

# Using *i-Ready* to Address Dyscalculia

## Screening Requirements

Curriculum Associates Assessment Brief | October 2023

### Overview

This document provides early insight into how *i-Ready Assessment* can be used to screen students for risk factors for dyscalculia.

### Background

The Diagnostic and Statistical Manual of Mental Disorders, or DSM-5, defines dyscalculia as a specific learning disorder and an impediment in mathematics, evidencing problems with:

- Number sense
- Memorization of arithmetic facts
- Accurate and fluent calculation
- Accurate mathematical reasoning

The *i-Ready Diagnostic* for Mathematics for Grades K–3 does not currently have a validated clinical approach to determining risk factors for dyscalculia. However, the *i-Ready Diagnostic* can help identify students who are having trouble with mathematics as well as those who demonstrate a pattern of mathematics difficulties in the areas noted by the DSM-5.

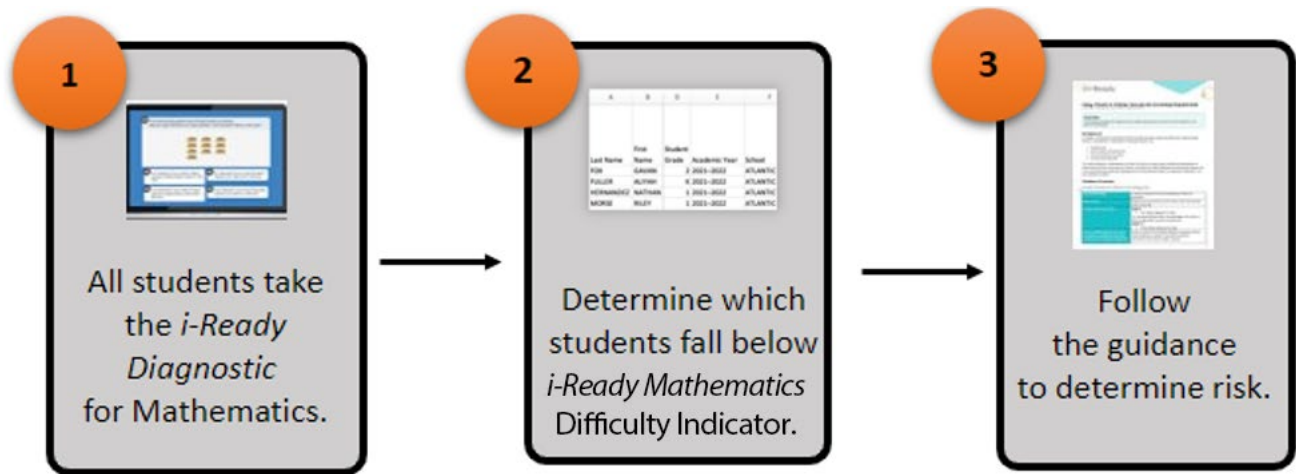
### Guidance Summary

This table summarizes key components of the screening process.

<b>Goal of Screening</b>	To identify students who may be exhibiting risk factors for dyscalculia and to provide information for individualized instruction and intervention, as needed
<b>Times of Year</b>	Students can be screened up to three times a year during the fall, winter, and spring.
<b>Grades and Assessments</b>	<b>Grade K</b> Winter/spring: <i>i-Ready Diagnostic</i> for Mathematics—It is recommended that Grade K screening begin in the winter to allow for high-quality instruction during the fall. <b>Grades 1–3</b> Fall/winter/spring: <i>i-Ready Diagnostic</i> for Mathematics
<b>How to Identify Students Who May Benefit from Additional Instruction, Assessment, or Progress Monitoring</b>	Use results from the <i>i-Ready Diagnostic</i> alongside other information to determine a student’s risk level for exhibiting characteristics that may be related to dyscalculia.

# Screening Process

To meet screening needs using *i-Ready*, it is recommended that educators follow the steps below. This guidance is not intended to supersede any state or local provisions and is provided as a suggested approach that educators can use. The process for screening uses the *i-Ready Diagnostic*. The screening process is summarized in the following figure and steps.



## Using *i-Ready* to Identify Students with Mathematics Difficulties Consistent with Dyscalculia

Curriculum Associates suggest a two-step approach to determining whether further investigation into dyscalculia is warranted for students.

**Step 1:** The first step is to use the [i-Ready Mathematics Difficulty Indicator](#) (iMDI). The iMDI is a series of cut scores indicative of mathematics difficulties. If a student’s overall score is below the iMDI cut score, then the student is on track to being one or more years behind where they need to be to be proficient by the end of the year. If a student’s overall score falls below the iMDI, proceed to Step 2.

**Table 1: Recommended iMDI Cut Scores**

Grade	Beginning-of-Year Diagnostic/Fall Cut	Midyear Diagnostic/Winter Cut	End-of-Year Diagnostic/Spring Cut
K	318	334	350
1	347	365	383
2	387	402	416
3	413	427	440

**Step 2:** If the student's overall score is below the threshold in Table 1, the next step is to review the relevant domain score. From the beginning of the year in Grade K through the winter of Grade 1, use the Number and Operations domain score. For spring of Grades 1 and 2, use the Algebra and Algebraic Thinking domain score. If the student's score is below the threshold noted in Table 2, then further investigation into dyscalculia is warranted.

**Table 2: Recommended iMDI Cut Scores for Dyscalculia Investigation**

Grade	Beginning-of-Year Diagnostic/Fall Cut	Midyear Diagnostic/Winter Cut	End-of-Year Diagnostic/Spring Cut
K	Number and Operations: 329	Number and Operations: 349	Number and Operations: 363
1	Number and Operations: 363	Number and Operations: 373	Algebra and Algebraic Thinking: 386
2	Algebra and Algebraic Thinking: 394	Algebra and Algebraic Thinking: 413	Algebra and Algebraic Thinking: 425
3	Algebra and Algebraic Thinking: 425	Algebra and Algebraic Thinking: 431	Algebra and Algebraic Thinking: 439

For additional information on using *i-Ready* assessments to screen for risk factors associated with dyscalculia, contact your educational sales consultant or partner success manager.

## Appendix: Rationales for Dyscalculia-Associated Designations

The following table notes the rationale for students being designated as warranting further investigation into dyscalculia.

**Table 3: Rationale for Dyscalculia Investigation**

Grade	Beginning-of-Year* Diagnostic/Fall Cut	Midyear* Diagnostic/Winter Cut	End-of-Year* Diagnostic/Spring Cut
K	Difficulty with mathematics in general and specific difficulty with recognizing numerals to 10 (i.e., number sense)	Difficulty with mathematics in general and specific difficulty pairing numbers and objects (i.e., number sense)	Difficulty with mathematics in general and specific difficulty with adding and subtracting within 5 (i.e., memorization of arithmetic facts)
1	Difficulty with mathematics in general and specific difficulty with adding and subtracting within 5 (i.e., memorization of arithmetic facts)	Difficulty with mathematics in general and specific difficulty with counting to 100 (i.e., number sense)	Difficulty with mathematics in general and specific difficulty with solving basic subtraction facts (i.e., accurate calculation)
2	Difficulty with mathematics in general and specific difficulty with solving addition problems (i.e., accurate calculation)	Difficulty with mathematics in general and specific difficulty with understanding that equations represent real-world problems and that the order of addends does not affect the sum (i.e., accurate math reasoning)	Difficulty with mathematics in general and specific difficulty with understanding the equal sign and determining if equations involving addition and subtraction are true or false (i.e., accurate math reasoning)
3	Difficulty with mathematics in general and specific difficulty with understanding the equal sign and determining if equations involving addition and subtraction are true or false (i.e., accurate math reasoning)	Difficulty with mathematics in general and specific difficulty with understanding using multiplication expressions to represent objects in a rectangular array (i.e., accurate math reasoning)	Difficulty with mathematics in general and specific difficulty with memorizing multiplication and division fact families (i.e., memorization of arithmetic facts)

\*Beginning of year defined as the beginning of the school year until November 15; midyear defined as November 16 until March 1; end of year defined as March 2 until the end of the school year