



North Carolina Department of Public Instruction
Mathematics

Mathematics K-12 Updates

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K-8 Mathematics Revised Standards



Standards

A **distinction** should be made between “standards” and “curriculum”

Standards are what we want students to know and be able to do – it’s the end result



Defining a Content Standard

State	Definition
North Carolina	A big, powerful idea that provides students with knowledge and skills that are valuable beyond a single test, are of value in multiple disciplines and provides students with the ability to move to the next level of learning
Ohio	The knowledge and skills that students should attain, often called the “what” of “what students should know and be able to do;” the important and enduring ideas, concepts, issues, dilemmas and knowledge essential to the discipline
Iowa	Broad statements that identify the knowledge and skills that students should acquire
California	The knowledge, concepts and skills that students should acquire at each grade level



Curriculum



Ainsworth (2010) defines **curriculum** as “the high **delivery system** for ensuring that all students achieve the desired end – attainment of their designated grade- or course-specific standards” (p. 4).

In North Carolina, this is determined by the Local Education Agency.



K- 8 Educator Participation in the Review & Revision Process

[Review/Revision Process Brief Video](#)



State Board of Education

May, 2017

Reviewed differences between standards and curriculum

Provided overview of changes to standards

SBE requested external review

June, 2017

Shared feedback from external review

Revised K-8 Standards Adopted for 2018-19 Implementation



EXTERNAL REVIEW RESULTS

Participating States:

Kentucky, Ohio, Oklahoma, Minnesota, and Utah

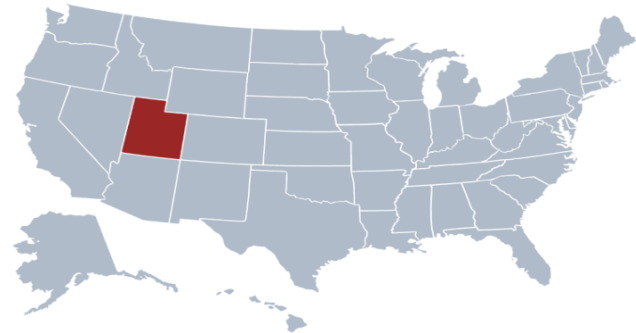
External Review

State Departments of Education were contacted to provide an external review of North Carolina's math draft standards.

These states were asked to consider the standards based on clarity, conciseness, and appropriate end-of-year expectations.

Responses received from:

- Kentucky
- Minnesota
- Ohio
- Oklahoma
- Utah



External Review - General Comments

- *Strongly agree that the standards in K-8 are clear, concise, and contain appropriate end-of-year expectations.*
- *Language is more direct and clear with the removal of parentheticals and for examples (e.g. and such as). These removals will need to be addressed in support documents.*
- *The removal of the outline structure (a. b. c.) and using bullets allows the teachers to see the standard holistically.*
- *It is clear that great attention has been given to making clear the purpose of each standard.*

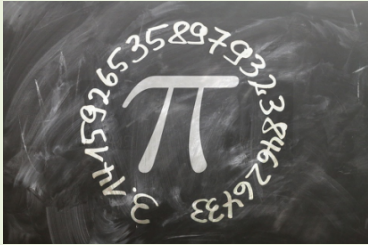


External Review Comments

- Confirmed discussions and decisions made by the data review team, writing teams, and North Carolina teachers and professionals
- Used to inform the instructional support documents and professional development during implementation



Next Steps



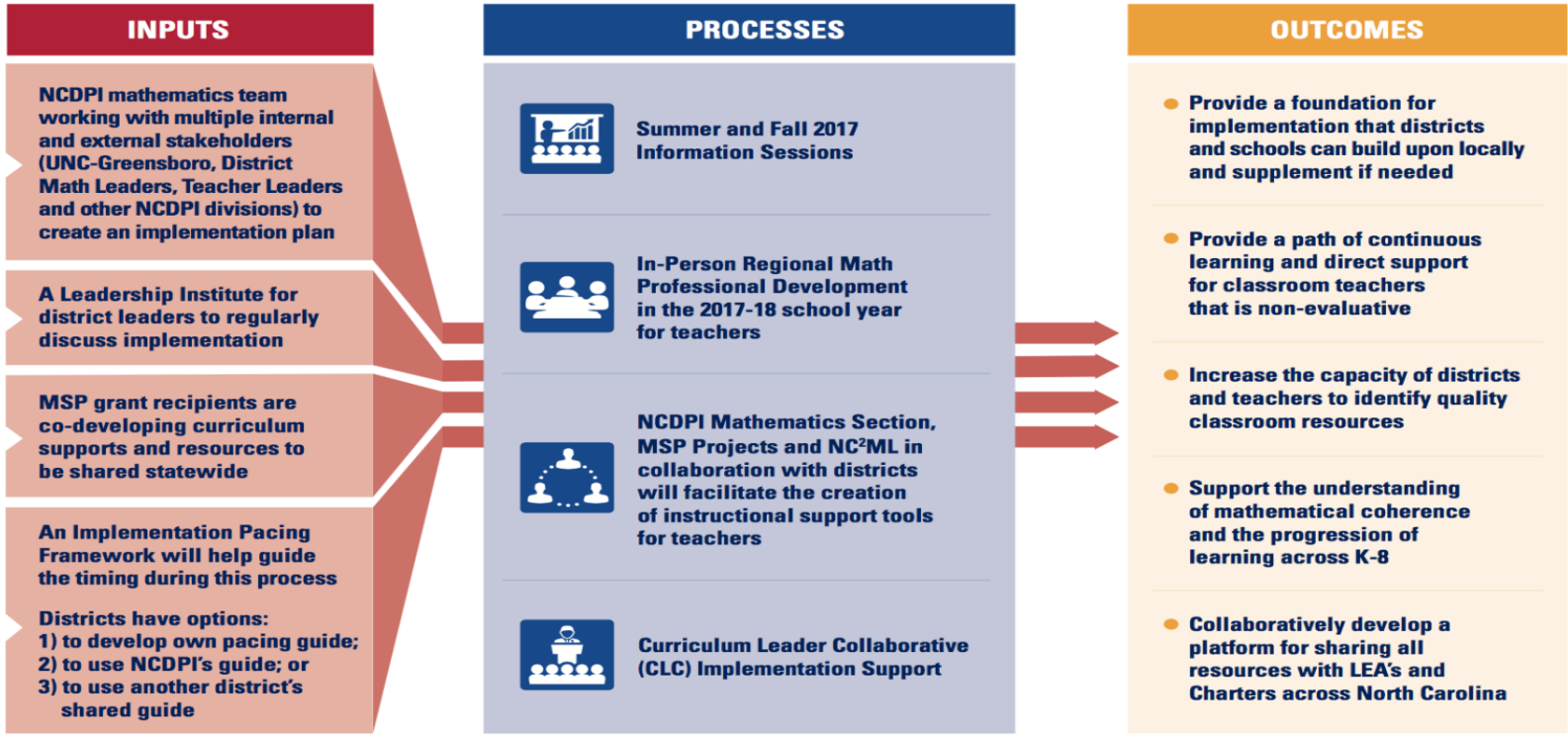
K-8

NC Math 1, 2, & 3
Fourth Math Courses





2017-2019 NC MATH K-8 IMPLEMENTATION PLAN



PARTNERSHIP:  PUBLIC SCHOOLS OF NORTH CAROLINA
State Board of Education | Department of Public Instruction

 THE UNIVERSITY OF NORTH CAROLINA
 GREENSBORO
School of Education



K-8 Sharing and Learning

Information Sessions

- *Webinars* for principals, teachers, district leaders late summer/early fall 2017
- Will be recorded for those who cannot attend
- Topics: Standards as revised, Implementation plan, Resource Development & Timeline of Releases

Professional Development

Sessions will be held across the state similar to the rollout for high school

- **4 Regional Sessions in Winter/Early Spring 2018**
- **4 Regional Summer sessions 2018**
- **4 Regional Follow-up Winter 2019**



K-8 Resource Development

DPI Math Section	MSP Projects
<ul style="list-style-type: none"> • <i>Collaborative Pacing Guides</i> – by grade level – we facilitate, LEAs create and we share statewide 	<p><i>K- 5 Project</i> – led by Richmond County, UNC Pembroke and many teachers across the state – tasks, lessons, resources</p>
<ul style="list-style-type: none"> • <i>Instructional Guidance Documents</i> that includes links to formative assessment ideas, tasks, etc. 	<p><i>K-8 Project - expanding</i> Mt. Airy – Wake Forest School of Medicine – case study / problem based learning – teachers from across the region</p>
<ul style="list-style-type: none"> • <i>Progressions</i>– outlining the learning across grade levels – understandings and how they develop over time 	<p><i>6-8 Project (2)</i> Charlotte-Mecklenburg partnering with Johnson C. Smith University expanding to include grade 8; Avery County partnering with Appalachian State grades 6-8</p>




Transition to 2018-19 & Revised Standards K-8

Timeline is being developed and will be posted & communicated

Save the Date - First
webinar scheduled for
September 6 at 3:30



New Page on [Math Wiki](#)



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NC Math SCOS
K-12 Standards & Resources
[2010 NC SCOS \(Current\)](#)
[2017 K-8 Standards](#)


[Elementary Resources](#)
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[High School Resources](#)
[K-12 Resources](#)
[District Leaders, Principals and Assistant Principals](#)

[PD and Webinars](#)
[Recognitions](#)

2017 Mathematics Standards

[Edit](#) [C](#)

Mathematics Standards to be implemented in 2018-2019



**North Carolina Standard Course of Study
K-8 Mathematics**
for
Implementation in 2018-2019
Adopted June 2017

[K-8 Mathematics Standards](#)

- [K-2 Mathematics Standards](#)
- [3-5 Mathematics Standards](#)
- [6-8 Mathematics Standards](#)

[Standards Comparison \(2010/2017\)](#)

Kindergarten

Standard	2010 NC SCOS	2017 NC SCOS
1.NF.A.1	Count to 100 by ones, starting from any number from 0 to 100. By the end of this year, students should be able to count on from a given number at least one more time than they started from.	Count to 100 by ones and by tens. Count on from a given number to find the total number of objects in a set. Know the number name for each number up to 100 and understand that the last digit tells the number of ones and the first digit tells the number of tens. Record numbers 11-19 as ten ones and one more (e.g., 12 = 10 + 2) and 20 as two tens.
1.NF.A.2	Represent a number from 0 to 100 with a drawing of objects.	Represent a number from 0 to 100 with a drawing of objects.
1.NF.B.1	Understand that the whole consists of one or more equal parts.	Understand that the whole consists of one or more equal parts.
1.NF.B.2	Recognize and draw a shape divided into two equal parts.	Recognize and draw a shape divided into two equal parts.
1.NF.B.3	Recognize and draw a shape divided into four equal parts.	Recognize and draw a shape divided into four equal parts.
1.NF.C.1	Identify and describe objects, shapes, and figures by their attributes.	Identify and describe objects, shapes, and figures by their attributes.
1.NF.C.2	Classify two-dimensional shapes (squares, rectangles, triangles) and three-dimensional shapes (cubes, cylinders, cones, spheres) by their attributes.	Classify two-dimensional shapes (squares, rectangles, triangles) and three-dimensional shapes (cubes, cylinders, cones, spheres) by their attributes.

K-8 Collaborative Pacing Guides

Grades K-5

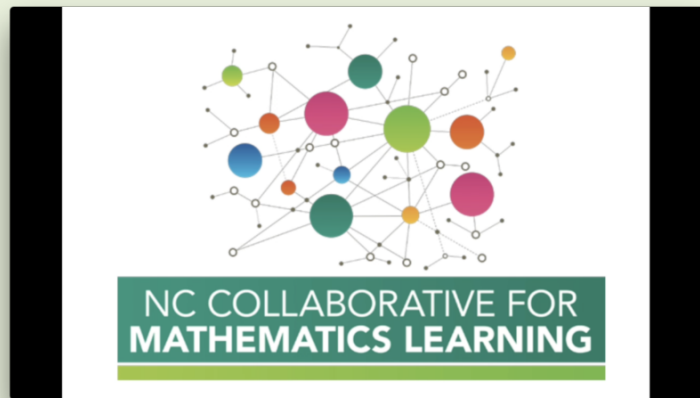
Underway

Grades 6-8

Begins July, 2017



Partnerships



Partnerships will continue and include Math Science Partnership (MSP) Projects

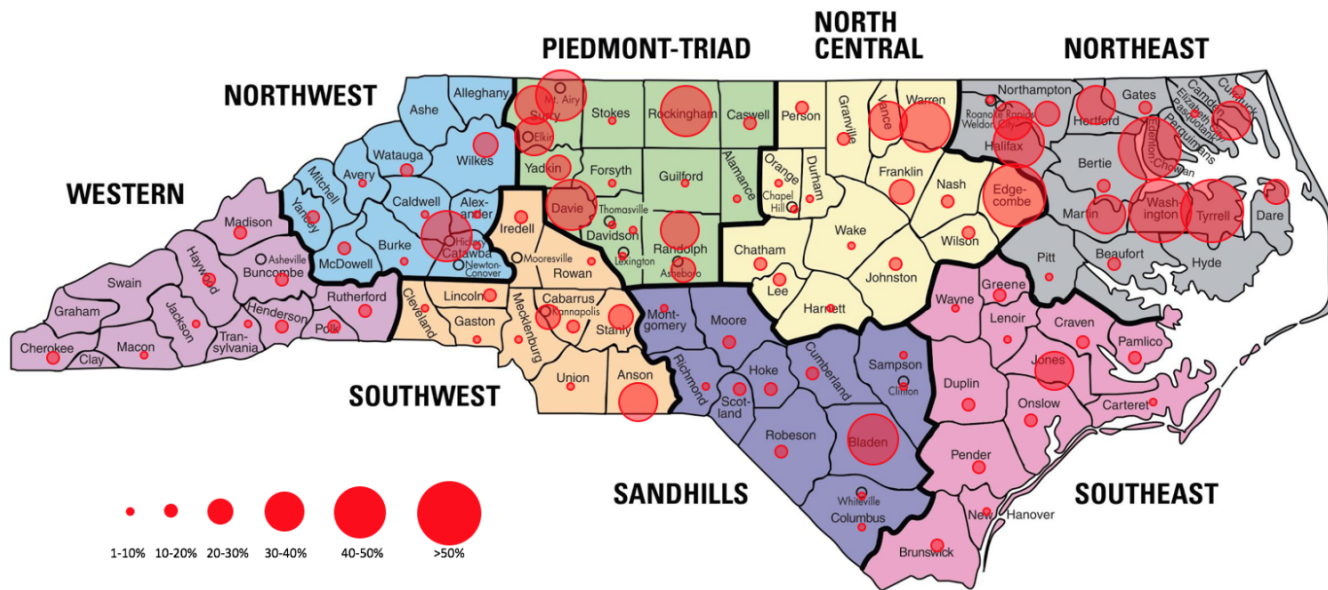
Co-designing and creating resources
- all will be uploaded into LMS and on wiki



Updates: NC Math 1, 2, & 3 Fourth Math Courses



Participation in HS Math Canvas Course Spring 2017

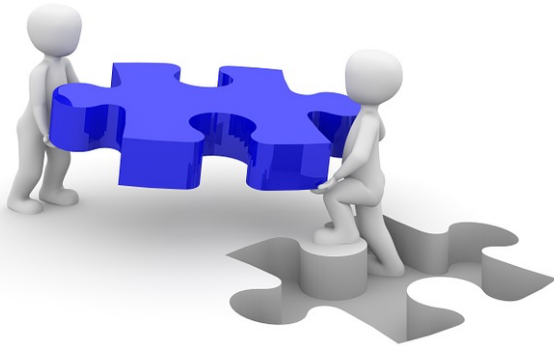


Percentage of Math 1-3 courses within a district that have a teacher who has participated in some way in NC²ML.

- Based on the NC average class size of 20 students, district HS student enrollment for 2016-2017 as represented from DPI state and district level data, and assuming each teacher teaches three courses.



HS Summer Development



Math Leaders, teachers,
DPI, and NC2ML
reviewed modules
Developed plan to create
additional modules,
research briefs,
participant guide(s)





HS Summer Work:
Looked at all of these
and then...

Shared perspectives of the team on Yr 1
 (a) Tools for Implementation and
 (b) Data and Analyses to refine the Yr 2 focus

Remembered to take macro (state), meso (district), and micro (school) perspectives

Access Points Outside of Canvas

DPI Wiki for Leaders

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NC Mathematics
Department of Public Instruction

This wiki provides instructional resources for the NC K-12 Mathematics Standard Course of Study.

Please reference the pages in the navigation bar for links to various mathematics resources for teachers, administrators, teacher educators and others who are interested in the mathematics education of North Carolina's students.

Revised North Carolina K-8 Math Standards - Adopted by the State Board for Implementation in the 2018-19 School Year

NC2ML Website

nc²ml

HOME

LEARNING TOGETHER

TOOLS FOR LEARNING

NEWS

RESOURCES

Questions?



DPI Mathematics Section

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