTAR Universal Screeners.