

## Understanding and Interpreting *DOMA Basic Math Skills*

**Overview:** The *Diagnostic Online Math Assessment (DOMA) Basic Math Skills* was built on the Let's Go Learn OAASIS™ platform, which uses adaptive assessment technology to intelligently decide which specific test items will be given to each student. Based on individual student performance during the assessment, *DOMA*, with OAASIS's help, adjusts in difficulty, item selection, and construct selection. The purpose of OAASIS is to maximize the diagnostic range of the assessment in the fewest number of questions presented to a student.

**Test Duration:** Our philosophy in designing *DOMA Basic Math Skills* was to create a valid and reliable assessment. However, this cannot be achieved as a “quick” assessment. When completed, the assessment will provide teachers with solid diagnostic information on the students who have taken it. As you prepare to administer *DOMA Basic Math Skills*, please keep the following in mind:

- On average, this assessment will take 30 to 60 minutes to complete. Struggling students with greater gaps in their abilities may take longer.
- Choose a testing duration that is appropriate for your class. This assessment can be taken in multiple sittings. *DOMA* can be stopped at any time, and when resumed, it will continue where your students left off.
- The biggest variable in student assessment is the student himself or herself. Be sure to stress to students the seriousness of taking this diagnostic assessment and monitor them as they are being assessed. Watch for fatigue; stop the assessment for students if you feel it is necessary and continue later.

**How to Read the Grade-Level Strand Scores:** Students are given criterion-referenced, grade-level scores in the following three strands: Number Skills, Fractions, and Measurement. The purpose is to provide teachers with an approximate grade-equivalent score showing the student's general achievement. Depending on your school, district, or state, your exact grade-level expectation may vary. Regardless of any variance in grade-level definitions, you can use these scores as benchmarks to measure individual progress or progress relative to the class.

**How to Read the Construct Mastery Report:** In the Construct Mastery Report, each of the three strands is broken down into individual testing constructs and organized by grade level. Next to each construct, you will find one of three marks:

- nt (not tested): "nt" indicates that the student was not tested in this construct of the assessment. This may be because it was either above or below the student's grade-level range or because it was skipped as the OAASIS platform adjusted for individual performance.
- (  ): An empty box is an indication that the construct was tested but the student did not demonstrate mastery.
- (  ): A checked box is an indication that the construct was tested and the student demonstrated mastery.



**How the Strands Are Organized:** The specific constructs measured by each strand are listed in the detailed report. Each construct represents a set of questions containing a minimum of 3 to a maximum of 10 questions. We use sets of questions to increase the validity of our assessments. This reduces the risk that a single incorrectly answered question will skew the results.

- **Number Skills Strand:** The number skills strand starts the assessment *one year below* the student's current grade level. In order to quickly get to a student's ceiling of knowledge, the assessment skips sections when moving forward or backward along constructs. Skipped sections are indicated by the "nt" values in the detailed report. You should look for the point where checked boxes (indicating mastery) and unchecked boxes (indicating non-mastery) come together. This is the diagnostic point where instruction should begin. Non-mastered boxes that come before this terminating point represent gaps in the student's knowledge.
- **Fractions Strand:** The fractions strand specifically focuses on fractions and orders constructs from easiest to hardest. The highest checked box indicates where students' fraction knowledge generally ends and where instruction should begin. This strand also skips sections in order to jump to the student's ceiling of fraction knowledge.
- **Measurement Strand:** The measurement strand is non-linear in nature, meaning that mastery of one construct does not assume mastery of previous constructs. This strand also starts *one year below* the student's grade level and tests through the highest construct at the student's own grade level. Above-grade-level constructs are only tested if a student demonstrates mastery at his or her own grade level. If testing moves into constructs above a student's grade level, it continues until the student does not demonstrate mastery of a single construct.

**What This Means for Instruction:** When planning differentiated instruction for students based on the *DOMA Basic Math Skills* assessment, use the following guidelines:

- In the number and fraction skills strand, differentiated instruction should begin at the student's ceiling of performance on each construct.
- In the measurement strand, instruction should focus on constructs that have not been mastered. Start with the lower grade-level constructs first; then move instruction for the student upward.
- Finally, look for any gaps in knowledge, indicated by unchecked boxes before the ceiling construct. These gaps could be preventing students from advancing.

**Happy Assessing!**