

COMMON CORE STATE STANDARDS



A Crosswalk to the Michigan Grade Level Content Expectations

Introduction

In June 2010, the Michigan State Board of Education adopted the Common Core State Standards (CCSS) as the state K-12 content standards for Mathematics and English Language Arts.

The complete CCSS standards document can be found at www.michigan.gov/k-12.

Districts are encouraged to begin this transition to instruction of the new standards as soon as possible to prepare all students for career and college. New assessments based on the Common Core State Standards will be implemented in 2014-2015. More information about Michigan's involvement in the CCSS initiative and development of common assessments can be found at www.michigan.gov/k-12 by clicking the Common Core State Standards Initiative link

The CCSS for Mathematics are divided into two sets of standards: the Standards for Mathematical Practices and the Standards for Mathematical Content. This document is intended to show the alignment of Michigan's current mathematics Grade Level Content Expectations (GLCE) to the Standards for Mathematical Content to assist with the transition to instruction and assessment based on the CCSS.

It is anticipated that this initial work will be supported by clarification documents developed at the local and state level, including documents from national organizations and other groups. This document is intended as a conversation starter for educators within and across grades. While curriculum revisions will be guided by local curriculum experts, ultimately the alignment is implemented at the classroom level. Educators will need to unfold these standards in order to compare them to current classroom practice and identify adjustments to instruction and materials that support the depth of understanding implicit in these new standards.

The crosswalk between the Grade Level Content Expectations and the Standards for Mathematical Content is organized by Michigan Focal Points/CCSS Critical Areas. There is not an attempt to show one-to-one correspondence between expectations and standards, because for the most part there is none at this level. The alignment occurs when looking across focal points/critical areas and/or across GLCE topics/CCSS domains.

Mathematical Practices

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These standards appear in every grade level and are listed below:

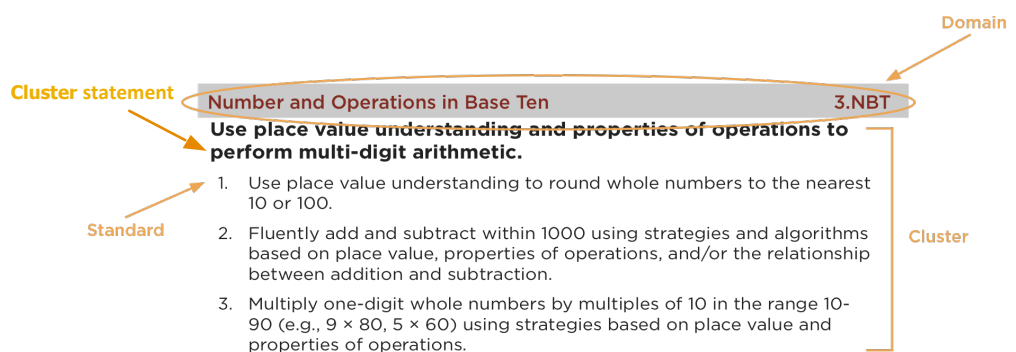
Mathematical Practices
<ol style="list-style-type: none"> 1. Make sense of problems, and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments, and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for, and make use of, structure. 8. Look for, and express regularity in, repeated reasoning.

Organization of the Common Core State Standards

Each CCSS grade level document begins with a description of the “critical areas.” These Critical Areas are parallel to the Michigan Focal Points. Below is a comparison of the Michigan Focal Points to the Critical Areas for this grade.

Michigan Kindergarten Focal Points	Common Core State Standards Kindergarten Critical Areas
Representing, comparing, and ordering whole numbers and joining and separating sets	Representing and comparing whole numbers, initially with sets of objects
Describing shapes and space	Describing shapes and space
Ordering objects by measurable attributes	

The standards themselves are organized by *Domains* (large groups that progress across grades) and then by *Clusters* (groups of related standards, similar to the *Topics in the Grade Level Content Expectations*).



The table below shows the progression of the CCSS domains and clusters across the grade before, the target grade, and the following grade.

PREKINDERGARTEN (MI) ¹	KINDERGARTEN	1ST GRADE
<p>ELE. 7. Develop an understanding of numbers and explore simple mathematical processes (operations) using concrete materials.</p>	<p>COUNTING AND CARDINALITY (CC)</p> <ul style="list-style-type: none"> • Know number names and the count sequence. • Count to tell the number of objects. • Compare numbers. 	
	<p>OPERATIONS AND ALGEBRAIC THINKING (OA)</p> <ul style="list-style-type: none"> • Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. 	<ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction. • Understand and apply properties of operations and the relationship between addition and subtraction. • Add and subtract within 20. • Work with addition and subtraction equations.
	<p>NUMBER AND OPERATIONS IN BASE TEN (NBT)</p> <ul style="list-style-type: none"> • Work with numbers 11–19 to gain foundations for place value. 	<ul style="list-style-type: none"> • Extend the counting sequence. • Understand place value. • Use place value understanding and properties of operations to add and subtract.
<p>ELE.2. Develop skills of comparing and classifying objects, relationships, and events in their environment.</p> <p>ELE. 5. Discover simple ways to measure.</p>	<p>MEASUREMENT AND DATA (MD)</p> <ul style="list-style-type: none"> • Describe and compare measurable attributes. • Classify objects and count the number of objects in categories. 	<ul style="list-style-type: none"> • Measure lengths indirectly and by iterating length units. • Tell and write time. • Represent and interpret data.
<p>ELE. 8. Build visual thinking skills through explorations with shape and the spaces in their classrooms and neighborhoods.</p>	<p>GEOMETRY (G)</p> <ul style="list-style-type: none"> • Identify and describe shapes. • Analyze, compare, create, and compose shapes. 	<ul style="list-style-type: none"> • Reason with shapes and their attributes.

¹ http://www.michigan.gov/documents/Early_Childhood_Standards_of_Quality_160470_7.PDF. It should be noted that the Mathematics Early Learning Expectations not listed in this chart map to the Standards for Mathematical Practices.

Alignment of Michigan Content Expectations to Common Core Standards by Michigan Focal Point

Michigan Content Expectations	Common Core State Standards
Focal Point Representing, comparing, and ordering whole numbers and joining and separating sets	Critical Area Representing and comparing whole numbers, initially with sets of objects
COMMON CONTENT	

Mathematical Practices

1. Make sense of problems, and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments, and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for, and make use of, structure
8. Look for, and express regularity in, repeated reasoning.

Count, write, and order numbers

- N.ME.00.01** Count objects in sets up to 30.
- 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** Read and write numbers to 30 and connect them to the quantities they represent.
- 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.

Know number names and the count sequence

- K.CC.1** Count to 100 by ones and by tens.
- K.CC.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.3** Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects

- K.CC.4** Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality.
- a. When counting objects, say the number names in the standard order; pairing each object with one and only one number name and each number name with one and only one object.
 - b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
 - c. Understand that each successive number name refers to a quantity that is one larger.

- K.CC.5** Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Compare numbers

- K.CC.6** Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)
- K.CC.7** Compare two numbers between 1 and 10 presented as written numerals.

Michigan Content Expectations

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 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.

- 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

- 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.

4.
5.
6.
7.
8.

CONTENT THAT IS DIFFERENT

Content moving into Kindergarten

1st Grade

Add and subtract whole numbers

N.FL.01.12 Know all the addition facts up to $10 + 10$, and solve the related subtraction problems fluently.

Common Core State Standards

Work with numbers 11-19 to gain foundations for place value

K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from

K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or equation.

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from

K.OA.5 Fluently add and subtract within 5.

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Michigan Content Expectations	Common Core State Standards
Focal Point Describing shapes and space	Critical Area Describing shapes and space

COMMON CONTENT

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.

Classify objects and count the number of objects in each category

K.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)

Identify and describe shapes (such as squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)

K.G.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

K.G.3 Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

Analyze, compare, create, and compose shapes

K.G.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

K.G.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

7. Look for, and make

CONTENT THAT IS DIFFERENT

Content moving out of Kindergarten

Explore geometric patterns

G.GS.00.03 Create, describe, and extend simple geometric patterns.

[Not in the Common Core State Standards]

Michigan Content Expectations

Common Core State Standards

Content moving into Kindergarten

2nd Grade

Identify and describe shapes

G.GS.02.02 Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes.

G.TR.02.06 Recognize that shapes that have been slid, turned, or flipped are the same shape, e.g., a square rotated 45° is still a square.

Analyze, compare, create, and compose shapes

K.G.6 Compose simple shapes to form larger shapes. For example, “can you join these two triangles with full sides touching to make a rectangle?”

Identify and describe shapes (such as squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)

K.G.2. Correctly name shapes regardless of their orientations or overall size.

Mathematical Practices

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Focal Point

Ordering objects by measurable attributes

Critical Area

COMMON CONTENT

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?

Describe and compare measurable attributes

K.MD.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

K.MD.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/ shorter.

CONTENT THAT IS DIFFERENT

Content moving out of Kindergarten

Explore other measurement attributes

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.

1st Grade

Measure lengths indirectly and by iterating length units

I. MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.

Michigan Content Expectations

Common Core State Standards

Explore concepts of time²

[Not in the Common Core State Standards]

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).

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² Not previously linked to a focal point



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