DEPARTMENT OF CHILDREN, YOUTH, AND FAMILIES

Using the MN ECIPs in Your Program: Mathematics Domain Participant Guide

(2 hours)

Last Updated January 2026

Session Overview

Minnesota's Knowledge and Competency Framework (KCF) for Early Childhood Professionals Content Areas and Child Development Associate (CDA) Subject Areas

The Minnesota's Knowledge and Competency Framework for Early Childhood Professionals Content Areas and the Child Development Associate (CDA) Subject Areas are listed here to help participants understand what competencies, content, and subject areas are addressed in the training.

- KCF Content Area: I. Child Development and Learning
- CDA Subject Area: VIII. Understanding the principles of child development and learning

Course Description Explore the Math domain from the Minnesota Early Learning Standards. Develop specific ideas and activities that can support the development of Math in a program. It is recommended to take Intro to the ECIPS prior to taking this course.

Learning Objectives

Throughout this training, participants will:

- Describe the purpose and structure of the ECIPs
- Identify indicators of the mathematics domain in current classroom and indicate how these can be embedded into daily routines and activities
- Develop an action plan that includes at least one new strategy for integrating the mathematics domain into the classroom or program setting

Session Outline

Section	Section Time	Key Concepts	Teaching Techniques	Learning Objective Met
A	15 minutes	Welcome/Introductions Objectives Review	Large Group Discussion	
B	30 minutes	Purpose of the ECIPs	Mini-Lecture Large Group Activity	1
C	15 minutes	Overview of Mathematics Domain	Mini-Lecture Large Group Discussion	1
D	45 minutes	Practice and Application	Small Group Activity	2 & 3

Section	Section Time	Key Concepts	Teaching Techniques	Learning Objective Met
E	15 minutes	Objectives Review/Closing	Individual Reflection	
	Total Time: 2 hours			

The 8 Domains of the ECIPS

Domain	Components
Approaches to Learning	Curiosity and Inquisitiveness, Attentiveness, Imagination, Processing and Using Information
The Arts	Exploring the Arts, Using the Arts to Express ideas and Emotions
Language, Literacy, and Communication	Receptive Language (Listening and Understanding), Expressive Language (Communicating and Speaking), Emergent Reading, Writing
Mathematics	Number Knowledge, Measurement, Patterns, Geometry and Spatial Thinking, Data Analysis
Physical and Movement Development	Gross Motor, Fine Motor and Self-Care
Scientific Thinking and Exploring	Explore, Discover, Explain
Social & Emotional Development	Self and Emotional Awareness, Self-Regulation, Social Understanding and Relationships
Social Systems	Self-Identity, Family, and Community, Concept of Time, Environment, Geography, and Our Role in Society, Economics: Wants, Needs, and Choices, Technology

Scenarios Activity

- During clean-up, children sort recyclables into the blue bin and trash into the black bin; Kai reminds friends, 'Bottles go in recycle
- Outside, Priya walks across a taped line, arms out for balance, then jumps with two feet off a low mat and lands steadily.
- A small group drums a slow beat; Ali adds a faster tap, then returns to slow when the educator signals 'quiet.' Later, he says, 'I liked the loud part best.'

- During block play, Maya tries three ways to make a bridge. When it collapses, she says, 'Maybe the big block goes under,' and persists until it stands.
- A peer looks upset. Lila brings a stuffed bear, says, 'Do you want a hug?' and later tells an educator, 'He was sad.'
- Jae counts six counters by touching each one once—'1, 2, 3, 4, 5, 6'—and answers, 'There are six,' when asked, 'How many?'
- Children say the ramp is 'too flat.' Mateo suggests, 'Let's make it taller,' tests two heights, and explains, 'The cars went faster when it was higher.
- During read aloud time, Noor points to the picture and says, 'The rabbit is under the table,' then predicts, 'He will run outside.'

Components of the Mathematics Domain

- Number Knowledge (M1–M7) focuses on helping children understand numbers and their relationships. This includes learning to count in sequence, matching objects to number words (one-to-one correspondence), recognizing that the last number counted represents the total (cardinality), comparing quantities using terms like "more" and "less," and exploring early addition, subtraction, and ordinal positions such as first or last.
- Measurement (M8) introduces children to concepts of size, length, weight, volume, and time. They begin by noticing differences like "full" and "empty," then progress to using comparison words such as "longer" and "shorter," and eventually explore both standard and non-standard units of measurement.
- Patterns (M9) encourages children to recognize, copy, and create repeating sequences in colors, shapes, sounds, and movements. Over time, they learn to extend patterns and apply pattern rules across different materials and contexts.
- Geometry and Spatial Thinking (M10–M12) develops children's ability to identify and describe two-dimensional and three-dimensional shapes, use positional words like "above," "below," and "next to," and manipulate shapes through composing, decomposing, and transformations such as flipping or rotating.
- Data Analysis (M13–M15) builds skills in sorting objects by attributes like color or size, collecting and organizing data using charts or tallies, and interpreting patterns and differences to solve problems.

Strategy or Activity for each component

- Number Knowledge (M1–M7)

- Measurement (M8)

- Patterns (M9)

- Geometry and Spatial Thinking (M10–M12)

- Data Analysis (M13–M15)

Resources

Early Childhood Indicators of Progress: Minnesota's Early Learning Standards 2028 version - https://dcyf.mn.gov/sites/default/files/2025-08/els-ecips-2028.pdf