

# **Mathematics**

## **Connecticut Preschool Standards to Common Core State Standards Continuum**



**Preschool - Kindergarten**

## Connecticut Preschool-Kindergarten Standards Continuum for Mathematics

On July 7, 2010, with a unanimous vote, the State Board of Education adopted new national academic standards, known as the Common Core State Standards (CCSS), in English language arts and mathematics that will establish what Connecticut's public school students should know and be able to do as they progress through Grades K–12. The adoption of these standards has naturally led to questions regarding standards for preschool and/or prekindergarten students.

Connecticut's Early Childhood Education Cabinet is in the process of bringing together a cross-sector workgroup with the charge of creating new comprehensive and multi-domain learning standards, birth to age 5, that reflect a progression of skills birth through Grade 12. Prior to the adoption of new birth to five standards, the following Connecticut learning standards may be used to support curriculum development in preschool programs.

1. The Connecticut Preschool Curriculum Framework (PCF) and Preschool Assessment Framework (PAF)
2. Prekindergarten grade level expectations (GLES) in mathematics and ELA that align to K Common Core State Standards
3. Prekindergarten to Grade 8 Curriculum Standards for Science and Social Studies (Draft)
4. Sample performance standards for School Health Education and Physical Education

Rationale and Purpose: The Connecticut Preschool Standards to Common Core State Standards Continuum shows the relationship between the PCF, the PAF, the prekindergarten GLEs in mathematics and the kindergarten CCSS in mathematics. The purpose of this crosswalk is to highlight mathematics standards to be addressed in preschool in order to best prepare children for their transition to kindergarten. The Kindergarten Common Core State Standard Crosswalk aims to show the Kindergarten Common Core State Standards that represent a match to the CT standards regardless of the grade level they previously appeared.

It is critical for those making curriculum decisions for preschool to realize that the domain of Counting and Cardinality appears only in the Kindergarten CCSS. In addition, the CCSS document emphasizes that, "In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics." A corresponding emphasis on number and geometry in preschool will support children in gaining the skills and behaviors needed for future school success.

The following charts include the Common Core State Standards in Mathematics for kindergarten, detailing the Connecticut preschool standards that will promote growth in these areas. The Common Core State Standards in Mathematics are divided into two sets of standards:

**1). The Common Core Standards for Mathematical Practice**

These standards outline processes and dispositions that educators should strive to develop in all students. As worded, these standards are broad and are written to span from K through grade 12; however, the teaching strategies to support these practices will vary across age spans. Seven of the eight standards for mathematical practice are included here as the standards most appropriately addressed through preschool learning experiences.

**2). The Standards for Mathematical Content, Grade K**

These standards include both procedures and conceptual understanding. In kindergarten, there is a strong emphasis on numbers and geometry. A corresponding emphasis in preschool is appropriate. Preschool programs should focus on providing learning experiences that will help children to understand and use numbers in meaningful ways, as well as describing and manipulating shapes and space. Providing learning experiences that address specific skills in meaningful and relevant contexts will help to develop and integrate the skills and dispositions addressed in the mathematical practice standards as well.

**Mathematic Practice Standards**

**Preschool Standards:  
CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**COG 2**

Uses a variety of strategies to solve problems.

**PCF**

Show curiosity and independent interest in number-related activities.

Use symbols or drawings to express thoughts, feelings and ideas.

**End of Preschool:**

**Prekindergarten Grade Level Expectations (GLE)**

CT.PK.3.3.9 Discuss strategies to estimate and compare length, area, temperature and weight.

CT.PK.3.3.6 Use patterns to determine events that reoccur.

CT.PK.4.2.2 Describe real graphs using comparative language such as more, less, most, least and the same.

**Kindergarten Common Core State Standards**

**CC.K-12.MP.1 Make sense of problems and persevere in solving them:** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Note: Preschoolers should be exposed to individual and group mathematic problems that are meaningful and engaging. Higher-order questions and prompts to promote analysis of the scenario and potential solutions will support preschoolers in approaching problems.

**Mathematical Practice Standards**

**Preschool Standards:**

**CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

COG 6  
Relates number to quantity.

**PCF**

Use symbols or drawings to express thoughts, feelings and ideas.

Compare and contrast objects and events.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.1.1 Represent quantities of up to twenty objects in a set.

CT.PK.2.1.2 Compare two sets of up to twenty objects and identify which set is more, less or the same.

CT.PK.2.2.7 Act out and solve story problems using sets of up to ten objects.

**Kindergarten Common Core State Standards**

**CC.K-12.MP.2 Reason abstractly and quantitatively:** Mathematically proficient students make sense of the quantities and their relationships in problem situations. Students bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Preschoolers are typically beginning to reason quantitatively, which begins with a true understanding of numbers. An example of quantitative reasoning in preschool would be understanding that “three” is a quantity, that this concept remains the same even when applied to different objects and that this quantity does not vary due to the configuration of objects. In addition, preschoolers are just beginning to learn that symbols can be used to represent concepts and ideas. Exposure and discussions of symbols (including numerals and addition and subtraction signs as appropriate) and applying their use in solving meaningful and engaging problems is appropriate in preschool.

## Mathematical Practice Standards

### Preschool Standards:

#### CT Preschool Curriculum Framework (PCF) CT Preschool Assessment Frameworks (PAF)

##### COG 2

Uses a variety of strategies to solve problems.

##### PCF

Make and verify predictions about what will occur.

Estimate and verify the number of objects.

### End of Preschool:

#### Prekindergarten Grade Level Expectations (GLE)

CT.PK.1.1.1 Sort and classify familiar objects by a single attribute, including size, shape, color, texture, orientation and position and explain the reason.

CT.PK.3.1.5 Complete simple shape and jigsaw puzzles and explain the reasoning used to complete the puzzle.

CT.PK.4.3.4 Explain why events are likely or unlikely to happen, based on personal experiences.

## Kindergarten Common Core State Standards

### CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others:

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and-if there is a flaw in an argument-explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Preschoolers should be offered opportunities to communicate about mathematics. They should have opportunities to present solutions to problems, mathematical and otherwise, and should be prompted to explain their reasoning. In addition, modeling the process of weighing of two approaches to a problem, through reasoning and discussion, will support critical communication skills.

## Mathematical Practice Standards

### Preschool Standards:

#### CT Preschool Curriculum Framework (PCF)

#### CT Preschool Assessment Frameworks (PAF)

COG 2 Uses a variety of strategies to solve problems

COG 6 Relates number to quantity

#### PCF

Collect, describe and record information.

Use symbols or drawings to express thoughts, feelings and ideas.

### End of Preschool:

#### Prekindergarten Grade Level Expectations (GLE)

CT.PK.2.2.7 Act out and solve story problems using sets of up to ten objects.

CT.PK.3.3.6 Use patterns to determine events that reoccur.

## Kindergarten Common Core State Standards

### CC.K-12.MP.4 Model with mathematics:

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another.

Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Preschools can work individually or in groups to solve meaningful problems in the context of a preschool classroom. Examples might include identifying how many of a particular item is needed for a group project or adding the number of children and adults to find out how many people are in the room. In addition, adults can model writing an equation that represents the problem to be solved.

## Mathematical Practice Standards

### Preschool Standards:

#### CT Preschool Curriculum Framework (PCF)

#### CT Preschool Assessment Frameworks (PAF)

COG 2 Uses a variety of strategies to solve problems.

#### PCF

Use equipment for investigation.

Collect, organize and display information.

Use common instruments to measure things.

### End of Preschool:

#### Prekindergarten Grade Level Expectations (GLE)

CT.PK.3.3.8 Use nonstandard units or reference objects to compare length, area, and capacity and to order, estimate and sort object by size (length or area). Describe the comparisons using language such as more, longer, shorter or taller.

CT.PK.4.1.1 Create real graphs using familiar objects and pictures that represent information about the group of children.

CT.PK.4.2.2 Describe real graphs using comparative language such as more, less, most, least, and the same.

## Kindergarten Common Core State Standards

### CC.K-12.MP.5 Use appropriate tools

**strategically:** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, ruler, protractor, calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

When solving mathematical problems in context, preschoolers may be exposed to the use of tools, such as real graphs, to represent and help solve problems and should have opportunities to select tools for measuring in meaningful contexts.



**Mathematical Practice Standards**

**Preschool Standards:**

**CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

COG 6 Related number to quantity.

COG 8 Uses complex sentences and vocabulary.

**PCF**  
Compare and contrast objects and events.

Ask questions about and comment on observations and experimentation.

Estimate and verify the number of objects.

Uses symbols or drawings to express thoughts, feelings and ideas.

Collect, describe and record information

**End of Preschool:**

**Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.1.3 Identify the ordinal position of objects: first and last.

CT.PK.2.1.2 Compare two sets of up to twenty objects and identify which is more, less or the same.

CT.PK.2.2.7 Act out and solve short story problems using sets of up to ten objects.

CT.PK.3.3.7 Sequence events and describe time periods using terms such as morning, afternoon, night, yesterday, today and tomorrow.

CT.PK.3.3.8 Use nonstandard units or reference objects to compare length, area and capacity and to order, estimate and sort objects by size (length or area). Describe the comparisons using language such as more, longer, shorter or taller.

CT.PK.4.2.2 Describe real graphs using comparative language such as more, less, most, least and the same.

**Kindergarten Common Core State Standards**

**CC.K-12.MP.6 Attend to precision:**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

In preschool, it is appropriate to ask probing questions and provide prompts to students to increase their awareness of accuracy and precision in their communication, especially as it relates to mathematics.

## Mathematical Practice Standards

### Preschool Standards:

#### CT Preschool Curriculum Framework (PCF)

#### CT Preschool Assessment Frameworks (PAF)

COG 4 Recognizes and makes patterns.

COG 5 Compares and orders objects and events.

#### PCF

Recognize simple patterns and duplicates or extends them.

Create and duplicate patterns and shapes using a variety of materials.

### End of Preschool:

#### Prekindergarten Grade Level Expectations (GLE)

CT.PK.1.1.1 Sort and classify familiar objects by a single attribute, including size, shape, color, texture, orientation and position and explain the reason.

CT.PK.3.1.1 Identify and describe familiar shapes (triangles, squares, rectangles and circles) and solids (cubes, spheres, cylinders and prisms) in the environment and contextual situations.

CT.PK.3.1.2 Compare and sort familiar shapes and solids in the environment and contextual situations.

CT.PK.3.3.6 Use patterns to determine events that reoccur.

CT.PK.3.3.7 Sequence events and describe time periods using terms such as morning, afternoon, night, yesterday, today and tomorrow.

CT.PK.4.3.3 Use patterns to describe some events that repeat.

## Kindergarten Common Core State Standards

### CC.K-12.MP.7 Look for and make use of

**structure:** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well-remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

Providing opportunities for preschoolers to find and discuss patterns and structure in the context of their everyday environment will help support their future use of patterns and structure in solving problems.

**Counting and Cardinality**

**Kindergarten Common Core State Standards**

**Preschool Standards:  
CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**  
COG 6 Relates number to quantity.

**PCF**  
Show curiosity and independent interest in number-related activities.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK. 2.1.1. Represent quantities of up to twenty objects in a set.

CT.PK.2.2.5 Count by rote to at least twenty.

**Knows number names and the count sequence.**

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

**Notes:** Preschoolers should continually have opportunities to count, discuss quantity and to have writing implements available during number-related activities.

**Counting and Cardinality**

**Preschool Standards:**

**CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**

COG 6 Relates number to quantity.

**PCF**

Demonstrate understanding of one-to-one correspondence while counting.

Show curiosity and independent interest in number-related activities.

**End of Preschool:**

**Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.1.1 Represent quantities of up to twenty objects in a set.

CT.PK.2.2.5 Count by rote to at least 20.

CT.PK.2.2.6 Count as one more object is added to a set of up to twenty objects.

**Kindergarten Common Core State Standards**

**Count to tell the number of objects**

CC.K.CC.4 Understand the relationship between numbers and quantities: connect counting to cardinality.

C.K.CC.4a When counting objects, say the number names and the standard order, pairing each object with one and only one number name and each number name with one and only one object.

C.K.CC.4b 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.K.CC.4c Understand that each successive number name refers to a quantity that is one larger.

C.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.

**Notes:** Preschoolers should have opportunities to count increasing numbers of objects in various arrangements as their counting skills progress. In addition, they should have many opportunities to count in meaningful contexts in order to answer the question of “how many?”

**Counting and Cardinality**

**Kindergarten Common Core State Standards**

**Compare Numbers**

CCK.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 objects.

CC.K.CC.7 Compare two numbers between 1 and 10 presented as written numerals.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.1.2 Compare two sets of up to twenty objects and identify which set is more, less or the same.

**Preschool Standards:  
CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**  
COG 6 Relates number to quantity.

**PCF**  
Show curiosity and independent interest in number-related activities.

Demonstrate understanding of one-to-one correspondence while counting.

Compares and contrasts objects and events.

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**Notes:** Preschoolers should have a multitude of experiences that promote their understanding of number and quantity and encourage them to compare sets of objects in meaningful contexts. Preschoolers should also have opportunities to use writing implements when working with numbers and should have frequent exposure to written numerals in the context of their classroom experiences.

**Operations and Algebraic Thinking**

**Kindergarten Common Core State Standards**

**Preschool Standards:  
CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**  
COG 6 Relates number to quantity.

**PCF**  
Show curiosity and independent interest in number-related activities.

Demonstrate understanding of one-to-one correspondence while counting.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.2.6 Count as one more object is added to a set of up to twenty objects.

CT.PK.2.2.7 Act out and solve story problems using sets of up to ten objects.

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

CC.K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal explanations or equations.

CC.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.

CC.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  $5=4+1$ ).

CC.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.

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



Notes: Preschoolers should have opportunities to explore addition and subtraction and hear related vocabulary (add, subtract, sum). Actual materials can be used to solve simple and meaningful problems in the context of preschool learning experiences and everyday play.

**Number and Operations in Base 10**

**Kindergarten Common Core State Standards**

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

CC.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 (e.g.,  $18=10 + 8$ ); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.2.1.1 Represent quantities of up to 20 objects in a set.

**Preschool Standards:**

**CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**

COG 6 Relates number to quantity.

**PCF**

Show curiosity and independent interest in number-related activities.

Demonstrate understanding of one-to-one correspondence while counting.

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**Notes:** Providing opportunities for children to compose and decompose sets of ten objects and explore composing sets of more than ten objects into ten and some ones will support the learning of critical foundational concepts and skills related to whole numbers and their application.

**Measurement and Data**

**Kindergarten Common Core State Standards**

**Preschool Standards:  
CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

COG 5 Compares and orders objects and events.

**PCF**  
Compare and contrast objects and events.

Use common instruments to measure things.

Orders several objects on the basis of one attribute.

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.1.1.1 Sort and classify familiar objects by a single attribute (size, shape, color, texture, orientation, and position) and explain the reason.

CT.PK.3.3.8 Use nonstandard units or reference objects to compare length, area and capacity and to order, estimate and sort objects by size (length or area). Describe the comparisons using language such as more, longer, shorter or taller.

**Describe and compare measurable attributes.**

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

CC.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.*

**Notes:** Preschoolers should have ample opportunity to measure various attributes of objects (e.g. height, weight) in a meaningful context and use these measurements as a basis for comparison.



**Measurement and Data**

**Kindergarten Common Core State Standards**

**Classify objects and count the number of objects in each category.**

CC.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).

**End of Preschool:  
Prekindergarten Grade Level Expectations (GLE)**

CT.PK.1.1.1 Sort and classify familiar objects by a single attribute (size, shape, color, texture, orientation, and position) and explain the reason.

CT.PK.3.1.2 Compare and sort familiar shapes and solids in the environment and contextual situations.

CT.PK.4.1.1 Create real graphs using familiar objects and pictures that represent information about the group of children.

CT.PK.4.2.2 Describe real graphs using comparative language such as more, less, most, least, and the same.

**Preschool Standards:**

**CT Preschool Curriculum Framework (PCF)  
CT Preschool Assessment Frameworks (PAF)**

**PAF**

COG 3 Sorts objects.

COG 5 Compares and orders objects and events.

**PCF**

Sort objects by one or more attribute and regroup the objects based on a new attribute.

Classify objects and events based on self-selected criteria.

**Notes:** Preschoolers should be offered opportunities to represent data using real graphs as this allows them to consider the quantity (or count) of different categories and to discuss concepts of more, less, most, least and the same.

## Geometry

### Preschool Standards:

#### CT Preschool Curriculum Framework (PCF) CT Preschool Assessment Frameworks (PAF)

##### PAF

COG 5 Compares and orders objects and events.

COG 3 Sorts objects.

COG 7 Demonstrates spatial awareness.

##### PCF

Compare and contrast objects and events.

Classify objects and events based on self-selected criteria.

Show spatial awareness by demonstrating an understanding of position and order.

### End of Preschool:

#### Prekindergarten Grade Level Expectations (GLE)

CT.PK.3.1.1 Identify and describe familiar shapes (triangles, squares, rectangles and circles) and solids (cubes, spheres, cylinders and prisms) in the environment and contextual situations.

CT.PK.3.1.3 Construct shapes using a variety of materials.

CT.PK.3.2.5 Complete simple shape and jigsaw puzzles and explain the reasoning used to complete the puzzle.

## Kindergarten Common Core State Standards

### Analyze, compare, create and compose shapes.

CC.K.G.4 Analyze, compare, create, and compose shapes: 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).

CC.K.G.5 Analyze, compare, create, and compose shapes: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

CC.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?"

**Notes:** Preschoolers should have many opportunities to compare shapes and their attributes in a meaningful context. Opportunities should include discussions regarding the similarities and differences between shapes and explorations of different forms of a shape, including variations of size and orientation. In addition, children should have opportunities to explore combining shapes to make new shapes.

**Connecticut Standards not aligned to Kindergarten Common Core State Standards**

CT.PK.1.1.2 Recognize, copy, extend and create simple AB patterns using objects, movement or sounds.

CT.PK.2.1.4 Explore a whole and half of an object

CT.PK.3.3.7 Sequence events and describe time periods using terms, such as morning, afternoon, night, yesterday, today and tomorrow.

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