

Pathway to the Common Core State Standards for Students with Significant Cognitive Disabilities

The NCSC Model for a Comprehensive System of Curriculum, Instruction and Assessment

March 31, 2014



National Center and State Collaborative

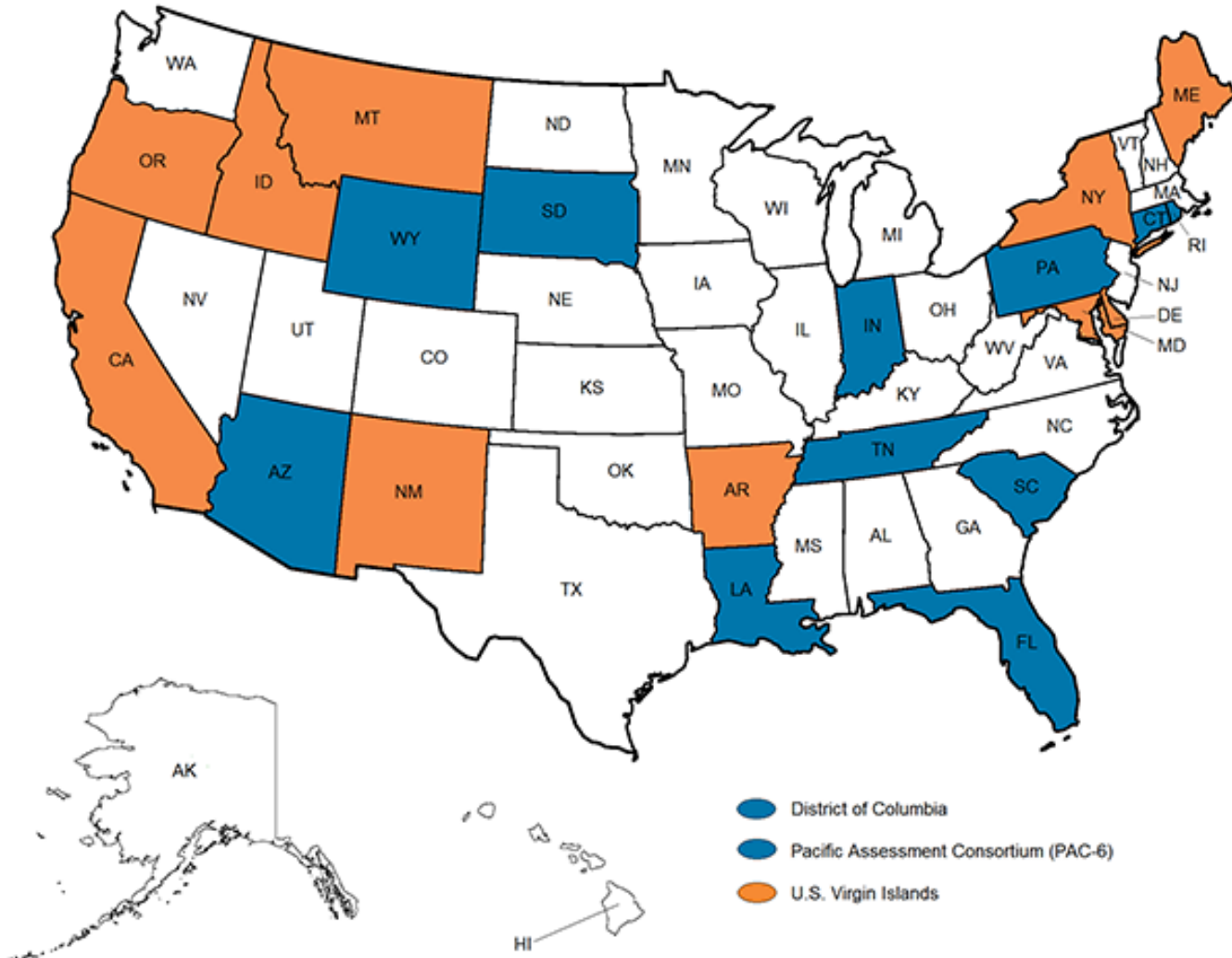
The contents of this product were developed under a grant from the Department of Education (PR/Award #: H373X100002, Project Officer, Susan.Weigert@Ed.gov). However, the contents do not necessarily represent the policy of the Department of Education and no assumption of endorsement by the Federal government should be made.

NCSC Background

- The U.S. Department of Education awarded the National Center and State Collaborative (NCSC) a grant to develop a new alternate assessment in math and English Language Arts by 2014-15*
- 24 states and five national centers are working together in NCSC <http://www.ncscpartners.org/>
- NCSC is also developing curriculum/instructional resources based on Common Core State Standards (CCSS) that can be used in any state <https://wiki.ncscpartners.org>

*states may have different implementation timelines for NCSC assessment

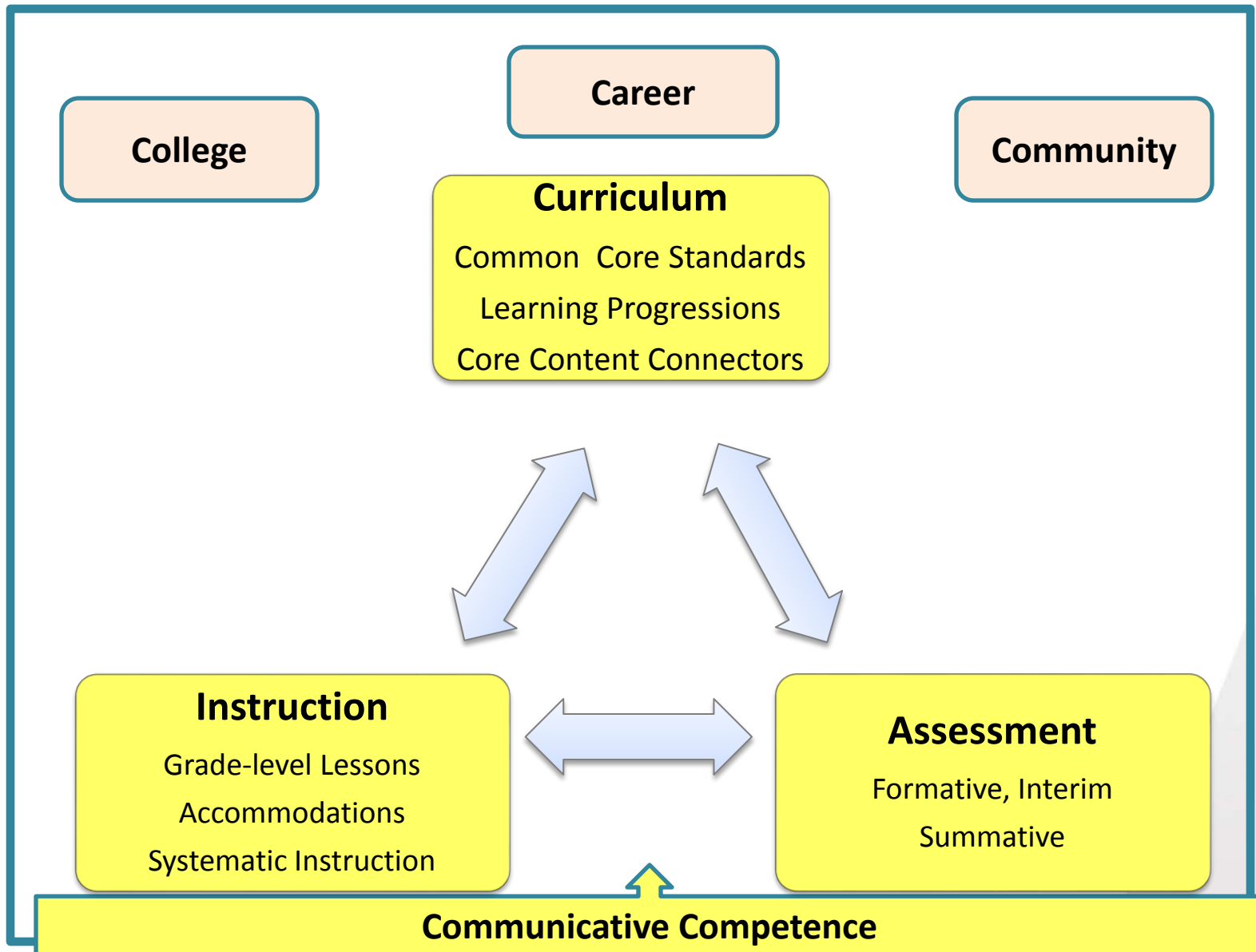
NCSC Partner States



National Center and State Collaborative Grant: A Systems Approach

Building an assessment **system** based on research-based understanding of:

- Technical quality of Alternate Assessment design
- Summative assessments
- Formative and interim uses of assessment data
- Academic curriculum and instructional resources for students with significant cognitive disabilities
- A focus on communicative competency
- Effective professional development



Key College and Career Ready Skills

6

Important for ALL students including those with significant cognitive disabilities:

- Communicative competence
- Social skills to function well in small groups
- Independent and team work skills
- Problem Solving
- Reading/writing/math
- Skills for identifying and requesting supports

Why Math is Important....

Math skills are used for:

- Telling time;
- Making and following a schedule;
- Managing money
- Arranging and using transportation;
- Taking medication;
- Planning and making meals;
- Shopping;
- Attending college
- Finding and maintaining employment

Why ELA is Important....

ELA skills are used for:

- Communicating with family, friends, support staff, medical personnel, co-workers, etc.;
- Comparing information to make decisions (including voting);
- Self-determination and self-advocacy;
- Traveling in the community;
- Understanding books, movies, TV shows and songs;
- Attending college; and
- Finding and maintaining employment.



National Center and State Collaborative



National Center and State Collaborative

Quality Indicators for Curriculum and Instructional Resources

- Promote Common Core State Standards;
- Set high expectations for all students;
- Apply principles of Universal Design for Learning (UDL); and
- Apply evidence-based teaching practices for students with the most significant cognitive disabilities.


NCSC Wiki

<https://wiki.ncscpartners.org>

Page Discussion

Main Page

Welcome to the National Center and State Collaborative Wiki!

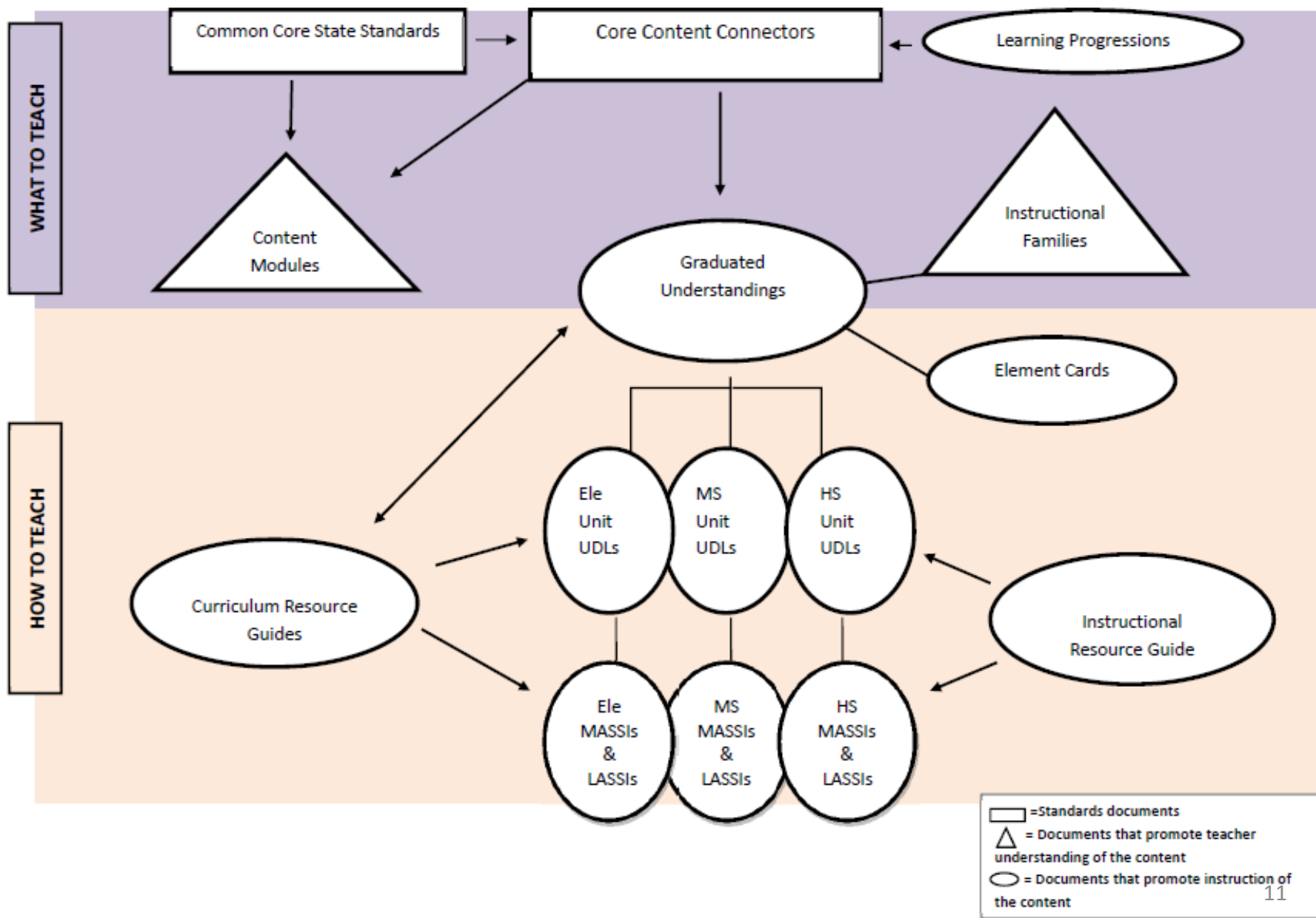
The National Center and State Collaborative (NCSC) is a project led by five centers and 26 states (15 core states and 11 Tier II states) the most significant cognitive disabilities. The goal of the NCSC project is to ensure that students with the most significant cognitive di: options. Find out more about NCSC at <http://www.ncscpartners.org> .

This wiki has been created to host the materials that educators will need to accomplish these goals and deliver instruction aligned to tl

- [Curriculum Resources](#) - **What to Teach** (reference materials created to reinforce educators' understanding of curriculum content)
- [Instructional Resources](#) - **How to Teach** (reference materials created to support classroom teaching)
- [Classroom Solutions](#) (solutions or accommodations created by educators and shared here)

- [All Resources](#) - Browse all the types of resources based on category (CCCs, Element Cards, Content Modules, etc)

SCHEMA for Common Core State Standards Resources NCSC Instructional Resources



Importance of NCSC Resources

- Provide educators with free online curriculum and instructional resources to support planning and instruction on the grade level Common Core State Standards for students who take the alternate assessment
- Provide tools to help educators meet the needs of a wide range of learners, including those who are emerging communicators and emerging readers
- Support co-teaching and collaborative planning (this planning can also occur with educators from outside your building)

Learning Progressions Framework (LPF)

- Research shows that in order to make academic progress through the grades and get more sophisticated understanding of the content, there is a typical path that learning takes
- The LPF 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



Core Content Connectors (CCCs)

- Using the LPF, 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 the starting point for instruction

CCC Example

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CCSS- Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCC- Ask and answer questions* about key details in a text.

*Instead of an oral or written response, some students may use picture symbols, character figures and props, etc.

Learning Progression Framework

Curriculum Application

Lesson 5



National Center and State Collaborative

Apply formulas

- ✓ Solve word problems using perimeter and area where changes occur to the dimensions of a figure

Fractions

- ✓ Partition circles and rectangles into two and four equal parts
- ✓ Partition shapes into equal parts with equal area

Area

- ✓ Use addition to find the perimeter of a rectangle
- ✓ Use tiling and multiplication to determine area

Basic operations

- ✓ Addition
- ✓ Subtraction,
- ✓ Multiplication
- ✓ Division

Part to Whole

- ✓ Partition circles and rectangles into two equal parts

Graphing

- ✓ Locate the x and y axis on a graph
- ✓ Locate points on a graph
- ✓ Use order pairs to graph given points

Area

- ✓ Find area of quadrilaterals
- ✓ Find area of plane figures and surface area of solid figures (quadrilaterals)
- ✓ Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings)

Solve Linear Equations

- ✓ Solve a linear equation to find a missing attribute given the area, surface area, or volume and the other attribute

Ratio & Proportion

- ✓ Solve problems that use proportional reasoning with ratios of length and area
- ✓ Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings)

CCCs = that connect skills

CCCs=Sub-skills that develop conceptual understanding

CCCs =Prerequisite knowledge or emergent skills

Content Modules

- Online multimedia resources
- Provide teachers with a deeper understanding of content to support effective planning, teaching, and learning
- Include sample universally designed general education lesson plans
- Describe potential adaptations and modifications for designing materials and instruction

Graduated Understandings

- **Instructional Families:**
 - Provide educators with easily interpreted visual representations of the areas of curricular emphasis for related CCCs within and across grades; and
 - Reference the CCSS, the Learning Targets of the Learning Progression Frameworks and the Core Content Connectors.
- **Element Cards:**
 - Reference the CCSS, Core Content Connectors and Progress Indicators;
 - Define the Essential Understandings; and
 - Articulate suggested instructional strategies, supports and scaffolds.

Overview of CCCs: Data Analysis I:

Grade-span Learning Target from the Learning Progression Frameworks

(K-4)

- E.DPS-1** Gather and interpret data to answer questions related to a particular/situation.
- Formulate questions, gather data, and build representations;
 - Identify and describe variation in data, and describe and compare shapes of distributions and measures of central tendency.

Formulate Questions/ Plan Research		Represent and Interpret Data		Draw Conclusions from Data Collection	
Grades K-1		Grade 2		Grade 3	
K.DPS.1a1 Select a question that is answered by collected data K.CC.5				4.DPS.1f2 Develop questions, make a plan for data collection <i>No CCSS linked</i>	
1.DPS.1a2 Select questions that ask about "How many" and represent up to three categories that can be concretely represented 1.MD.4		2.DPS.1a6 Identify up to 3 categories resulting from a selected question 1.MD.4		3.DPS.1g1 Collect data, organize into picture or bar graph 3.MD.3	
1.DPS.1a3 Identify 2 categories resulting from a selected question 1.MD.4		2.DPS.1a7 Analyze data by sorting into categories established by each question 2.MD.10		3.DPS.1g2 Organize measurement data into a line plot 3.MD.4	
1.DPS.1a4 Analyze data by sorting into 2 categories; answer questions about the total number of data points and how many in each category 1.MD.4		2.DPS.1a8 Interpret the number of points in each category <i>No CCSS linked</i>		3.DPS.1i1 Select the appropriate statement that describes the data representations based on a given graph (picture, bar, line plots)	
1.DPS.1c1 Using a picture graph, represent each object/person counted on the graph (1:1 correspondence) 1.MD.4		2.DPS.1c2 Organize data by representing categorical data on a pictorial graph or bar graph 2.MD.10		3.DPS.1k1 Apply results of data to a real world situation	
1.DPS.1d1 Interpret a picture graph and a line plot to answer questions about the data 1.MD.4		2.DPS.1c3 Organize data by representing continuous data on a line plot 2.MD.9 2.MD.10		4.DPS.1k2 Apply results of data to a real world situation 3.MD.4	
1.DPS.1e1 Compare the values of the 2 categories of data in terms of more or less 1.MD.4		2.DPS.1e2 Compare the information shown in a bar graph or picture graph with up to 4 categories. Solve simple comparisons of how many more or how many less 2.MD.10			

Instructional Families for Data Analysis I (K-4)

Reference to related CCSS

Distribution of CCCs by Instructional Families an grade

Element Cards

CCSS: 1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another		
CCC:	1.DPS.1 e1	Compare the values of the 2 categories of data in terms of more or less
Strand: Data, Probability and Statistics		Family: Draw Conclusions from Data Collection
Progress Indicator: E.DPS.1e describing and comparing data and beginning to identify what the data do or do not show (e.g., bar graphs, line plots, picture graphs)		
Essential Understandings	Concrete Understandings: <ul style="list-style-type: none">• Can identify groups of objects in terms of more and less• Can match numbers from a graph to numbers on a number line	Representation: <ul style="list-style-type: none">• Identify and use the symbols for $<$, $>$, $=$
	Suggested Instructional Strategies: <ul style="list-style-type: none">• Teach the concept of more or less using example, non-example; apply to data on graph• Use or create a graph that provides a visual of the values in each category such as a bar graph• Teach the concept of more or less using a number line	
Supports and Scaffolds: <ul style="list-style-type: none">• Number line• Snap cubes to create a concrete bar graph		

Curriculum Resource Guide

- Provides guidance for teaching the CCSS to students with the most significant cognitive disabilities
- Delineates the necessary skills and knowledge students need to acquire/master the content
- Provides examples for differentiating instruction for a wide range of students in multiple grade levels (including a UDL table)

How UDL is incorporated in ELA Curriculum Resource Guide

6. How Do I Make Instruction on “Reading Informational Texts” Accessible to ALL the Students I Teach?

6.1 Teach Prerequisites Concurrently While Teaching Skills Related to Reading Informational Texts: Remember that students can continue to learn basic literacy skills in the context of this grade level content.

Basic literacy skills that can be worked on as a part of a lesson relating to informational text:

- Answering literal recall questions
- Making inferences that are relevant and meaningful, possible not related to written text
- Determining the main idea or the most important events in a personally relevant stories (e.g., auto-biographies)
- Differentiating between nonfiction and fiction texts
- Identifying author’s purpose
- Vocabulary acquisition
- Using visual cues to find important information (e.g., highlighting or added visuals)

Example of UDL Table in ELA Curriculum Resource Guide

6.2 Incorporate Universal Design for Learning (UDL) in planning, and provide for additional Differentiated Instruction when Teaching Reading Informational Texts

Some examples of options for teaching vocabulary and acquisition skills to students who may present instructional challenges due to:				
	Sensory Differences such as Blindness, Visual Impairment, Deafness, or Deaf/Blindness	Physical Disability or Motor Differences (such as weakness or motor planning difficulty)	Extremely limited evidence of experience/ skill or motivation/ attention	Limited or no speech
Representation	Use a talking device such as an avatar; use large print text, raised text or Braille; use objects and images to represent vocabulary words and answers to questions; use online dictionaries that will pronounce the words and read the definitions aloud; use matching picture cards with words and their meanings; add sound effects when appropriate (e.g., sound of a whale, busy city streets, a tomado); <u>preteach</u> basic concepts of a topic using objects; color photos related to topics; <u>Smartboard</u> can be used during instruction.	Student scans an array of possible options and uses a switch to select the correct vocabulary word or answer to questions; use computer representation of word meanings that can be manipulated with switch; place response options on a slant board or eye gaze board; create a vocabulary matching exercise in the classroom that the student can walk or ride on in wheelchair to find the matching words and meanings (this can include picture clues or objects).	Use motivating objects (e.g., pizza, coloring markers in a box, piece of a Lego set) to incorporate key vocabulary and details from text; incorporate technology including computer representations, videos, animations, and talking avatar; allow students to self-select topics for study; use YouTube that is related to instruction; <u>Smartboard</u> can be used during instruction.	Have student use online dictionary to pronounce and define words; use online visual dictionary to increase vocabulary; students can use one to one correspondence to match words or objects with definitions; <u>preteach</u> vocabulary using AAC devices; highlight vocabulary words within the context of the print, keep to one vocabulary word per page and keep an AAC device with matching word with the text; use an <u>iPad</u> during instruction. *Suggestions from other columns may be applicable here.

How UDL is incorporated in Math Curriculum Resource Guide

6. How Do I Make Instruction on “Equations” Accessible to ALL the Students I Teach?

6.1 Teach Prerequisites and Basic Numeracy Skills Concurrently: Remember that students can continue to learn basic numeracy skills in the context of this grade level content.

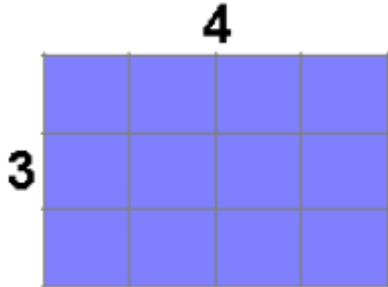

Basic numeracy skills that can be worked on as a part of a lesson relating to equations:

- Number identification
- Equal and/or same
- Symbol identification (+, -, =, x, ÷)
- Addition and subtraction
- Creating sets

Example of UDL Table in Math Curriculum Resource Guide

	Sensory Differences such as Blindness, Visual Impairment, Deafness, or Deaf/Blindness	Physical Disability or Motor Differences (such as weakness or motor planning difficulty)	Extremely limited evidence of experience/ skill or motivation/attention.	Lack of or extremely limited use of speech.
Options for Representation	<p>Provide auditory options</p> <ul style="list-style-type: none"> -Talking calculator when solving equations; -Text-to-speech software or voice recordings to read aloud story problems -Single message sequence voice-output devices to count aloud -Captioning software that presents auditory information visually <p>Provide tactile options:</p> <ul style="list-style-type: none"> -Object cues, using miniature objects or other tangible symbols to assist with problem comprehension and operations -Tactile equation mat -Create numbers and symbols out of tactile materials such as 	<p>Reduce Physical Effort</p> <ul style="list-style-type: none"> -When reading word problems, student can scan array of key math operation words and select correct key word and operation for equation -Place equations and graphic organizers on slant board or eye gaze board -Display flip chart, interactive white board or other teaching materials at student eye level -Utilize a switch instead of a computer mouse or software that allows the mouse to be controlled with the students' head rather 	<p>Illustrate through multiple media</p> <ul style="list-style-type: none"> -Utilize interactive whiteboard -Incorporate interactive websites that provide nonlinguistic tools for exploring math concepts : <p>Illustrations http://illuminations.nctm.org/ActivitySearch.aspx</p> <p>Math Open Reference http://www.mathopenref.com/</p> <p>There are many resources listed here: http://www.udlcenter.org/implementation/examples</p> <ul style="list-style-type: none"> -Use virtual manipulatives and technology to show equations -Incorporate computer 	<p>Provide customized display of information</p> <ul style="list-style-type: none"> -Consistent model by utilizing modes of communication used by students (point to symbols representing concepts, operations) -Teacher model competent use of AAC during instruction

Curriculum Resource Guides

Grade 8		
<p>CCC</p> <p>Measurement: 8.ME.1e2: Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings)</p>	<p>Performance Example</p> <p>“Shelly’s bedroom has a closet where she keeps all her clothes. Here is a picture of her closet. Shelly’s closet was 3 feet by 4 feet. She used a formula to calculate area. The formula for area is area equals length times width. You can also figure out area by counting the boxes.”</p>  <p>“Her closet is too small, so her Dad built an addition and made it bigger. This shows Shelly’s new closet. Her new closet is 4 feet by 8 feet. How much bigger is Shelly’s new closet when compared to her old closet?”</p>  <p>Old Closet 8</p> <p>4</p> <p>New Closet</p>	<p>Essential Understandings</p> <p>Recognize how the space inside a figure increases when the sides are lengthened.</p>

UDL Units and Lessons: Purpose

To model how to plan for ALL students from the onset of instructional planning using the principles of universal design for learning:

Students should be provided with-

- Multiple means of engagement in the lesson,
- Multiple means of representing the information to be learned, and
- Multiple means of expression that enable the students to demonstrate what they know and can do.

UDL Units and Lessons: Benefits

- Promote inclusive instruction; show how students who take the alternate assessment can be educated using general education lessons
- Excellent for co-teaching and collaborative planning (this planning can also occur with educators from outside your building)
- Are modified/adapted for Emerging Readers and Emerging Communicators

Lesson 1: Introduction – 10 minutes



High School Mathematics UDL Instructional Unit-Lesson 1

Contents [\[hide\]](#)

- 1 Materials and Vocabulary
- 2 Lesson Introduction
- 3 Body
- 4 Practice
- 5 Closure
- 6 Resources

A. Activate Previous Knowledge

1. Lead a short discussion about how to [find perimeter and area of rectangles](#).
 - Review with students the concepts of perimeter and area.
 - Discuss how these concepts are used in real life examples.
 - Example 1: A runner is practicing by running along the fence line of a parking lot. Is he running the perimeter of the parking lot or is he running the area?
 - Example 2: The school is getting new carpet in the classroom. Will the workers need to figure out the area of the classroom or the perimeter?

Break class into small groups to answer exercises.

1. Using figures (rectangles and squares) drawn on grid paper or formed on Geoboards, find the perimeters and areas.
2. Remind students that answers should/must include the appropriate units of measure.

Multiple means of representation: Use models and/or drawings during large group instruction. Allow students to have a copy of a drawing or a model at their desks.

Multiple means of expression: Provide a list of formulas to determine area and perimeter or provide options for using manipulatives and/or computer models.

Multiple means of engagement: Allow students to use paper/pencil, manipulatives, computer, etc. to complete exercises.

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Additional Considerations for Emerging Readers and Emerging Communicators

1. Provide picture and/or tactile representations of relevant vocabulary, paired with the written word, each time a salient concept/vocabulary word for rectangle, area, and perimeter is mentioned during the presentation or discussion, as well as the meanings of each word.
2. Create math journals to record vocabulary, formulas, and notes.
3. Provide the formulas for area and perimeter as the concepts of each are discussed.
4. During discussion, provide picture representation of real world uses for area and perimeter.
5. As students work in small groups or pairs, ensure they have a means for gaining their group members' or partner's attention and a means for contributing to the discussion.
6. Students may use their math journals or a graphic organizer to collect/store information gathered during group.
7. To find area and perimeter, use grid paper, count/mark/tally each unit along the length of the figure to determine length and count/mark/tally each unit along the width of the figure to determine the width.
8. Use the formulas to determine area and perimeter.
 - A list of formulas may be used by the student as a reference.
9. Student may be presented with manipulatives of a unit and the rectangle drawn on grid paper.
 - Students determine area and perimeter by placing the manipulative units on each unit around the rectangle on the grid paper to demonstrate perimeter as well as within the rectangle to demonstrate area.
 - Using manipulatives may be demonstrated electronically, using a computer program or PowerPoint, to count units virtually to determine area and perimeter.

See Resources: See PowerPoint, Slides 1 and 2.


10. As answers are reviewed, be sure to reference the appropriate units of measure. For example, if students determine the perimeter of a 3inch by 4inch figure is 14, reply, "That is correct. It is 14 inches." If they determine the area is 12, reply, "That is correct. It is 12 inches square."
 - Remind students to record the appropriate unit.
 - Model how to write the appropriate units.
 - Present students with an alternative representation of unit to record in their math journals or graphic organizers.

Important Note for Communicators Considered Pre-Symbolic: Be sure students have a way to attain peer attention as well as to share and receive information. Limit measurements to one type: standard or metric unit.

Math/ Language Activities for Scripted Systematic Instruction (MASSIs and LASSIs)

- Generally designed to be used with UDL Units
- Provide more intensive instruction on key concepts and symbols
- Incorporate evidence-based instruction from research, including faded prompting
- Provide teaching scripts for teachers who may not have a lot of training in systematic instruction, which uses carefully planned steps
- Can be embedded in general education lessons with a mixed ability group OR taught to a small group or an individual student.

What is Included in a MASSI?

 This may be a good stopping point. Have the student have a classroom student election (they can vote on class president for a day or student of the day). Students can fill out ballots, turn them in, count out the results, and mark them on a table and create a bar graph. There is a generalization worksheet with this level. You can use this for additional guided practice or to send home as homework.

	Teacher Says/Does	Student Response	Error Correction
INDEPENDENT PRACTICE: Data Analysis Skills Test	Give each student the <i>Data Analysis Skills Test 1</i> . Read directions for each problem and have student select response. Record whether response is correct or incorrect.	Only provide praise for completing assessment (if student needs encouragement). Do not provide specific praise for correct answers while student is testing.	Once the student has completed the test, review missed problems with the student.
<i>NOW</i> Stop the lesson here and repeat tomorrow if student is not yet getting at least 20 independent correct responses. Score responses 1-34 on the <i>Data Analysis Progress Monitoring Sheet</i> if you did not do so while teaching.		<i>NEXT</i> Remember the goal is for students to be able to examine the data in further detail using tables and bar graphs, move into the second half of the lesson to hit the target CCC for this grade level. You can skip this <i>Conceptual Foundation</i> section to move on.	

- Broken down into segments to teach across multiple sessions/days;
- Indicates suggestion for stopping places ;
- Shows how to administer skills test (teacher says/does, student response, and error correction); and
- Provides suggested criterion for moving forward

Instructional Resource Guide

- Provides overview of systematic instruction
- Explains instructional strategies and faded prompts used in MASSIs and LASSIs
- Contains troubleshooting Q&A

Professional Development

- Communities of Practice in partner states received professional development about the curriculum and instructional resources via webinars that are publically available at <http://www.ncscpartners.org/resources-cop-presentations>
- States will also have access to interactive professional development modules

Educator Response



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Sample quote:

“I have had the pleasure of observing several classrooms across the state of Indiana where NCSC materials are being implemented on a daily basis. Wow! The impact is powerful, students are responsive, and teachers are dedicated to increased academic achievement.”

Amy Howie, Project SUCCESS* Director

*Project SUCCESS is an Indiana resource center that supports high academic achievement for students with disabilities.



National Center and State Collaborative

Parent Resources: Process

- Designed for parents, but also to help educators discuss assessment and instruction with parents of students with significant cognitive disabilities
- Developed with assistance of a State Advisory Group and a Parent Advisory Group

List of Parent Resources

<http://www.ncscpartners.org/resources>

- Project Description
- NCSC Project Description One Page
- NCSC Diagram and Explanation
- NCSC Model of Curriculum Instruction and Assessment
- NCSC Alternate Assessment FAQs
- NCSC Commonly Asked Parent Questions about Alternate Assessment
- NCSC IEP Team Guidance For Participation
- NCSC College and Career Readiness
- NCSC College Career Ready (CCR) Policy Paper Summary
- NCSC Communicative Competence
- NCSC Newsletter and Website Information

