

Welcome to the Content Standards in Mathematics module presented by the National Center and State Collaborative (NCSC).



This printable PDF version of a NCSC module has been provided for your convenience. The PDF version of the module will be very similar to the online module, with a few revisions to eliminate features that are only necessary in the online learning environment. Because the PDF presentations are the content of the online courses and retain the formatting and some of the features of the modules, we have included the following description. The NCSC professional development courses each consist of one or more modules. To help the learner navigate in the courses, the modules have a uniform design and format. All learning modules follow four themes: plot the course, explore the terrain, check the map, and expand your horizons. In plot the course learners discover what is covered in the module, including their learning objectives and other steps they will follow while viewing the module. In explore the terrain, the learner will engage with the content and learn about the topic covered in the module. In check the map the learner has the opportunity to review and self-assess their understanding. Some of the PDF presentations (printable versions of the modules) will not contain Check the Map sections as there are no self-assessments in the printable PDFs. Finally, expand your horizons offers ways in which the learner can explore the content further, or apply what they have learned. Theme Indicators appear on most slides to tell the user what type of content is contained in the slide.

GOALS OF THE MODULE



Develop a working understanding of College and Career Readiness (CCR)

Develop an understanding of the

- Common Core State Standards (CCSS) or state adopted standards
- Learning Progressions
- Core Content Connectors (CCC)



The purpose of this module is you to become familiar with Career and College Readiness Standards, the Common Core State Standards or your state standards, the Learning Progressions and the NCSC Core Content Connectors. This may be the first module that you participate in so that you are familiar with the background material and standards on which all the rest of the NCSC WIKI material is based.

INSTRUCTIONS FOR COMPLETING THE MODULE



- Review the Common Core State Standards
- Review the Learning Progressions in Mathematics
<http://www.naacpartners.org/publications/MathExpandedLPF.pdf>
- Complete 5 SELF ASSESSMENT items throughout the module.



This module will be following closely the information that is provided in the Common Core State Standards (CCSS), which were used in developing this material. If your state has adopted their own grade level content standards, you will need to become familiar with their format so that you can easily find the content standards each of your students need to follow. The National Alternate Assessment Center developed the Learning Progressions, which are based on the big ideas of the CCSS and most state standards. These are on the NCSC wiki. Have the common core state standards or your state's grade level content standards in mathematics available for reference and more detailed information while completing this module.

RELATED CONCEPTS



Here are some concepts that will be discussed in this module. If you would like background on these concepts, click forward on the playbar. If you are familiar with the concepts and do not need additional background, click on the button labeled skip definitions.

- CCSS – Common Core State Standards or your state standards
- LPF – Learning Progressions Frameworks
- CCC – Core Content Connectors



In this module reference is made to the following concepts:

- CCSS - Common Core State Standards or Grade level content standards from your state.
- LPF - Learning progressions Frameworks
- CCC - Core Content Connectors

RELATED CONCEPTS - CCSS COMMON CORE STATE STANDARDS




Your State has either developed their own grade level state standards or has adopted the Common Core State Standards to establish guidelines for learning in Math and English Language Arts from kindergarten through 12th grade.

Achieving the learning goals put forth in the standards will prepare students for college and career.




We based our work in all these modules on the CCSS and the College and Career Readiness Standards. You can apply the same process with your state standards. Your State has either developed their own grade level state standards or has adopted the Common Core State Standards to establish guidelines for learning in Math and English Language Arts from kindergarten through 12th grade. These are based on the **College and Career Readiness Standards**. The actual implementation of the standards, including how they are taught, the curriculum developed, and the materials used to support teachers as they help students reach the standards, is led entirely at the state and local levels.

RELATED CONCEPTS – LPF's
LEARNING PROGRESSIONS FRAMEWORKS



The Learning Progressions Frameworks:

- describe pathways for learning that focus on the big ideas of a discipline
- help educators design instruction and assessments that move students toward deeper and broader understanding of the content
- include progress indicators; descriptions of observable learning along the learning continuum in each strand



The Learning Progressions Frameworks, or LPF, present a broad description of the essential content and general sequencing for student learning and skill development (Hess, 2010).

The LPF is a hypothesized pathway that typical peers may take, and is meant to inform what typical peers will be working on grade by grade. In the past, we have struggled to understand how to choose content grade by grade to ensure inclusion of students with the most significant cognitive disabilities in grade AND age appropriate content, even though they may not have built all the skills in a previous grade. The pathways focus on the big ideas of a discipline.

The LPFs give us the educational logic to help move these students along with their peers in a systematic, educationally sound way.

The LPF contain learning targets and progress indicators that are referenced in the NCSC Curriculum and Instruction materials.

Learning targets (general/broad performance descriptors) are defined by grade spans, K-4, 5-8 and high school.

Related specific skills and concepts are called the progress indicators (PIs).

RELATED CONCEPTS – CCC's CORE CONTENT CONNECTORS



The Core Content Connectors (CCC's) identify - the most salient grade-level, core academic content in ELA and Mathematics found in both the [Common Core State Standards](#) and the [Learning Progression Frameworks](#).

CCCs have been formatted into 2 subgroupings under an umbrella term [Graduated Understandings](#). They are the [Instructional Families](#) and [Element Cards](#).

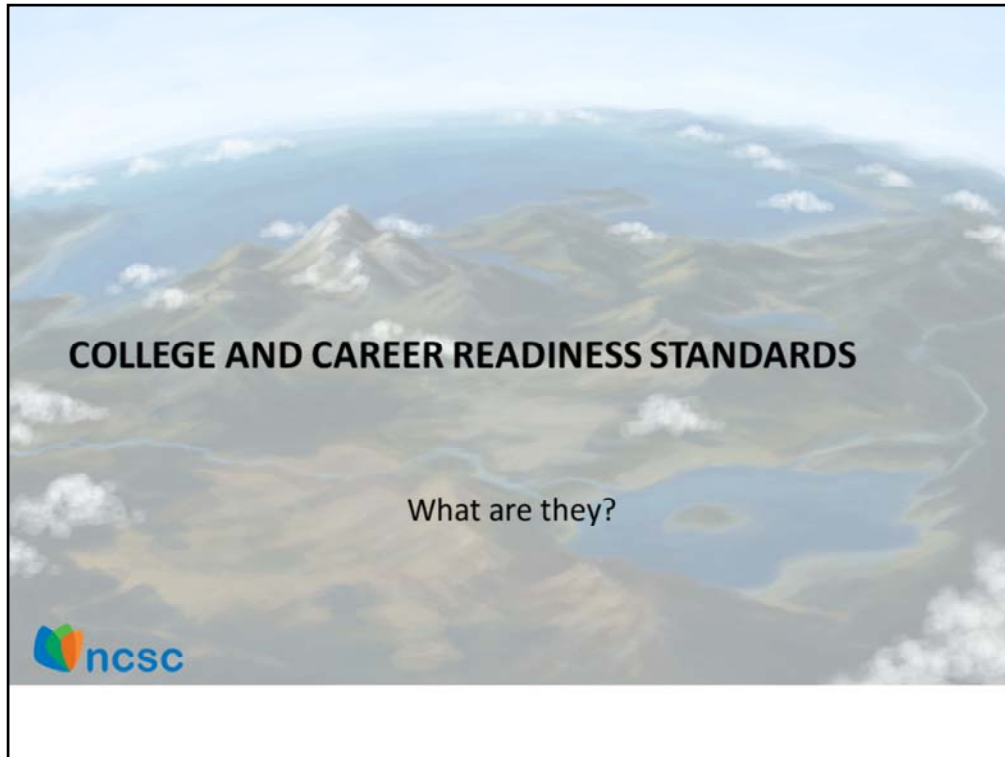


The Core Content Connectors (CCC's) identify the most salient grade-level, core academic content in ELA and Mathematics found in both the [Common Core State Standards](#) and the [Learning Progression Frameworks](#) and similar content can be found in your state standards.

Using the LPF, NCSC identified the “big ideas” from Common Core State Standards needed to make progress through the grades. The same process can be duplicated with any state's grade level content standards.


These “big ideas” were then broken down into more frequent benchmarks called CCCs that provide a pathway to the grade level standards-not extended standards.

CCCs are the basis for the assessment, but not the starting point for instruction. The original format for the CCCs is a list by grade and content that has been reformatted into Instructional Families; a graphic representation of the relationships between the CCC's, the CCSS, and the LPFs. In addition Element Cards have been developed that tie together key components and provide ideas for instruction, supports and scaffolds.



In this section we'll review the College and Career Readiness Standards and how they are used in the alternate assessment. What are they and how do they pertain to students with intellectual disabilities?

COMMON CORE STATE STANDARDS OR YOUR STATE STANDARDS



The actual implementation of grade level content standards, how the standards are taught, the curriculum developed, and the materials used to support teachers, is led entirely at the state and local levels.

Common Core State Standards and the majority of state standards are based on the **College and Career Readiness Standards**.




State education standards have been around since the early 1990s. By the early 2000s, every state had developed and adopted its own learning standards that specify what students in grades 3-8 and high school should be able to do. Every state also had its own definition of proficiency, which is the point at which a student is determined to be sufficiently educated at each grade level and upon graduation. This lack of standardization was one reason why states decided to develop the Common Core State Standards in 2009.

State education chiefs and governors in 48 states came together to develop the Common Core, with the critical voice of teachers and standards experts from across the country.

The actual implementation of the Common Core, including how the standards are taught, the curriculum developed, and the materials used to support teachers as they help students reach the standards, is led entirely at the state and local levels.

Common Core State Standards are based on the **College and Career Readiness Standards**.


COLLEGE AND CAREER READY FOR ALL...



Components in a Comprehensive Definition of College Readiness for typical high school students

- Key Cognitive Strategies
 - Problem solving, reasoning, analysis, interpretation, critical thinking
- Key Content
 - Full Access to the general curriculum to maximize life long learning
- Academic Behaviors
 - Self monitoring, time management, using information resources, social interaction skills
- Contextual Skills and Awareness
 - Seeking help with admissions, procedures, group interaction skills

(Conley, 2007)



These components are both the *result* of students achieving academic competence, as well as the *means* by which they gain increasingly complex knowledge as they progress through these standards.

Key cognitive strategies refer to such things as intellectual curiosity for deeper understanding; engagement in active inquiry; ability to analyze data, material and sources for quality; construction of well reasoned arguments; interpretation of evidence; application of precision and accuracy of a task; and problem solving.

Within the second component, academic knowledge and skills, Conley suggested writing and research are overarching themes for college success, with extensive knowledge in core academic areas of English, Math, Science, Social Studies, World Languages and the arts.

The third component is academic behavior. Academic behavior refers to a form of self-monitoring where the student judges his/her level of mastery, possible areas of confusion, and the ability to reflect on what worked and what could be improved upon. In addition, academic behavior refers to the student's ability to work independently outside of class for success by going beyond textbooks and homework and encompassing a critical set of study and personal management skills (e.g., judging the time requirements for certain tasks, allocating sufficient time for tasks, etc.).

The final component in Conley's model - contextual skills and awareness - refers to how a student manages and navigates within a college system, including admissions requirements, timelines, and processes.

CAREER READINESS FOR ALL



Preparedness for workplace refers to the reading and mathematics knowledge and skills needed to qualify for an occupation's job training program; it does not necessarily mean that the qualifications to be hired for a job have been met (NAGB, 2009).

Sample pathways include:

- Apprenticeship programs
- Community College certification
- Job training programs
- On the job training
- Vocational technical institutes



The definition for Preparedness for workplace refers to the reading and mathematics knowledge and skills needed to qualify for an occupation's job training program; it does not necessarily mean that the qualifications to be hired for a job have been met (NAGB, 2009). Preparedness has several sample pathways:

Sample pathways include:

- Apprenticeship programs
- Community College certification
- Job training programs
- On the job training
- Vocational technical institutes

WHAT DOES THIS MEAN FOR STUDENTS WITH INTELLECTUAL DISABILITIES?

Kearns, Kleinert and Harrison define comparable College, Career and Community components as -

- 1) Communicative competence
- 2) Fluency in reading, writing, and math
- 3) Age appropriate social skills and the ability to work effectively in small groups
- 4) Independent work behaviors
- 5) Accessing support systems

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The key components defined by Kearns, Kleinert and Harrison for students with significant disabilities include:

1. Recognizing and developing communicative competence should be addressed for students with significant cognitive disabilities by Kindergarten. Communicative competence forms the foundation of academic learning in reading, mathematics, as well as the pursuit of knowledge. Indeed, access to the general curriculum cannot be fully achieved for students who are perceived to lack symbolic language.
2. Fluency in reading, writing, and math are necessary for the pursuit of information whether used for lifelong learning, leisure, or vocational purposes.
3. Age appropriate social skills and the ability to work effectively in small groups are essential for future educational as well as vocational pursuits.
4. Independent work behaviors, as well as assistance seeking behaviors, are critical for lifelong learning pursuits including vocational success.
5. Skills in accessing support systems are essential for long-term success. Students with significant disabilities in particular will likely need external supports in the form of peer networks, study groups, co-worker supports, and other forms of educational and community supports.

The full paper can be found on the NAACpartners.org website. **What Does 'College and Career Ready' mean for Students with Significant Cognitive Disabilities?**



This is how David Conley’s components for Career and College Readiness align with Kearns, Kleinert and Harrison’s components. Starting on the left, Conley’s Key Components have been aligned with the components for students with intellectual disabilities on the right.

Key Cognitive Strategies *Problem solving, reasoning, analysis, interpretation, critical thinking* and **Key Content** *Reading, Math, Science, Social Studies* **Align with Academic Access**

Academic Behaviors *Self monitoring, time management, using information resources, social Interaction skills, working in groups* **Align with Social networks** and **Self Determination**

Contextual Skills and Awareness *Seeking help with admissions, procedures, career development (Conley, 2007)* **Aligns with Career development** and **Integration with College Systems and Practices**

CHECK FOR LEARNING



Kearns, Kleinert and Harrison, Shephard-Jones, Hall and Jones (2010) have defined comparable College, Career and Community components as:

- 1) Communicative competence
- 2) Fluency in reading, writing, and math
- 3) Age appropriate social skills and the ability to work effectively in small groups
- 4) Independent work behaviors
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- 1) Communicative competence
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- 4) Independent work behaviors
- 5) Accessing support systems

This paper is on the NCSCPartners.org website. Check the resource page for more details.



In this section we'll review the standards materials used by NCSC to develop the alternate assessment. Where are they and what do they look like?

NCSC WIKI WEBSITE

Mathematics:

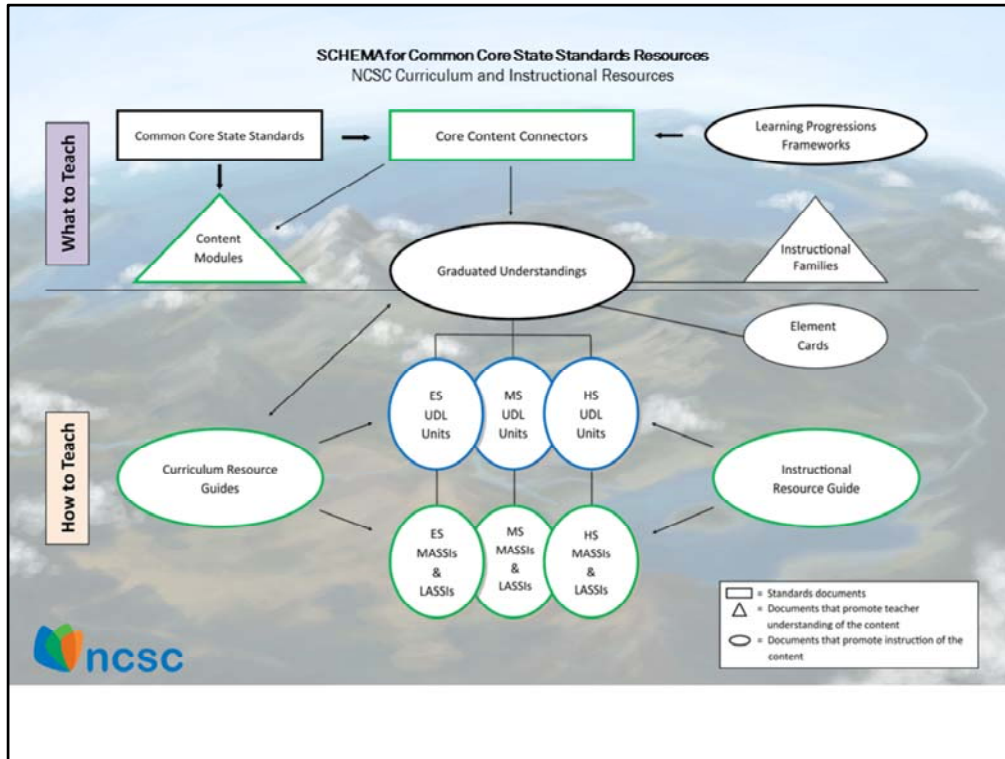
Links to Common Core State Standards and Appendices

Links to Learning Progressions

Core Content Connectors



Let's look at the main resources in the WIKI – CCSS, Learning Progressions and Core Content Connectors. If your state has adopted their own grade level content standards, then you will need to find where they are located online.



- The NCSC curriculum and instructional resources schema defines the “what” and “how” when planning for and teaching academic content to students with the most significant cognitive disabilities. The Schema is on the wiki main page and corresponding links to curriculum and instructional resources appear at the top of the page under wiki resources. The elements of the schema are linked to the resources within the wiki. Simply click on the element title (i.e. Common Core State Standards) and you will be directed to the appropriate page in the wiki.

- The purple band describes the “**what** to teach” based on the Common Core State Standards, the Learning Progressions, and the Core Content Connectors that are linked to both. The CCSS and most state standards have a specific format but are very similar when stating what a student should know and be able to do. This similarity carried over to the Learning Progressions Framework and the Core Content Connectors.

- The orange band provides instructional tools to support **how** to teach this content - based on over a decade of research on academic instruction, communication, and learner characteristics of students with the most significant cognitive disabilities.

Over the course of the project, the NCSC partners (both the states and organizations) will be provided with multiple opportunities to review, provide feedback and support the development of the resources. The project continually strives to improve these resources based on critical feedback that strengthens the resources.

CONTENT STANDARDS



To understand how to develop instruction based on the Common Core or your state standards, you must first:

- know how the document is organized
- know how to find grade level standards

Please take time to review the CCSS at this link:


<http://www.corestandards.org/>

Or review your state standards.



First you need to understand how either the CCSS or your state's grade level content standards are organized and how to find grade level standards. Please take time to review the CCSS but if you need to use state standards make sure that you understand how to find your student's grade level content standards in that document and how the standards are broken down from big ideas to smaller performance statements or benchmarks. Your district has curriculum and materials guidance no matter what standards are used. This guidance or requirements are a local or state decision. There are two great resources for you One is a general education teacher. They build daily lessons around the state or district's guidance on curriculum and can answer your questions. The other is a district level curriculum specialist or the persons that fills that role at the local level.

THINKING AHEAD




Where are the gaps in my understanding of the standards?

What general education resources do I have?

What is my level of comfort with the academic content contained in the content standards for mathematics?

How will I pursue designing instruction for my students and ensure it is aligned to the standards?



Here are a few questions to start with:

With which grade(s) *(or for High School which conceptual categories)* do you need to become more familiar with the Common Core State Standards or your content standards?

What general education resources do you have? (e.g., general education colleagues with whom you can collaborate, your own content knowledge, district curriculum guides, etc.)

What is my level of comfort with the academic content contained in the content standards for mathematics?

How will I pursue designing instruction for my students and ensure it is aligned to the standards?

LEARNING PROGRESSIONS FRAMEWORKS



Learning progressions: descriptions of the successively more sophisticated ways of thinking about an idea that follow one another as students learn

Aka learning trajectories, progressions of developmental competence, and profile strands



The next set of material are the Learning Progressions Frameworks, or Learning Progressions. These were developed through the NAAC grant by Dr Karen Hess, NCIEA, and a team of content experts, with University of Kentucky staff facilitating. A link to this material is listed on the resource page. Learning progressions are descriptions of the successively more sophisticated ways of thinking about an idea that follow one another as students learn. Think about learning trajectories, progressions of developmental competence, and profile strands

LEARNING PROGRESSIONS FRAMEWORK (LPF's)



There is a typical path that learning takes.

The LPFs shows the steps on that path—the essential core concepts and processes of a discipline sometimes called “the big ideas.”

Hess, Karin K., (December 2011). Learning Progressions Frameworks Designed for Use with the Common Core State Standards in English Language Arts & Literacy K-12

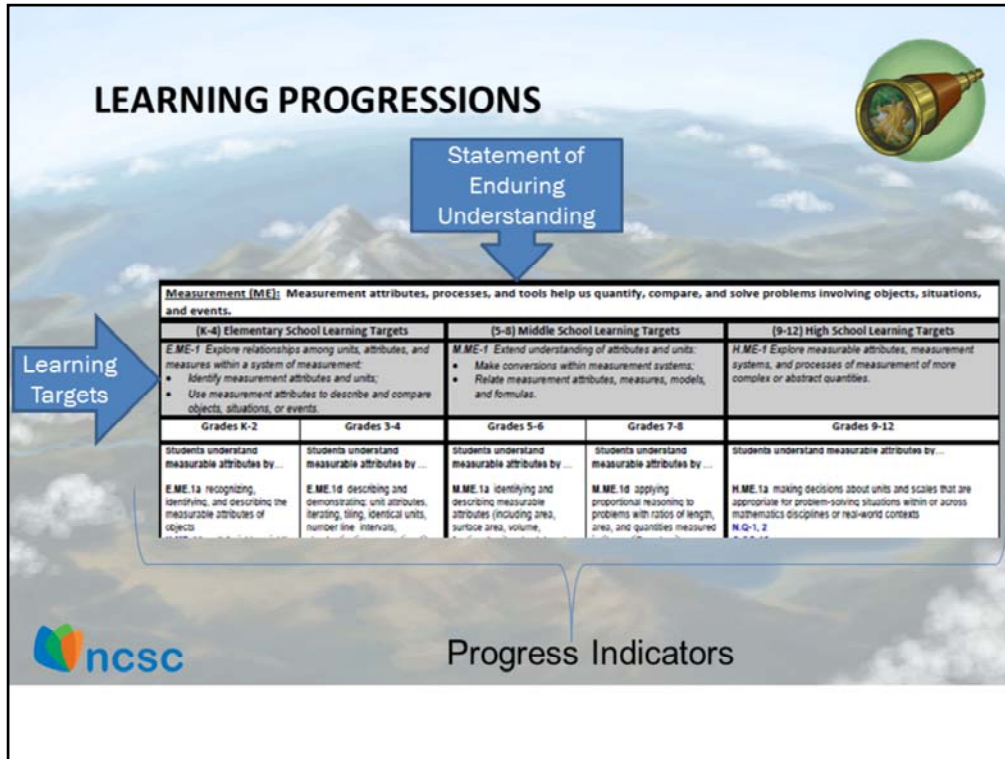


Research shows that in order to make academic progress through the grades and gain more sophisticated understanding of the content, there is a typical path that learning takes. The LPFs show the steps on that path—the essential core concepts and processes of a discipline sometimes called “the big ideas.”

THINK MAP VS. ROUTE



Learning progressions allow students to travel different roads to arrive at the same location (as you can see on a map) versus having to follow a specific route. They take into account hypothesized pathways about how most students typically learn concepts and big ideas and are tested with typically developing children. This project uses a developed learning progressions framework (Hess et al., 2010) in ELA and math to inform what content is taught as well as the stream (or *general sequence*) of content that helps students reach understanding of the concepts/big idea. Each descriptor of observable learning in Hess's learning progressions is called a progress indicator (PI).



This is an example of the learning progressions from K-2 through HS for the Mathematical strand of Measurement. The learning targets show a progression from one grade span to the next. Progress indicators describe concepts and skills along the learning continuum for each grade span. These skills and concepts build toward successful demonstration of learning targets. The suggested order of Progress indicators (or PI's) is based on a review of empirical research.

CORE CONTENT CONNECTORS (CCC's)



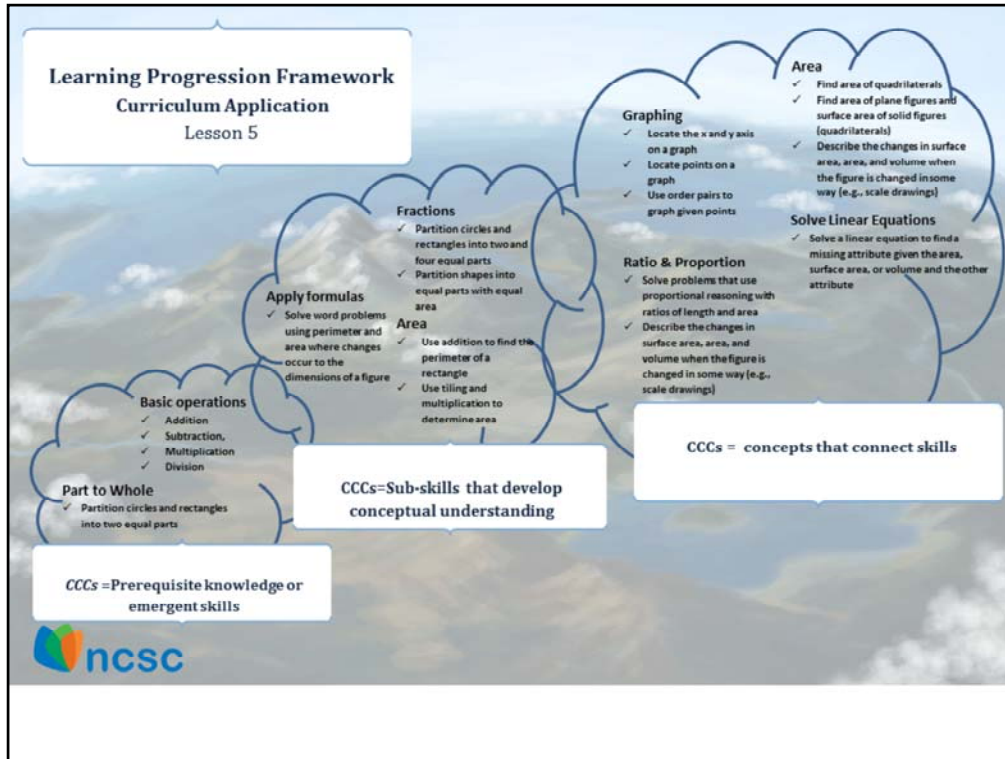
Using the LPF, NCSC identified the “big ideas” from Common Core State Standards.

These “big ideas” were then broken down into more frequent benchmarks called CCCs.

CCC's are the basis for the assessment, but not the starting point for instruction




Using the Learning Progression Framework, NCSC identified the “big ideas” from Common Core State Standards needed to make progress through the grades. These “big ideas” were then broken down into more frequent benchmarks called CCCs that provide a pathway to the CCSS-not extended standards. CCCs are the basis for the assessment, but not the starting point for instruction. We recommend that you start with a grade appropriate general education lesson. There are 2 modules that explain the 5 Step Process to develop instructional lessons; Mathematic UDL Units and ELA UDL Units.




This slide is an example of how CCCs can be combined in a lesson to deepen and broaden understanding for a broad range of learners. Beginning with CCCs for prerequisite and emergent skills and knowledge working up to CCC's that connect skills. Instructional Families represent “bundles” of related CCCs that have a common instructional basis. Hence, these bundles may be taught within an Instructional Unit. It is critical to not only use a holistic approach to teaching the CCCs rather than a discrete or one-by-one checklist approach, but also to embed prerequisite or emergent skills as the student is learning new skills.

WHY CORE CONTENT CONNECTORS (CCC's)?



The purpose of the CCCs is to contribute to a fully aligned and coherent system of content, instruction, and assessment.

- Define connections.
- Support instructional planning and assessment development
- CCCs were used by NCSC:
 - to create the alternate assessment items
 - to create curricular guides
 - for professional development



The Core Content Connectors will serve as the prioritized content for Students With Significant Cognitive Disabilities (SWSCD). The connectors preserve the sequence of learning outlined in the Learning Progressions to the extent possible while disaggregating the progress indicators into teachable and assessable segments of content. The connectors also serve as the framework to identify the prioritized content within the CCSS. The connectors and corresponding curriculum resource documents were written to help promote how students can engage in the CCSS while following the learning progressions.

The purpose of the CCCs is to contribute to a fully aligned and coherent system of content, instruction, and assessment.

CCCs define connections between the Learning Progressions' Progress Indicators and the CCSS .

CCCs support instructional planning and are the basis for the assessment for students with SCD that have a strong core content.

CCCs were used by NCSC:

- to create the alternate assessment items,
- to create curricular guides, and
- for professional development.

DUAL ALIGNMENT VIEW: MATH



Number and Operations 1 Grade differentiation

Progress Indicator: E.NO.1a showing mastery of the prerequisite core skills of cardinality, constancy, and 1:1 correspondence


Core Content Connectors: K	CCSS Domain/Cluster	Common Core State Standard
K.NO.1a1 Rate count up to 10	Counting and Cardinality K.CC.Know number names and the count sequence.	K.CC.1 Count to 100 by ones and by tens.
K.NO.1a2 Rate count up to 31	Counting and Cardinality K.CC.Know number names and the count sequence.	K.CC.1 Count to 100 by ones and by tens.
K.NO.1a3 Rate count up to 100	Counting and Cardinality K.CC.Know number names and the count sequence.	K.CC.1 Count to 100 by ones and by tens.
K.NO.1a4 Count up to 10 objects in a line, rectangle, or array	Counting and Cardinality K.CC.Count to tell the number of objects.	K.CC.4 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. 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.
Progress Indicator: E.NO.1b developing an understanding of number and principles of quantity (e.g., hold up 5 fingers at once to show 5, locate things in 2s without counting, using number words to indicate small exact numbers or relative change in quantity - more, smat)		
Core Content Connectors: K	CCSS Domain/Cluster	Common Core State Standard
K.NO.1b1 Match the numeral to the number of objects in a set	Counting and Cardinality K.CC.Count to tell the number of objects.	K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality. b) 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. K.CC.5 Count to answer "how many?" questions about as many as 20

The contents of this entry point 3a.6 were developed under a grant from the Department of Education (E- Award # H113A0001, Project #0000-0000-000011111111). However, the contents do not necessarily represent the policy of the Department of Education and/or assumption of endorsement by the Federal government should be made.




This is a sample page from the Core Content Connectors. The strand and grade are at the top. The first line is the progress indicator from the learning progressions. The first column shows the CCC in kindergarten. The document continues through all grades. The second column shows the corresponding CCSS domain and the third column is the CCSS standard. The Core Content Connectors are dually aligned to both the learning progressions and the CCSS.

GRADUATED UNDERSTANDINGS



Graduated Understandings are utilized by teachers to:

- Share a common language
- Plan multi-grade instruction for students with a wide range of abilities and challenges;
- Support implementation of instructional units that include all students and promote the use of Universal Design of Learning
- Engage in collaborative discussion and delivery of instruction with general education teachers.



Remember that the CCCs are the Learning Progressions broken down into smaller parts.

The Instructional Families are the CCCs organized using Webb's (Webb, 1997) framework to articulate big ideas and related instructional content. THEY ARE NOT EXTENDED STANDARDS or lowered DOK. Families are grouped to provide a structure/schema for teachers which articulate emphasized content within and across grades. Instructional families have been developed by the main strands noted within the CCSS and Learning Progressions.

Element Cards have also been developed and these cards promote instruction for students at different levels of understanding as they progress toward full understanding of content standards. The Element Cards are intended to assist teachers in developing instructional lessons that will include all students and promote [Universal Design for Learning](#). Each Element Card presents [Essential Understanding\(s\)](#), which define a range of skills based on a grade-specific Core Content Connector.

CHECK FOR LEARNING



The **Learning Progressions** are descriptions of the successively more sophisticated ways of thinking about an idea that follow one another as students learn. They are not a scope and sequence but are pathways that represent how most students typically learn concepts and big ideas.

The **Core Content Connectors** preserve the sequence of learning outlined in the Learning Progressions to the extent possible while disaggregating the progress indicators into teachable and assessable segments of content.

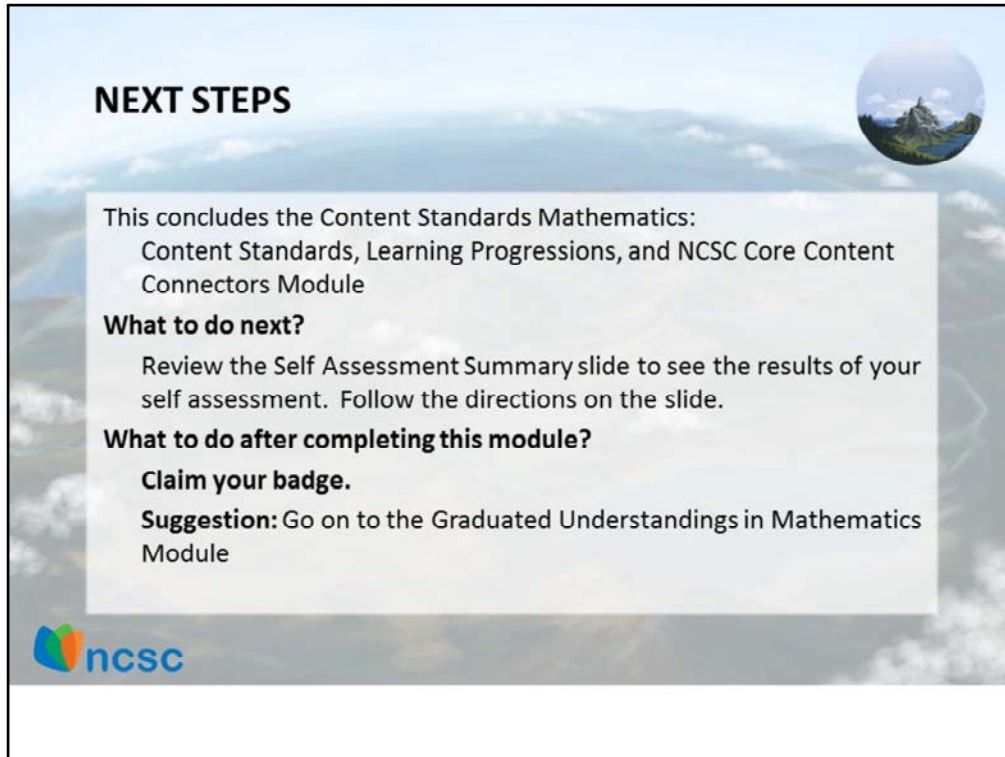
Graduated Understandings provide educators with easily interpreted visual representations of the areas of curricular emphasis within and across grades.



Remember: The Learning Progressions are descriptions of the successively more sophisticated ways of thinking about an idea that follow one another as students learn. They are not a scope and sequence but are pathways that represent how most students typically learn concepts and big ideas.

The connectors preserve the sequence of learning outlined in the Learning Progressions to the extent possible while disaggregating the progress indicators into teachable and assessable segments of content.

Graduated Understandings provide educators with easily interpreted visual representations of the areas of curricular emphasis within and across grades.




NEXT STEPS

This concludes the Content Standards Mathematics:
Content Standards, Learning Progressions, and NCSC Core Content
Connectors Module

What to do next?
Review the Self Assessment Summary slide to see the results of your
self assessment. Follow the directions on the slide.

What to do after completing this module?
Claim your badge.
Suggestion: Go on to the Graduated Understandings in Mathematics
Module



This concludes the Mathematics Content Standards Module

What to do next?

Review the Self Assessment Summary slide to see the results of your self assessment.
Follow the directions on the slide.

What to do after completing this module?

Claim your badge.

Go on to the Graduated Understandings in Mathematics Module

REFERENCES AND RESOURCES



Conley, D. (2007). *Redefining college readiness*. Eugene, OR: Educational Policy Improvement Center. Cox-Lindenbaum, D., & Watson, S.L. (2002).

Kearns, J., Kleinert, H., Harrison, B., Sheppard-Jones, K., Hall, M., & Jones, M. (2010). [What Does 'College and Career Ready' mean for Students with Significant Cognitive Disabilities?](#) Lexington: University of Kentucky. (PDF : 735 Kb)



The materials listed here were used or referred to in the development of this module.

REFERENCES AND RESOURCES



Learning Progression Frameworks Designed for Use with the Common Core State Standards in Mathematics K-12. (Hess, Karin K., (Ed.) December 2010)

http://www.nciea.org/publications/Math_LPF_KH11.pdf

Webb, N.L., (2002) *“Depth of Knowledge Levels for Four Content Areas.”* Wisconsin Center for Educational Research



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