

Dyscalculia and Assessment- Early Childhood

Student Name: _____ **ID:** _____ **School:** _____

Age: _____ **DOB:** _____ **Grade:** _____ **Date:** _____

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (APA, 2013), defines dyscalculia as a specific learning disorder, an impediment in mathematics, evidencing problems with: Number sense; Memorization of arithmetic facts; Accurate and fluent calculation; and Accurate math reasoning.

Author's Note: Dyscalculia is a Specific Learning Disability that interferes with acquiring basic mathematics skills, such as math fact retrieval and mental and paper-and-pencil calculation, and cannot be explained by low intelligence or inadequate schooling (Encyclopedia of Adolescence, 2011). It can manifest in different signs and symptoms according to the individual and their age. Dyscalculia can equally present early or manifest late.

	Notes
<u>Indicator: Semantic</u>	
Early delays in counting objects or object sets	
Delayed response times on simple counting or computations	
Difficulty comparing values	
<u>Indicator: Procedural</u>	
Inefficient strategy usage when solving simple problems	
Problems with number sequencing	
<u>Indicator: Visual</u>	
Difficulty labeling, identifying, and/or combining shapes to match a model	
Difficulty with analyzing simple picture graphs	
Challenges analyzing and completing patterns	
Difficulty using pictures of clocks to tell time	

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		Section I - Scores						
	Functional Manifestation	Area Tested	Battery	Test Date	Cluster/Test	WJ IV ECAD Low/Below Average SS <40-89 PR<1-24	WJ IV ECAD Average SS 90-110 PR 25-75	WJ IV ECAD High/Above Average SS 111> PR 76>
						BEAS Significant to Mild Developmental Delay Subdomain Scaled Score 1-5	BEAS Low Average to Average Subdomain Scaled Score 6-11	BEAS High Average to Accelerated Development Subdomain Scaled Score 12-19
Primary Tasks of the WJ IV ECAD and BEAS for Early Mathematical Skills								
Measures	Difficulty with conceptual understanding	Math Reasoning and Problem Solving	BEAS		Measurement and Data			
					Operations and Algebraic Thinking			
					Geometry			
		Quantitative Reasoning	WJ IV ECAD		Number Sense			
Spatial/Temporal	Difficulty understanding geometric concepts and relationships. Difficulty with graphs, charts, and other visual math.	Visual Processing	BEAS		Geometry			
					Measurement and Data			
					Numbers Counting, and Sets			

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		Notes:						
Memory	Short-Term Working Memory: Difficulty with mental math. Frequently asks for directions to be repeated or gets lost in the middle of a problem or assignment. Long-Term Storage and Retrieval: Does well on daily assignments but struggles on formative assessments.	Number Identification	BEAS		Numbers, Counting, and Sets			
		Shape Identification	BEAS		Geometry			
		Number Sequencing	WJ IV ECAD		Number Sense			
		Quantitative Reasoning	WJ IV ECAD		Number Sense			

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	Difficulty recalling facts and related concepts and ideas. Speed of Lexical Access: Difficulty naming learned numbers quickly.							
Counting	Delays in counting objects or sets.	One-to-One Correspondence	BEAS		Numbers, Counting, and Sets			
		Comparing Values						
		Quantitative Reasoning	WJ IV ECAD		Number Sense			
Calculation	Gets the same problem wrong after solving it correctly previously.	Calculation	BEAS		Numbers, Counting, and Sets			
					Operations and Algebraic Thinking			
		Number Facts			Numbers, Counting, and Sets			
	When facts are retrieved, there is a high error rate.	Number Concepts						
		Quantitative Reasoning	BEAS		Operations and Algebraic Thinking			
			WJ IV ECAD		Number Sense			
Number Sense	Problems with sequence or order in computations.	Understanding Numbers and Concepts	BEAS		Numbers, Counting, and Sets Calculations			
		Number Facts						

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	Poor number identification.	Quantitative Reasoning			Operations and Algebraic Thinking			
	Requires excessive repetition of math facts for learning.		WJ IV ECAD		Number Sense			
		Notes:						

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Possible Cognitive Factors	Comprehension-Knowledge	WJ IV ECAD		Picture Vocabulary			
	Visual Processing			Visual Closure			
	Processing Speed			Rapid Picture Naming			
	Fluid Reasoning (and Comprehension-Knowledge)			Verbal Analogies			
Academic Screening	Reading			Letter-Word Identification			
	Writing			Writing (Early Form)			
Memory Tasks (without math)	Long-Term Storage and Retrieval			Memory for Names			
	Short-Term Working Memory			Sentence Repetition			