

Alignment to the Maryland Common Core State Standards for Mathematics, PreK

The following references are examples of components and teaching in The InvestiGator Club® Early Childhood with STEAM Learning System that align to Maryland Common Core State Standards for Mathematics and Mathematical Practices. The correlation is intended to illustrate the system's approach to these standards, not the comprehensiveness of the program.

MATHEMATICS

DOMAIN: Counting and Cardinality

Cluster: Know number names and the count sequence	
PK.CC.1 Count verbally to 10 by ones.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to use rote counting to name number words in order 2. Ability to use verbal counting as meaningful counting to solve a problem, such as finding out how many are in a set 	<p>The InvestiGator Club provides children with opportunities to count in sequence to ten and beyond. For example:</p> <ol style="list-style-type: none"> 1. Let's Investigate! Daily Routines, Numbers, p. 35. [Summary: Children are provided with many opportunities to count in order.] 2. Let's Investigate! Small Group, Math pp. 220-221. [Summary: Children count as high as they can during an experiment with a sand clock.] Splash and Dig, Small Group, Math, pp. 102-103 [Summary: With guidance, children use numbers and counting to solve problems and determine quantity.]
Cluster: Know number names and the count sequence	
PK.CC.2 Recognize the concept of just after or just before a given number in the counting sequence up to 10.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to use concrete materials and/or number cards arranged in a line to count and then determine what number comes before or after a specific number <ul style="list-style-type: none"> • Students are not expected to write numerals at this time. 	<p>The InvestiGator Club provides children with opportunities to count in sequence to ten and beyond. For example:</p> <ol style="list-style-type: none"> 1. Healthy You, Daily Routines, p. 33. [Summary: Children name the next number in a sequence and the number that comes last.]

Cluster: Know number names and the count sequence	
PK.CC.3 Identify written numerals 0-10.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to match written numerals with concrete representations <ul style="list-style-type: none"> • Students are not expected to write numerals at this time 2. Recognize the difference between a letter and a numeral 	<p>The InvestiGator Club provides children with opportunities to identify written numerals 0-10.</p> <ol style="list-style-type: none"> 1. Let's Investigate! Whole Group, Math: Knock Again, p. 227. [Summary: Children knock to show the number on the card.] Splash and Dig, Learning Centers, Math, Fish Ponds, p. 42; Small Group, Math: We Dig 6, p. 84. [Summary: Children identify a number and count out an equal number of objects such as fish and seashells.] 2. Under Construction, Everyday Literacy, Alphabet Knowledge, p. 121. [Summary: Children differentiate between letters and numbers.]

Cluster: Count to tell the number of objects	
PK.CC.4 Understand the relationship between numbers and quantities to 5, then to 10; connect counting to cardinality.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> • Below see the Skills and Knowledge listed for Standards PKCC4a-c to apply this Standard 	

Cluster: Count to tell the number of objects	
PK.CC.4a When counting objects, say the number names in the standard order, pairing each object with one and only one number name.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to say the number names in standard order (Stable Order Count) 2. Ability to apply the strategies of touching objects as they are counted and by organizing the objects in a row 3. Knowledge of and ability to apply one-to-one correspondence when counting 4. Ability to keep track of the objects that have been counting and those that have not been counted yet. 	<p>The InvestiGator Club provides children with numerous math activities where they say number names in standard order when counting objects. For example:</p> <ol style="list-style-type: none"> 1. Let's Investigate! Whole Group, Readiness: Time, pp. 136-137; Finny, Feathery, Furry Friends, Small Group, Math: Reread a Math Story, p. 105. [Summary: Children count in sequence to 10 and beyond.] 2. Under Construction, Whole Group, Math: One Truck, p. 69. [Summary: Children associate number concepts, vocabulary, and quantities and written numerals.] 3. Let's Investigate! Learning Centers, Math: Math Match; Whole Group, Math: A Living Graph, p. 161. [Summary: Children use one-to-one correspondence in counting objects and to match groups of objects.] 4. Finny, Feathery, Furry Friends, Small Group, Math: The Number 5. [Summary: Children associate number concepts and quantities and

keep track of objects that they have counted.]

Cluster: Count to tell the number of objects

PK.CC.4b Recognize that the last number name said tells the number of objects counted.

The InvestiGator Club Teacher Guide (TG)

Essential Skills and Knowledge

1. Ability to use one-to-one correspondence when counting objects
2. Ability to keep track of objects counted while counting the total number in the set
3. Ability to answer “how many” after counting the objects in a set (beginning cardinality understanding)
4. Ability to recognize that the number of objects remains the same regardless of the arrangement or change in order

The InvestiGator Club provides children with numerous opportunities to count objects and answer the question “How many?” For example:

1. **Finny, Feathery, Furry Friends**, Daily Routines, p. 33. [**Summary:** Children use one-to-one correspondence when counting objects.]
2. **Splash and Dig**, Small Group, Math: The Number 6, p. 64. [**Summary:** Children can keep track of objects they have counted while counting the total number in the set.]
3. **Splash and Dig**, Small Group, Math, pp. 102-103. [**Summary:** Children answer the question “How many?” after counting objects in a set.]
4. **Let’s Investigate!** Math: From Small to Large, p. 178. [**Summary:** Children associate number quantities by sorting objects and then counting the objects | each group.]
Watch It Grow, Small Group, Math: The Number 9. [**Summarize:** Children recognize that the number of objects remains the same even if the order is changed.]

Cluster: Count to tell the number of objects

PK.CC.4c Begin to recognize that each successive number name refers to a quantity that is one larger.

The InvestiGator Club Teacher Guide (TG)

Essential Skills and Knowledge

1. Ability to use concrete materials to model quantities increasing by one

The InvestiGator Club provides children with numerous opportunities to use concrete materials to model quantities increasing by one. For example:

1. **Watch It Grow**, Small Group, Math: The Number 8. [**Summary:** Children recognize that each successive number name refers to a quantity that is one larger.]
Weather Watchers, Learning Centers, Math: How Much Do They Cost? P. 42. [**Summary:** Children combine, separate, and name “how many” objects using pennies.]

Cluster: Count to tell the number of objects	
PK.CC.5 Represent a number (0-5, then to 10) by producing a set of objects with concrete materials, pictures, and/or numerals (with 0 representing a count of no objects).	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to build sets with concrete materials to show a given amount <ul style="list-style-type: none"> • Students are not expected to write the numerals at this time 2. Ability to represent sets with drawings which will lead to the ability to subitize 3. Knowledge of the relationship between counting and quantity 4. Ability to match sets with numerals, and create sets to match numerals, up to five, then to ten 5. Knowledge of an ability to use regular configurations/structured sets especially when working with larger numbers. Ability to use varied configurations and representations with smaller numbers 	<p>The InvestiGator Club provides children with numerous opportunities to create a set of objects to represent a number. For example:</p> <ol style="list-style-type: none"> 1. Weather Watchers, Small Group, Math: We Know 10, p. 84. [Summary: Children build sets with concrete materials to show a given amount.] 2. Finny, Feathery Furry Friends, Small Group, Math: The Number 5, p. 84. [Summary: Children represent sets, which will lead to their ability to subitize.] 3. Splash and Dig, Whole Group, Math, pp. 86-87, <i>One-Dog Canoe</i>. [Summary: Children count animals to find out “how many” while listening to a story.] 4. Weather Watchers, Learning Centers, Math: How Much Do They Cost? p. 42. [Summary: Children match sets with numerals up to ten.] 5. Weather Watchers, Whole Group, Math, pp. 86-87, <i>Millions of Snowflakes</i>. [Summary: Children use varied configurations with smaller numbers.]

Cluster: Count to tell the number of objects	
PK.CC.6 Recognize the number of objects in a set without counting (subitizing). (Use 1-5 objects)	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> • See the skills and knowledge as stated in the Standard. <p>[K.CC6: <i>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 strategies. (include groups with up to ten objects)</i></p>	<p>The InvestiGator Club provides children with numerous opportunities to compare quantities of objects. For example:</p> <ol style="list-style-type: none"> 1. Let’s Investigate! Whole Group, Math: A Living Graph, p. 161. [Summary: Children sort the class into different groups and count the quantities to determine which groups have more or less.] 2. Finny, Feathery, Furry Friends, Whole Group, Math, pp. 86-87. [Summary: Children understand the abstract concepts of <i>some</i>, <i>all</i>, <i>none</i>.] 3. Healthy You, Whole Group, Math: Hide and Seek, p. 69; Whole Group, Math, pp.86-87, <i>More, Fewer, Less</i>. [Summary: Children compare number of objects using the words <i>more</i>, <i>fewer</i>, and <i>less</i>.]

Cluster: Compare quantities	
<p>PK.CC.7 Explore relationships by comparing groups of objects up to 5 and then 10. 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 strategies (includes groups with up to 5 objects).</p>	<p>The InvestiGator Club Teacher Guide (TG)</p>
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to compare sets visually and/or by matching or counting the sets using one-to-one correspondence 2. Knowledge of the terms “greater than/more than,” “less than,” and “equal to/same” through experiences with comparing groups of objects (e.g., There are more boys than girls.) 3. Ability to identify which number comes later in the counting sequence when counting two sets of objects 4. Ability to match a numeral to a set 5. Ability to compare sets numerically 6. Ability to use the terms “greater than/more than,” “less than,” and “equal to/same” (e.g., There are more boys than girls because there are 5 boys and 2 girls.) 7. Ability to know that when a set has more than another set, the number that represents its quantity comes later in the counting sequence than the number that represents the smaller set 	<p>The InvestiGator Club provides children with numerous opportunities to compare quantities of objects and to identify written numerals. For example:</p> <ol style="list-style-type: none"> 1. Let’s Investigate! Small Group, Math, p. 179; pp. 220-221. [Summary: Children identify different written numerals and compare size between objects.] 2. Let’s Investigate! Small Group, Math: More or Less, p. 156. [Summary: Children compare number of objects using the words <i>more</i>, <i>fewer</i>, and <i>less</i>.] 3. Weather Watchers, Whole Group, Math, pp. 86-87. [Summary: Children identify which number comes later in the counting sequence when counting sets of objects.] 4. Splash and Dig, Small Group, Math, p. 64, p. 124. [Summary: Children match a numeral to a set.] 5. Let’s Investigate! Whole Group, Math: A Living Graph, p. 161. [Summary: Children sort the class into different groups and count the quantities to determine which groups have more or less.] 6. Healthy You, Whole Group, Math: Hide and Seek, p. 69; Whole Group, Math, pp.86-87, <i>More, Fewer, Less</i>. [Summary: Children compare number of objects using the words <i>more</i>, <i>fewer</i>, and <i>less</i>.] 7. Healthy You, Closing Circle Time, Math: More or Less? P. 133. [Summary: Children compare number of objects using the words <i>more</i> and <i>less</i>.]

DOMAIN: Operations & Algebraic Thinking

Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
<p>PK.OA.1 Explore addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, or verbal</p>	<p>The InvestiGator Club Teacher Guide (TG)</p>

explanations (up to 5).	
<p style="text-align: center;">Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Knowledge that “Putting together” and “adding to” are two different process of addition 2. Knowledge that “Taking apart” and “taking from” are two different process of subtraction 3. Ability to use actual, physical objects to represent the problem when working on a solution (e.g., dinosaur toys to represent dinosaur problem, sticker represent stickers, fingers represent fingers) 4. Ability to use “Math manipulative” to represent the objects (e.g., unifix cubes may represent foods, two-sided counters may represent animals) when working on a solution 5. Ability to use pictures either drawn by teacher and/or by student to solve the problem (Student drawings need not show details, but should show the mathematics in the problem.) 6. Ability to use visualization of the problem to arrive at a solution <ul style="list-style-type: none"> • Students are not expected to write equations in Prekindergarten. 	<p>The Investigator Club provides children with opportunities to work with numbers and participate in activities that involve simple addition and subtraction. For example:</p> <ol style="list-style-type: none"> 1. Splash and Dig, Whole Group, Math, pp. 86-87, 89. [Summary: Children use numbers and counting (“adding to”) to solve problems and determine quantity while rereading the story <i>One-Dog Canoe</i>.] 2. Splash and Dig, Whole Group, Math, pp. 86-87, 89. [Summary: Children use numbers and counting (“taking from”) to solve problems and determine quantity while rereading the story <i>One-Dog Canoe</i>.] 3. Weather Watchers, Small Group, Math, pp. 102-103; Small Group, Literacy: Reread “Count with Me,” p. 105 [Summary: Children combine, separate, and name “how many” objects while reading a math story. 4. Let’s Investigate! Learning Centers, Math Match, p. 44. [Summary: Children use math manipulatives to solve problems.] InvestiGator Club Math Activities (online component), Addition Stories, Counting Strips, The More the Merrier, Eraser Fun, Hot Potato, Magnetic Sets. 5. Weather Watchers, Learning Centers, Math: How Much Do They Cost?, p. 42. [Summary: Children use pictures to solve problems.] 6. Watch It Grow, Opening Circle Time, Oral Language, pp. 96-97. [Summary: Children visualize the subtraction problem in a counting rhyme.]

Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
<p>PK.OA. 2 Decompose quantity (less than or equal to 5) into pairs in more than one way (e.g., by using objects or drawings).</p>	<p style="text-align: center;">The InvestiGator Club Teacher Guide (TG)</p>
<p style="text-align: center;">Essential Skills and Knowledge</p> <ol style="list-style-type: none"> 1. Ability to manipulate sets to explore decomposition of number rather than working on $5 = 3 + 2$. 	<p>The Investigator Club guides children in solving word problems with numbers. For example:</p> <ol style="list-style-type: none"> 1. Finny, Feathery, Furry Friends, Whole Group, Math, pp. 86-87. [Summary: Children listen to the math story <i>Little Quack</i> and explore word problems with numbers of ducklings.] InvestiGator Club Math Activities (online component), Pets at the Pet Store, Rhyming

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

PK.OA.3 For any given quantity from 0 to 5, use objects or drawings to find the quantity that must be added to make 5.

The InvestiGator Club Teacher Guide (TG)

Essential Skills and Knowledge

1. Ability to manipulate to find the amount needed to complete the set
2. Ability to use Five Frames and counters to model solutions

The Investigator Club guides children in solving word problems with numbers. For example:

1. **Weather Watchers**, Small Group, Math, pp. 102-103, 105. [**Summary:** Children listen to the math story “Count With Me” and combine, separate, and name “how many” objects.]
2. **Healthy You**, Whole Group, Math: Stories for 1, 2, 3, 4, p. 128. [**Summary:** Children use Five Frames and counters.]
Finny, Feathery, Furry Friends, Small Group, Math: The Number 5. [**Summary:** Children use Five Frames and counters.]

DOMAIN: Number and Operations in Base Ten

Cluster: Work with numbers 0-10 to gain foundations for place value.

PK.NBT.1 Investigate the relationship between ten ones and ten.

The InvestiGator Club Teacher Guide (TG)

Essential Skills and Knowledge

1. Ability to explore ten ones in various ways using manipulatives (e.g., Digi-Blocks, base ten blocks, linking cubes.)
2. Knowledge of how ten ones makes a ten is the initial foundation of place value
3. Ability to use Ten Frames and counters to model building a ten from 20 ones

The Investigator Club provides children with opportunities to develop an understanding the relationship between ten ones and ten. For example:

1. **Weather Watchers**, Small Group, Math: We Know 10, p. 84. [**Summary:** Children use counters to explore ten ones.]
InvestiGator Club Math Activities (online component), Magnetic Sets
2. **Weather Watchers**, Whole Group, Math, pp. 86-87. [**Summary:** Children understand how ten ones makes a ten while rereading the book *Millions of Snowflakes*.]
3. **Weather Watchers**, Small Group, Math: We Know 10, p. 84. [**Summary:** Children use Ten Frames and counters.]

DOMAIN: Measurement & Data

Cluster: Describe and compare measurable attributes.	
PK.MD.1 Describe measurable attributes of objects, such as length or weight.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <p>1. Ability to use vocabulary specific to measurable attributes of objects</p>	<p>The Investigator Club provides children with numerous opportunities to measure objects by length and weight. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Whole Group, Math: Cut to Size, p. 183, p. 200. [Summary: Children describe and compare the lengths of yarn and straws.] Watch It Grow, Whole Group, Math: Bigger than a Tree? p. 69, 108. [Summary: Children measure the girth of trees to see which are widest and which are narrowest; they measure the height of sunflowers.]

Cluster: Describe and compare measurable attributes.	
PK.MD.2 Directly compare two objects with a measurable attribute in common, using words such as longer/shorter; heavier/lighter; or taller/shorter.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> Knowledge of length/weight as absolute descriptors Ability to physically align two objects to determine which is longer, shorter, or if they are the same <i>length</i> Ability to physically align two objects to determine which is taller, shorter, or if they are the same <i>height</i> Ability to compare the weight of two concrete objects to determine which is heavier, lighter, or if they are the same <i>weight</i> 	<p>The Investigator Club provides children with opportunities to compare two objects to see which object as more of or less of a measurable attribute. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Whole Group, Math: Cut to Size, p. 183, p. 200. [Summary: Children describe and compare the lengths of yarn and straws.] Let's Investigate! Whole Group, Math: Long and Short Worms, p. 205 [Summary: Children compare long and short worms (constructed from play dough).] Watch It Grow, Investigation Station, pp. 54-55. [Summary: Children compare the height of two plants to determine which is taller, shorter, or the same height.] Under Construction, Culminating Activity, Investigation Celebration, pp. 134-135. [Summary: Children work in teams to see who can build the tallest tower. They measure the height of the tower to determine which one is the tallest.] Watch It Grow, Learning Centers, Dramatic Play: Produce Stand, p. 49. [Summary: Children compare the weight of fruits and

vegetables using a scale to determine which is heavier or lighter.]

Cluster: Sort objects into categories and compare quantities.

PK.MD.3 Sort objects into self-selected and given categories.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> See the skills and knowledge as stated in the Standard. (<i>K.MD3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</i>) 	<p>The Investigator Club provides children with numerous opportunities to classify and sort objects into categories. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Small Group, Math: Color Sorting Sticks, p. 65 [Summary: Children sort different colored objects into three bags.] Under Construction, Learning Centers, Math: Sorting, p. 42. [Summary: Children experiment with sorting different objects by various attributes, beginning with large and small objects for them to sort by size.] Watch It Grow, Small Group, Science: Where Does It Go? P. 104. [Summary: Children sort objects from nature into two groups, living and nonliving things, and explain how the objects in each group are the same.]

Cluster: Sort objects into categories and compare quantities.

PK.MD.4 Compare categories using words such as <i>more</i> or <i>same</i> .	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> Ability to sort objects into categories and then compare the categories (e.g., There are more bus riders than car riders; or there are the same number of large and small bears.) Ability to compare quantities of the categories visually or by aligning the items one to one, not by the numeric comparison Knowledge of and ability to apply appropriate comparison vocabulary of <i>more</i> or <i>same</i> 	<p>The Investigator Club provides children with numerous opportunities to classify and sort objects into categories. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Whole Group, Math: A Living Graph, p. 161. [Summary: Children sort the class into different groups and count the quantities to determine which groups have more or less.] Healthy You, Whole Group, Math: Hide and Seek, p. 69; Whole Group, Math, pp.86-87, <i>More, Fewer, Less.</i> [Summary: Children compare number of objects using the words <i>more, fewer, and less.</i>] Let's Investigate! Small Group, Math: More or Less, p. 156. [Summary: Children compare number of objects using the words <i>more, fewer, and less.</i>]

DOMAIN: Geometry

Cluster: Identify and describe two-dimensional shapes (circles, triangles, rectangles; including a square which is a special rectangle).	
PK.G.1 Match like (congruent and similar) shapes.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> Ability to match similar shapes when given various two-dimensional shapes <ul style="list-style-type: none"> Students do not need to name the shapes or even identify attributes at this time. 	<p>The Investigator Club provides children with numerous opportunities to identify different shapes. For example:</p> <ol style="list-style-type: none"> Under Construction, Learning Centers, Math: Sorting, p. 42; Whole Group, Math, pp. 86-87. [Summary: Children recognize, describe, and compare shapes.]

Cluster: Identify and describe two-dimensional shapes (circles, triangles, rectangles; including a square which is a special rectangle).	
PK.G.2 Group the shapes by attributes.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> Ability to sort shapes by applying their real-life experiences of sorting Knowledge that rectangles and squares may be grouped together as 4-sided figures, which is an important relationship for children to discover Ability to be able to explain their groupings Ability to distinguish examples and non-examples of various shapes 	<p>The Investigator Club provides children with numerous opportunities to identify and name shapes and their parts. For example:</p> <ol style="list-style-type: none"> Watch It Grow, Learning Centers, Math: Sorting Seeds, p. 42; Whole Group, Math, pp. 86-87. [Summary: Children match, sort, and regroup, and put objects in a series according to one or two attributes.] Under Construction, Whole Group, Math, pp. 86-87; Art: Shapely Homes, p. 89. [Summary: Children recognize, describe, and compare shapes. They discuss the difference between a square and a rectangle.] Under Construction, Learning Centers, Math: Sorting, p. 42. [Summary: Children recognize, describe, and compare shapes.] Healthy You, Small Group, Math, pp. 102-103. [Summary: Children recognize, describe, and compare shapes.]

Cluster: Work with three-dimensional shapes to gain foundation for geometric thinking.	
PK.G.3 Match and sort three-dimensional shapes	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <ol style="list-style-type: none"> Knowledge of three-dimensional figures and their relationship to each other and to two-dimensional shapes <ul style="list-style-type: none"> Students are not expected to name these shapes. 	<p>The Investigator Club provides children with numerous opportunities to work with both two-dimensional and three-dimensional shapes, identifying and naming them. For example:</p> <ol style="list-style-type: none"> Healthy You, Learning Centers, Math: Geoboards, p. 42. [Summary: Children identify two-dimensional shapes and create them with

	geoboards.] 2. Splash and Dig , Whole Group, Math: Seaworthy Shapes, p. 69; Whole Group, Math: Connecting Blocks, p 108. [Summary: Children identify and name three-dimensional shapes; they put together and take apart shapes.]
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Cluster: Work with three-dimensional shapes to gain foundation for geometric thinking.	
PK.G.4 Describe three-dimensional objects using attributes.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <p>1. Ability to describe three-dimensional objects using vocabulary such as size, shape, color, corners, edges and/or similarities to other shapes</p>	<p>The Investigator Club provides children with opportunities to describe three-dimensional shapes.</p> <p>1. Under Construction, Whole Group, Art: Shapely Houses, p. 89. [Summary: Children combine different shapes to create homes using a variety of art materials; They describe their structures.]</p>

Cluster: Work with three-dimensional shapes to gain foundation for geometric thinking.	
PK.G.5 Compose and describe structures using three-dimensional shapes. Descriptions may include shape attributes, relative position, etc.	The InvestiGator Club Teacher Guide (TG)
<p>Essential Skills and Knowledge</p> <p>1. Ability to build structures using manipulatives and blocks</p> <p>2. Ability to describe their structures including shapes, sizes, comparisons, positional relationships, etc.</p>	<p>The Investigator Club provides children with numerous opportunities to build structures using three-dimensional shapes. For example:</p> <p>1. Under Construction, Closing Circle Time, Oral Language: House Talk, p. 92; Culminating Activity, Investigation Celebration, pp. 134-135. [Summary: Children build a house with wooden blocks; children work in teams to build the tallest tower with blocks.]</p> <p>2. Splash and Dig, Whole Group, Math: Connecting Blocks, p.108. [Summary: Children put together and take apart three-dimensional shapes with blocks and describe their structures the created.]</p>

Common Cores State Standards for Mathematical Practices

The following references are examples of lessons in The InvestiGator Club® Early Childhood with STEAM Learning System that either align with, or prepare children for meeting, the Common Core State Standards for Mathematical Practices for Grade PreK/K. The alignment is intended to illustrate the system’s approach to these standards, not the comprehensiveness of the program.

CCSS Mathematical Practices	The InvestiGator Club Teacher Guide (TG)
<p>1. Make sense of problems and persevere solving them.</p>	<p>The InvestiGator Club provides children with numerous opportunities to make sense of problems and persevere in solving them. For example:</p> <ol style="list-style-type: none"> 1. Splash and Dig, Whole Group, Math, pp. 86-87, 89. [Summary: Children use numbers and counting (“adding to”) to solve problems and determine quantity while rereading the story <i>One-Dog Canoe</i>.] 2. Finny, Feathery, Furry Friends, Whole Group, Math, pp. 86-87. [Summary: Children listen to the math story <i>Little Quack</i> and explore word problems with numbers of ducklings.] 3. Weather Watchers, Small Group, Math, pp. 102-103; Small Group, Literacy: Reread “Count with Me,” p. 105 [Summary: Children combine, separate, and name “how many” objects while reading a math story.] 4. Let’s Investigate! Whole Group, Math: A Living Graph, p. 161. [Summary: Children sort the class into different groups and count the quantities to determine which groups have more or less.]

CCSS Mathematical Practices	The InvestiGator Club Teacher Guide (TG)
<p>2. Reason abstractly and quantitatively.</p>	<p>The InvestiGator Club provides children with numerous opportunities to reason abstractly and quantitatively. For example:</p> <ol style="list-style-type: none"> 1. Finny, Feathery, Furry Friends, Whole Group, Math, pp. 86-87. [Summary: Children listen to the math story <i>Little Quack</i> and explore word problems with numbers of ducklings.] 2. Under Construction, Whole Group, Art: Shapely Houses, p. 89. [Summary: Children combine different shapes to create homes using a variety of art materials; they describe their structures.] 3. Splash and Dig, Whole Group, Math:

	Seaworthy Shapes, p. 69; Whole Group, Math: Connecting Blocks, p 108. [Summary: Children identify and name three-dimensional shapes; they put together and take apart shapes.]
	4. Weather Watchers , Learning Centers, Math: Can You Make This? p. 42. [Summary: Children use pictures to solve problems.]

CCSS Mathematical Practices	The InvestiGator Club Teacher Guide (TG)
3. Construct viable arguments and critique the reasoning of others.	<p>The Investigator Club provides children with numerous opportunities to construct viable arguments and critique the reasoning of others. For example:</p> <ol style="list-style-type: none"> 1. Weather Watchers, Whole Group, Math: Snowy Shapes, p. 69. [Summary: Children create a mural using geometric shapes and explain their work to peers.] 2. Watch It Grow, Whole Group, Math, pp. 86-87. [Summary: Children match, sort, and regroup, and put objects in a series according to one or two attributes while they read the story <i>Apple Farmer Annie</i>.] 3. Let's Investigate! Whole Group, Readiness: Left and Right, pp. 158-159. [Summary: Children understand directionality and experiment using each hand to perform a task; they draw conclusions about using their right and left hands.]

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4. Model with mathematics.	<p>The Investigator Club provides children with numerous opportunities to model with mathematics. For example:</p> <ol style="list-style-type: none"> 1. Watch It Grow, Whole Group, Math: Scavenger Hunt, p. 128. [Summary: Children associate number concepts, vocabulary, quantities and written numerals.] 2. Let's Investigate! Learning Centers, Math: Math Match, p. 44. [Summary: Children use one-to-one correspondence in counting objects.] 3. Healthy You, Whole Group, Math, pp. 86-87. [Summary: Children compare numbers of objects using the terms, <i>more</i>, <i>fewer</i>, and <i>less</i>.]

CCSS Mathematical Practices	The InvestiGator Club Teacher Guide (TG)
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<p>5. Use appropriate tools strategically.</p>	<p>The Investigator Club provides children with numerous opportunities to use appropriate tools strategically. For example:</p> <ol style="list-style-type: none"> 1. Watch It Grow, Whole Group, Math: Measuring Sunflowers, p. 108. [Summary: Children use nonstandard measures for height.] 2. Let's Investigate! Whole Group, Readiness: Left and Right, pp. 158-159; Whole Group, Math: A Living Graph, p. 161. [Summary: Children use real and pictorial graphs; they make 2-D grid to demonstrate directions.] 3. Splash and Dig, Learning Centers, Math: Puzzle Builders, p. 42. [Summary: Children put together puzzles.]
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<p>6. Attend to precision.</p>	<p>The Investigator Club provides children with numerous opportunities to attend to precision. For example:</p> <ol style="list-style-type: none"> 1. Let's Investigate! Small Group, Math: More or Less, p. 156. [Summary: Children compare numbers of objects using the terms <i>more</i> and <i>less</i>.] 2. Weather Watchers, Small Group, Social Studies: Morning, Afternoon, Evening, p. 84. [Summary: Children categorize time intervals, using words to describe things they do at different times.] 3. Finny, Feathery, Furry Friends, Closing Circle Time, Math: If You Were an Animal, p. 93. [Summary: Children gather and use information to ask and answer questions; they make a graph to record their responses and discuss what it shows.] 4. Healthy You, Whole Group, Math, pp. 86-87; Whole Group, Art: More or Fewer? P. 89 [Summary: Children compare numbers of objects using the terms, <i>more</i>, <i>fewer</i>, and <i>less</i>.

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7. Look for and make use of structure.	<p>The Investigator Club provides children with numerous opportunities to look for and make use of structure. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Whole Group, Readiness: Direction and Position, pp. 180-181. [Summary: Children understand order and position of objects and directional and positional words, such as <i>under, around, over, through, inside.</i>] Healthy You, Small Group, Math, pp. 102-103. [Summary: Children recognize, describe, and compare shapes while they play "The Shape Game."s] Finny, Feathery, Furry Friends. Small Group, Math, pp. 102-103. [Summary: Children recognize part and whole as they listen to clues in a read aloud.] Finny, Feathery, Furry Friends. Learning Centers, Math: Part and Whole, p. 42; Whole Group, Math: Whole and Part, p. 108. [Summary: Children recognize part and whole as they work on puzzles; they recognize whole and part in animal drawings.]

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8. Look for and express regularity in repeated reasoning.	<p>The Investigator Club provides children with numerous opportunities to look for and express regularity in repeated reasoning. For example:</p> <ol style="list-style-type: none"> Let's Investigate! Whole Group, Readiness: Alike and Different, pp. 202-203; Small Group, Math: Rubber Band Shapes, p. 105. [Summary: Children compare several sets of objects based on the five senses; they work with peers to create shapes with rubber bands.] Let's Investigate! Small Group, Math: People Patterns, p.113, 117. [Summary: Children imitate pattern sounds and physical movements.] Under Construction, Small Group, Math, pp. 102-103, 105, 108. [Summary: Children recognize, duplicate, and extend patterns.] Finny, Feathery, Furry Friends. Whole Group, Math, pp. 66-67. [Summary: Children compare several objects based on one attribute.]