

GRADE LEVEL CONTENT EXPECTATIONS



v.12.05

NUMBER & OPERATIONS

ALGEBRA

MEASUREMENT

GEOMETRY

DATA & PROBABILITY

Welcome to Michigan's K-8 Grade Level Content Expectations

Purpose & Overview

In 2004, the Michigan Department of Education embraced the challenge of creating Grade Level Content Expectations in response to the federal No Child Left Behind Act of 2001. This act mandated the existence of a set of comprehensive state grade level assessments that are designed based on rigorous grade level content.

In this global economy, it is essential that Michigan students possess personal, social, occupational, civic, and quantitative literacy. Mastery of the knowledge and essential skills defined in Michigan's Grade Level Content Expectations will increase students' ability to be successful academically, contribute to the future businesses that employ them and the communities in which they choose to live.

The Grade Level Content Expectations build from the Michigan Curriculum Framework and its Teaching and Assessment Standards. Reflecting best practices and current research, they provide a set of clear and rigorous expectations for all students and provide teachers with clearly defined statements of what students should know and be able to do as they progress through school.

Why Create a 12.05 Version of the Expectations?

The Office of School Improvement is committed to creating the best possible product for educators. This commitment served as the impetus for the revision of the 6.04 edition that was previously released in June of 2004. This new version, v.12.05, refines and clarifies the original expectations, while preserving their essence and original intent. As education continues to evolve, it is important to remember that each curriculum document should be considered as a work in progress, and will continue to be refined to improve the quality.

The revision process greatly improved the continuity from one grade to the next, and better ensured coherence both in content and pedagogy. To obtain more specific details about the revisions, please refer to the addendum included in this document. The forward of the *Across the Grades v.12.05* companion document also clarifies the types of changes made. Educators can access the *Across the Grades* companion document by visiting the Michigan Department of Education Grade Level Content Expectations web page at www.michigan.gov/glce.

Assessment

The Grade Level Content Expectations document is intended to be a state assessment tool with the expectations written to convey expected performances by students. The Office of Assessment and Accountability was involved in the development of version 12.05 and has incorporated the changes in the construction of test and item specifications for the K-8 Michigan Education Assessment Program (MEAP) and MI-Access. This updated version will assist us in the creation of companion documents, content examples, and to guide program planners in focusing resources and energy.

Curriculum

Using this document as a focal point in the school improvement process, schools and districts can generate conversations among stakeholders concerning current policies and practices to consider ways to improve and enhance student achievement. Together, stakeholders can use these expectations to guide curricular and instructional decisions, identify professional development needs, and assess student achievement.

Understanding the Organizational Structure

The expectations in this document are divided into strands with multiple domains within each, as shown below. The skills and content addressed in these expectations will in practice be woven together into a coherent, Mathematics curriculum. The domains in each mathematics strand are broader, more conceptual groupings. In several of the strands, the “domains” are similar to the “standards” in Principles and Standards for School Mathematics from the National Council of Teachers of Mathematics.

To allow for ease in referencing expectations, each expectation has been coded with a strand, domain, grade-level, and expectation number. For example, **M.UN.00.01** indicates:

M - Measurement strand

UN - Units & systems of measurement domain of the Measurement strand

00 - Kindergarten Expectation

01 - First Expectation in the Grade-Level view of the Measurement strand

Strand 1 Number & Operations	Strand 2 Algebra	Strand 3 Measurement	Strand 4 Geometry	Strand 5 Data and Probability
Domains				
Meaning, notation, place value, and comparisons (ME)	Patterns, relations, functions, and change (PA)	Units and systems of measurement (UN)	Geometric shape, properties, and mathematical arguments (GS)	Data representation (RE)
Number relationships and meaning of operations (MR)	Representation (RP)	Techniques and formulas for measurement (TE)	Location and spatial relationships (LO)	Data interpretation and analysis (AN)
Fluency with operations and estimation (FL)	Formulas, expressions, equations, and inequalities (RP)	Problem solving involving measurement (PS)	Spatial reasoning and geometric modeling (SR)	Probability (PR)
			Transformation and symmetry (TR)	

Preparing Students for Academic Success

Within the hands of teachers, the Grade Level Content Expectations are converted into exciting and engaging learning for Michigan's students. As we use these expectations to develop units of instruction and plan instructional delivery, it is critical to keep in mind that content knowledge alone is not sufficient for academic success. Students must be able to apply knowledge in new situations, to solve problems by generating new ideas, and to make connections between what they learn in class to the world around them. The art of teaching is what makes the content of learning become a reality.

Through the collaborative efforts of Michigan educators and creation of professional learning communities, we can enable our young people to attain the highest standards, and thereby open doors for them to have fulfilling and successful lives.

NUMBER AND OPERATIONS	Count, write, and order numbers
	N.ME.00.01 <i>Count objects in sets up to 30.*</i> N.ME.00.02 Use one-to-one correspondence to compare and order sets of objects to 30 using phrases such as “same number”, “more than”, or “less than”; use counting and matching. N.ME.00.03 Compare and order numbers to 30 using phrases such as “more than” or “less than.” N.ME.00.04 <i>Read and write numbers to 30 and connect them to the quantities they represent.*</i> N.ME.00.05 Count orally to 100 by ones. Count to 30 by 2’s, 5’s and 10’s using grouped objects as needed.
	Compose and decompose numbers
	N.ME.00.06 Understand the numbers 1 to 30 as having one, or two, or three groups of ten and some ones. Also count by tens with objects in ten-groups to 100. N.MR.00.07 <i>Compose and decompose numbers from 2 to 10, e.g., $5 = 4 + 1 = 2 + 3$, with attention to the additive structure of number systems, e.g., 6 is one more than 5, 7 is one more than 6.*</i> N.MR.00.08 Describe and make drawings to represent situations/stories involving putting together and taking apart for totals up to 10; use finger and object counting.
	Add and subtract numbers
MEASUREMENT	N.MR.00.09 Record mathematical thinking by writing simple addition and subtraction sentences, e.g., $7 + 2 = 9$, $10 - 8 = 2$.
	Explore number patterns
	N.MR.00.10 Create, describe, and extend simple number patterns.
	Explore concepts of time
	M.UN.00.01 Know and use the common words for the parts of the day (morning, afternoon, evening, night) and relative time (yesterday, today, tomorrow, last week, next year). M.TE.00.02 Identify tools that measure time (clocks measure hours and minutes; calendars measure days, weeks, and months). M.UN.00.03 Identify daily landmark times to the nearest hour (lunchtime is 12 o’clock; bedtime is 8 o’clock).
GEOMETRY	Explore other measurement attributes
	M.UN.00.04 Compare two or more objects by length, weight and capacity, e.g., which is shorter; longer; taller? M.PS.00.05 Compare length and weight of objects by comparing to reference objects, and use terms such as shorter; longer; taller; lighter; heavier.
	Create, explore, and describe shapes
	G.GS.00.01 Relate familiar three-dimensional objects inside and outside the classroom to their geometric name, e.g., ball/sphere, box/cube, soup can/cylinder, ice cream cone/cone, refrigerator/prism. G.GS.00.02 Identify, sort, and classify objects by attribute and identify objects that do not belong in a particular group.
	Explore geometric patterns
	G.GS.00.03 Create, describe, and extend simple geometric patterns.
	<i>* revised expectations in italics</i>