

WYOMING MATHEMATICS ACADEMIC CONTENT STANDARDS

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WYOMING MATHEMATICS ACADEMIC CONTENT STANDARDS

for

Students with the Most Significant Cognitive Disabilities

RATIONALE

Wyoming has high academic expectations of all students as evidenced in the Wyoming Content and Performance Standards. The Wyoming Academic Content Standards Committee recognizes the mission of mathematics instruction as providing the essential skills that allow students with the most significant cognitive disabilities to achieve high academic expectations and to access the general academic curriculum. Instructional opportunities addressing the rigorous Academic Content Standards combined with instructionally supportive assessment with clear targets enable all students to achieve high standards of academic performance.

The *No Child Left Behind Act of 2001* (NCLB) and the *Individuals with Disabilities Education Act of 2004* (IDEA 2004) require students with the most significant cognitive disabilities to be assessed in the same grades as regular education students and to have access to challenging instructional opportunities linked to State Standards. These instructional opportunities are targeted in the Academic Content Standards.

The basis of the Academic Content Standards is to provide a K - 12 framework for instruction of students with the most significant cognitive disabilities and to assist school districts, schools, and communities in developing and strengthening curriculum rather than prescribing courses, materials, or instructional methodology. The Academic Content Standards specify the essential learning that all students must master. Teachers ensure that students achieve mastery by using a range of instructional strategies they select based on students' needs, the Academic Content Standards and grade specific Academic Benchmarks. The specifics of how the students acquire the knowledge and skills are determined at the district level.

The Academic Content Standards focus on a broad range of outcomes. Students with the most significant cognitive disabilities vary widely in their forms of communication and access skills. The basic skills essential to successful mathematics instruction are embedded at all benchmark levels. A teacher's instruction to these essential skills is differentiated on the basis of individual skills and communication levels of students. Students with the most significant cognitive disabilities access challenging standards at varying levels of complexity and often through the use of a wide range of accommodations and assistive technology.

ORGANIZATION OF ACADEMIC CONTENT STANDARDS

The Academic Content Standards specify the essential learning that must be mastered. Kindergarten through eighth grade teachers, students, and parents work toward the achievement of grade-level Academic Benchmarks. Ninth grade through eleventh grade teachers, students, and

parents work toward the achievement of the eleventh grade Academic Benchmarks. Success at each benchmark level requires the effort and commitment of teachers to create a learning environment that allows the student to reach that level.

The Academic Content Standards are presented in a three column format. The first column is a statement of each Wyoming State Benchmark in mathematics. The second column is a statement of the essence of the Wyoming State Benchmarks written as an Academic Benchmark. The increasing Levels of Complexity of the Academic Benchmarks are described with examples, in some cases, in the last column. The Levels of Complexity define the consistency of performance, level of independence, and instructional setting associated with the Academic Benchmark as the cognitive complexity and performance of the skill increases from a Level 1 (most basic) to a Level 4 (most complex).

There are five Academic Content Standards in mathematics including number operations and concepts, geometry, measurement, algebraic concepts and relationships, and data analysis and probability. Each Academic Standard has corresponding Academic Benchmarks. In some instances, the general education benchmarks have been combined and are represented by one Alternate Benchmark. A select few are not addressed given the cognitive complexity of the general education benchmarks. Teachers should be aware of the requirements at the next level of Academic Benchmark, even as they prepare for the current level, so prerequisite skills are introduced and experienced over time. They must also be aware of the requirements at the previous level so they address necessary prerequisite skills and continue to practice and apply the skills that have already been mastered.

IMPORTANT GENERAL TERMS

There are several important terms that need to be defined for educators, parents, and interested Wyoming citizens.

Academic Content Standards

State what students with the most significant cognitive disabilities are expected to know and be able to do. The specifics of how the students learn the knowledge and skills are determined at the district level. Academic Content Standards provide a common set of goals and expectations for all students with the most significant cognitive disabilities in Wyoming. They provide a consistent framework for challenging instruction to promote access to the general education curriculum.

Academic Benchmarks

Link to grade-level Wyoming Content Standard. They comprise the competencies, skills, and knowledge that students with the most significant cognitive disabilities need to know and be able to do at the grade level Academic Benchmarks in order to reach the Alternate Content Standard. In this document, grades kindergarten through eighth and grade eleven are specified in order to promote access to the general education standards and participation in rigorous levels of Academic Benchmarks that support individual growth.

ACADEMIC BENCHMARK TERMS

Complexity Level	Example Term (complexity level may vary depending on the skill or construct being measured)
4	Determines: Actively applies, selects or decides without presented choices.
4 - 3	Recognizes and labels: Combines two steps into a process.
4 - 3	Labels or Names: Actively applies or produces a name or label for a concept.
4 - 2	Chooses or Selects: Selects from a field of choices. Selects without presented choices.
4 - 2	Identifies: Passively selects a name or label when given choices. No product. Examples: Selects from 2 – 3 choices, points to, gestures, uses PECS, verbally labels, uses sign to show answer. Selects without provided choices.
3 - 2	Recognizes: Indicates a selection when given choices. No product.
3 - 2	Matches: For concrete objects, such as picture cards and word cards, pairs two like or related concepts. For actions, repeats the action. Examples: Selects like things, matches number to number or set to set.
2	Indicates: Shows through some action or signal, selects.
2	Interacts with: Shows active excitement or engagement with a task or activity, although may not correctly complete the task. Examples: Purposefully manipulates or touches, teacher stimulates a response or selection.
2 - 1	Responds to: Actively engages with a task or activity. Similar to Attends to , but at a slightly higher level. Examples: Recognizes and reacts.
1	Attends to: Actively shows that attention is being paid to a task or event. Examples: Watches teacher for an appropriate length of time; indicates interest.

INTRODUCTION TO THE ACADEMIC CONTENT STANDARDS

As described in the rationale, the Academic Content Standards represent a consensus of a diverse group of stakeholders from around the state of Wyoming including special education teachers, regular education teachers, parents, curriculum specialists, diagnosticians, and university representatives. In the spring and summer of 2005, representatives from these groups from many districts drafted Academic Content Standards using the Wyoming Content Standards and the previously written Expanded Standards. The Wyoming Content Standards were written in 1997 – 1998, and were last adopted in July, 2003. The committee that wrote these standards referenced several national and state standards to establish that the rigor of Wyoming standards is consistent with these documents, and adjustments were made as deemed appropriate by the state committees. Consequently, this rigor is found in the Academic Content Standards, which are directly linked to the Wyoming Content Standards. These documents included the following publications:

- National Council of Teachers of Mathematics, Curriculum and Evaluation Outcomes for School Mathematics.
- National Center on Education and the Economy, New Standards Performance Standards.
- Colorado Model Content Standards for Mathematics.
- Standards of Learning for Virginia for Mathematics.
- Mid-continent Research for Education and Learning (McRel).
- Wyoming Language Arts & Mathematics Expanded Content Standards, Spring, 2001
- Bloom's Taxonomy
- The Center for Applied Special Technology (CAST) Universal Design Principles

STANDARDS STRANDS

This document has been organized into five major strands: number operations and concepts, geometry, measurement, algebraic concepts and relationships, and data analysis and probability:

- 1. Number Operations and Concepts**
 - **Students sequence and use number operations and related concepts to solve problems.**
- 2. Geometry**
 - **Students recognize, sort, compare, and contrast geometric shapes and objects and relationships.**
- 3. Measurement**
 - **Students use tools to apply numbers and concepts to length, capacity, time, and weight.**
- 4. Algebraic Concepts and Relationships**
 - **Students recognize and extend patterns and use numbers and symbols to solve problems.**
- 5. Data Analysis and Probability**
 - **Students collect and organize data and make predictions based on given situations.**