

Alberta Education Approved Literacy and Numeracy Assessments

Grades 1 – 3

Assessing students' learning in their early years provides critical information to teachers, parents, and Alberta's government to help at-risk students get the support that they need sooner. The primary objective of mandated assessments in Grades 1 – 3 is to ensure students have the necessary foundational literacy and numeracy skills to be successful in their education and beyond.

This document has been created as a resource to help school authorities choose an approved Grades 1 – 3 literacy and numeracy assessment program. Having an assessment program that can reliably identify student skill level and track progress over time is critical for successful student intervention and remediation.

Note: Alberta Education will review the approved list annually to ensure the assessment tools continue to meet critical criteria. New applications for other alternate literacy and numeracy screening tools will also be accepted.

Targeted Early Years Literacy Skills

Learning to read is a key objective of early childhood education; difficulties in learning to read can have serious adverse consequences. According to Hume and Snowling (2015), a proficient reader can decode print efficiently and build a coherent "mental model" of the passage being read. Being a good reader involves much more than having efficient decoding skills; however, adequate decoding is a prerequisite for developing comprehension skills.¹

Targeted Early Years Literacy Assessments

Assessing student decoding skills in the early years is crucial. Determining children's age-appropriate sub-lexical and lexical² reading abilities is the first step in identifying those in need of additional reading assistance. Many children will have difficulties with both the sub-lexical and the lexical routes to reading. These children will need instruction in both of these areas.

Sub-lexical reading skills involve the ability to form relationships between spellings and sounds which facilitate the process of being able to sound out new words. A good starting point is to make sure they know the sounds of all letters or letter combinations (e.g., <sh>). Lexical reading skills involve a child's ability to recognize words as whole units.

Approved Literacy Assessments

There are a number of literacy assessments that can provide reliable data to help identify children who are in need of literacy intervention. The best commercially available assessments tend to be quite costly and require some training to ensure that they are administered and interpreted correctly. To provide school authorities with reliable and easy-to-administer literacy assessments, Alberta Education is providing the following literacy assessments to all Alberta school authorities:

- *The Letter Name-Sound (LeNS) Test*, developed by Professor Rauno Parrila and Associate Professor Saskia Kohnen at the Macquarie University Centre for Reading. The LeNS assessment is designed to make sure that the child has the foundational phonics skills to develop into an independent reader. As such, it assesses a student's ability to sound out single letters and letter combinations (e.g., n, d, e, ch, ay, oa, oy). The *Tests Nom et son des lettres (NSLe)* is the equivalent in French to the LeNS Test. It was developed by Professor Alain Desrochers at the University of Ottawa. It assesses a student's ability to sound out single letters and French letter combinations (e.g., a, s, r, ou, ch, ain).

¹ Hulme, C., & Snowling, M. (2015). Learning to Read: What We Know and What We Need to Understand Better. *Child Development Perspectives*, 7(1): 1–5. doi: 10.1111/cdep.12005.

² Lexical representations correspond to whole word forms, whereas sub-lexical representations correspond to parts of words.

- *The Castles and Coltheart 3 (CC3) Test*, based on the *Castles and Coltheart Reading Test 2 (CC2)* designed by researchers at Macquarie University, led by Professor Anne Castles, and adapted to CC3 by Professor Rauno Parrila at the Macquarie University Centre for Reading. The CC3 is designed to identify the nature of a child's reading difficulties. As such, it assesses a student's ability to recall familiar and irregular words (e.g., *take, hand, island, cough*), and their ability to sound out non-words (e.g., *norf, framp, curve*) that were created specially for this assessment and are meant to be fictitious and without meaning. The *Test Castle et Coltheart 3 (CC3)* is also available in French. It was adapted by Professor Alain Desrochers of the University of Ottawa.

A comprehensive set of 80 literacy intervention lesson plans, which are aligned to the LeNS and CC3 assessment results, is available for teachers to use as a resource to help these students.

Commercially Available and Approved Literacy Assessments

The commercially available and approved literacy assessments listed below can provide reliable data to help plan any necessary literacy intervention initiatives. The following assessments are widely recognized as providing reliable scores for screening children for literacy difficulties.

- ***Acadience Reading K-6:***

Acadience Reading can be used to identify children at risk for reading difficulties and to determine the skills to target for instructional support.

- ***The Test of Silent Reading Efficiency and Comprehension® (TOSREC):***

TOSREC is a brief, group, or individually administered test that assesses silent reading of connected text for comprehension. Because the sentences are relatively easy to comprehend, this task is frequently used to quickly screen children for reading difficulties.

- ***The Test of Word Reading Efficiency—Second Edition (TOWRE-2):***

The TOWRE-2 is a measure of an individual's ability to pronounce printed words (Sight Word Efficiency) and phonemically regular nonwords (Phonemic Decoding Efficiency) accurately and fluently.

- ***Wechsler Individual Achievement Test®—Third Edition (WIAT-III):***

The WIAT-III has the following sub-tests to assess early reading skills: Oral Expression, Early Reading Skills, Word Reading, and Pseudoword Decoding.

- ***Wide Range Achievement Test—Fifth Edition (WRAT5™):***

The WRAT5™ has a Word Reading sub-test that measures untimed letter identification and word recognition. The examinee reads aloud a list of letters and words.

Targeted Early Years Numeracy Skills

To succeed at mathematics in the early years, children must integrate their early informal understanding of mathematics (often referred to as number sense) with formal mathematics. Developing number sense is critical to a child's ability to successfully progress in mathematics. According to Gersten and Chard (1999), number sense refers to "a child's fluidity and flexibility with numbers, the sense of what numbers mean and an ability to perform mental mathematics and to look at the world and make comparisons."³

³ Gersten, R., & Chard, D. (1999). Number sense: Rethinking arithmetic instruction for students with mathematical disabilities. *The Journal of Special Education*, 33(1), 18–28. <https://doi.org/10.1177/002246699903300102>

Approved Numeracy Assessments

A wide range of skills is associated with a child's number sense. Such skills include counting, number comparison, number writing, number ordering, and basic arithmetic. The importance of these early skills to later mathematical development is often asserted in the literature, and accordingly, an emphasis on developing number sense is warranted for all early years numeracy intervention programs.

Provincial Numeracy Screening Assessments for Grades 1 – 3 have been developed and used with permission by Dr. Heather Douglas, Dr. Chang Xu, Ph.D., and Dr. Jo-Anne LeFevre, Ph.D., Department of Cognitive Science, Carleton University Centre for Applied Cognitive Research, Carleton University. These assessments are rooted in current theory on mathematical cognition and development, and the results of these assessments can be used to help teachers identify and address gaps in their students' foundational understanding of numbers.

A set of numeracy intervention activities for each grade level is available for teachers to use as a resource to help these students.

Commercially Available and Approved Numeracy Assessments

The commercially available and approved numeracy assessments listed below can provide reliable data to help plan any necessary numeracy intervention initiatives. The assessments below are widely recognized as providing highly reliable measures that can be used to help assess specific numeracy skills.

- **Canadian Achievement Test 4 (CAT•4):**

The CAT•4 is a testing system that assesses essential learning outcomes in the following basic skill areas: reading, language, spelling, and mathematics. Note: While school authorities are permitted to use all components of this assessment system, only the subtest for Mathematics is to be considered approved for use as a numeracy assessment.

- **KeyMath™ 3 Diagnostic Assessment: Canadian Edition (KeyMath™ 3 DA) (English & French):**

Assesses mastery of essential mathematical concepts and skills, and assists in developing targeted-intervention programs.

- **Number Sense Screener™ (NSS™) Set, K–1, Research Edition:**

NSS assesses six key numerical competencies for Kindergarten and Grade 1 students: counting, number recognition, number comparison, nonverbal calculation, story problems, and number combinations.

- **Test of Early Mathematics Ability–Third Edition (TEMA-3):**

The TEMA-3 measures informal and formal (school-taught) concepts and skills in the following domains: numbering skills, number-comparison facility, numeral literacy, mastery of number facts, calculation skills, and understanding of concepts.

- **Wide Range Achievement Test–Fifth Edition (WRAT5™):**

The Math Computation sub-test assesses a student's ability to count, identify numbers, solve simple oral math problems, and calculate answers to written math problems.