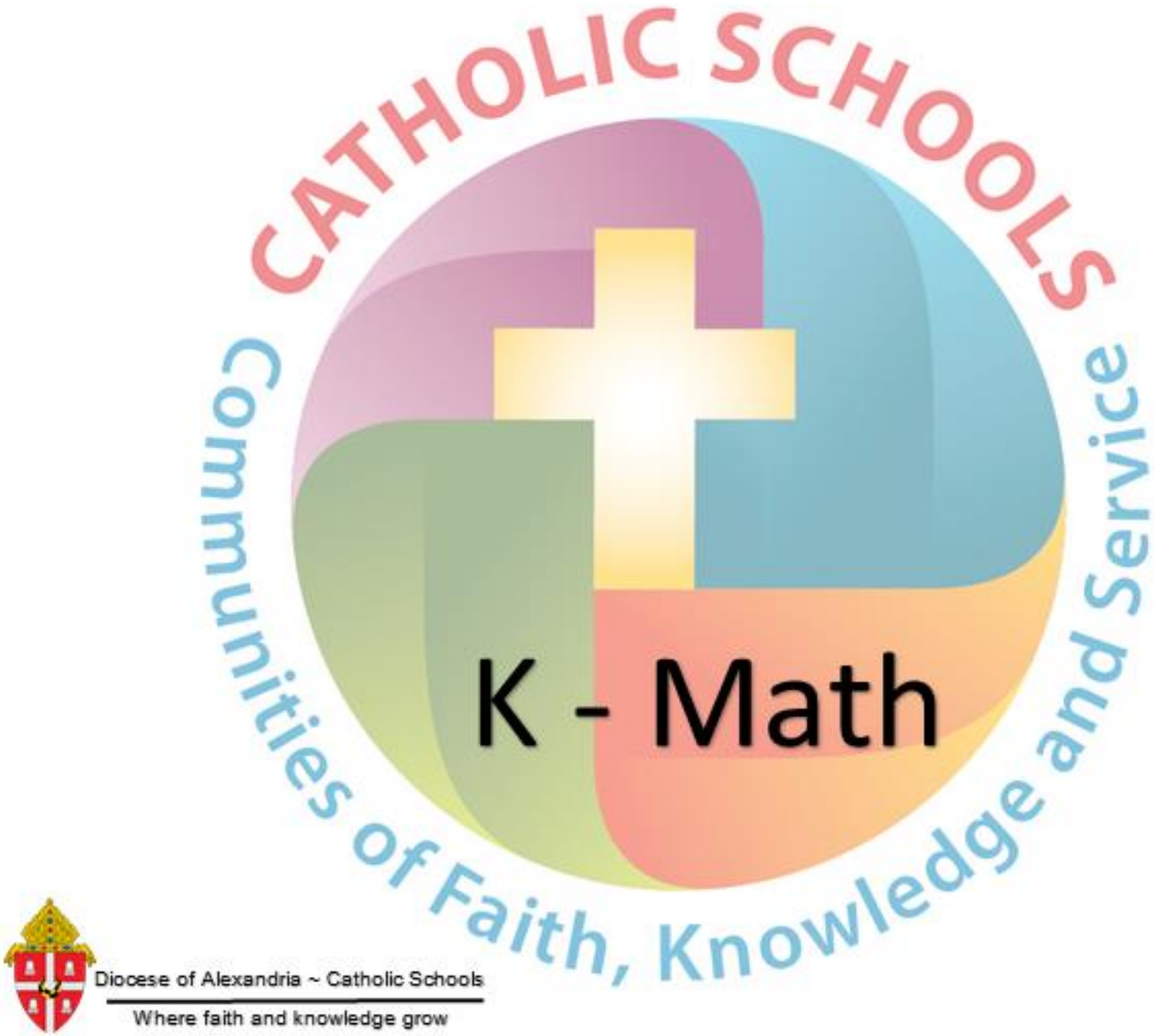


Diocese of Alexandria ~ Catholic Schools

Where faith and knowledge grow

DIOCESE OF ALEXANDRIA

As the Diocese of Alexandria seeks to provide a comprehensive learning environment, we are charged to "Teach More" by showing how all learning flows from and relates to our Creator. In this way, we will give our teaching a deeper meaning and purpose than simply the content itself. With this as our goal, the Catholic Schools Office has intertwined our selected curricular standards with the Catholic Standards developed by the Cardinal Newman Society. Through the merging of these two curricula, English Language Arts, Mathematics, Science, and Social Studies, teachers will be provided a roadmap to guide student's understanding and recognition of the relationship between learning and the connection to our God.

Thomas E. Roque, Sr.
Superintendent of Catholic Schools


Through comprehensive review of curricula from high performing districts throughout the United States in combination with parochial schools and Newman Cardinal Standards, the Curriculum Team for the Diocese of Alexandria has generated curricula for English Language Arts, Mathematics, Science, and Social Studies. The development of this framework is designed to guide the instructional path of teachers as they focus on the formation of their students in the areas of faith, academic excellence, responsible citizenry, and effective communication and collaboration. This process is a continuous improvement process with no defined beginning or end.

Barbara Forest, M.A..
Courtney Gistorb, M.Ed.

Denese Carter, M.Ed.
Tracy Bock, Ed.S.

Student focusAreas

| Essential Questions |
| --- |
| • *How does mathematics help us understand God's creation?*<br>• *How does the use of math help us to understand the importance of clarity, reality and goodness?*<br>• *How do we solve addition and subtraction sentences to solve real world problems with and without concrete objects?*<br>• *What are the ethical, moral, and legal implications of Internet use?*<br>• *How does the study of mathematics enable us to understand, communicate, and live Gospel values?* |

| Catholic School – Math Standards (CS.GS) | |
| --- | --- |
| CS.M.K6.GS.1 | Demonstrate the mental habits of precise, determined, careful and accurate questioning, inquiry, and reasoning. |
| CS.M.K6.GS.2 | Develop lines of inquiry (as developmentally appropriate) to understand why things are true and why they are false. |
| CS.M.K6.GS.3 | Recognize the power of the human mind as both a gift from God and a reflection of Him in whose image and likeness we were made. |
| CS.M.K6.GS.4 | Survey the truths about mathematical objects that are interesting in their own right and independent of human opinions. |

# Kindergarten - Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Standards for Mathematical Practice | Critical Knowledge & Skills |
|---|---|---|
| K.CC.A.1. Count to 100 by ones and by tens. | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Number names and the count sequence up to 10<br>**Students are able to:**<br>• Count orally by ones up to 10.<br>**Learning Goal 1:**<br>• Count by ones up to 10. |
| K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Represent the number of objects with a numeral.<br>**Students are able to:**<br>• Write numbers from 0 to 10.<br>**Learning Goal 2:**<br>• Represent the number of objects with a written numeral up to 10. |
| K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.<br>K.CC.B.4a.When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Objects can be counted in any order. Each object is counted once (one-to-one correspondence).<br>• The next number name in counting is always one greater than the previous number.<br>• The last number name said tells the number of objects counted.<br>**Students are able to:**<br>• Say number names in the standard order.<br>• Pair each object with one number name (one-to-one correspondence).<br>• Count to tell the number of objects.<br>• Count objects arranged in any order.<br>• Identify the last number named as the number of objects counted.<br>**Learning Goal 3:**<br>• Assign an ascending number name for each object in a group. |

# Kindergarten - Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Standards for Mathematical Practice | Critical Knowledge & Skills |
|---|---|---|
| K.CC.B.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.<br>K.CC.B.4c.Understand that each successive number name refers to a quantity that is one larger. | | **Learning Goal 4:**<br>• State the last number named as the number of counted objects in the set.<br>**Learning Goal 5**:<br>• Identify the next number name in counting as one greater than the previous number. |
| K.CC.B.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. | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>Students are able to:<br>• Count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration.<br>• Count to tell the number of objects when asked *how many* questions.<br>• Given a number from 1-10, count out that many object.<br>**Learning Goal 6**:<br>• Answer *how many* questions about groups of up to 10 objects when arranged in a line, rectangular array, or circle.<br>**Learning Goal 7**:<br>• Answer *how many* questions about groups of up to 5 when arranged in a scattered configuration. |

# Kindergarten - Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Standards for Mathematical Practice | Critical Knowledge & Skills |
|---|---|---|
| K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Understand addition as putting together and adding to.<br>• Understand subtraction as taking apart and taking from.<br>**Students are able to:**<br>• Create addition events with objects (up to 10).<br>• Create addition events with drawings and sounds (up to 10).<br>• Create addition events by acting out situations and with verbal explanations.<br>**Learning Goal 8:**<br>• Create addition events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations for sums up to 10. |
| K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Objects can be sorted based on their properties.<br>**Students will be able to:**<br>• sort objects into categories<br>**Learning Goal 9:**<br>• Classify objects into given categories and count the objects in each category (up to 10 objects) |
| K.G.A.1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, and next to. | MP.7 Look for and make use of structure. | **Concept(s):**<br>• Shapes have names.<br>• Positional words (above, below, besides, in front of, behind, next to)<br>**Students will be able to:**<br>• Name shapes in order to describe objects in the environment.<br>• Use terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to* in order to describe relative positions of objects. |

# Kindergarten - Mathematics

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| Content Standards | Suggested Standards for Mathematical Practice | Critical Knowledge & Skills |
|---|---|---|
| | | **Learning Goal 10:**<br>• Describe objects in the environment using names of shapes, and describe the relative positions of three objects using terms such as above, below, beside, in front of, behind, and next to. |

| School/District Formative Assessment Plan | School/District Summative Assessment Plan |
|---|---|
| *Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards.* | *Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* |

# Kindergarten - Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| K.CC.A.1. Count to 100 by ones and by tens. | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Number names and the count sequence up to 50<br>**Students are able to**:<br>• Count orally by ones up to 50.<br>• Count orally by tens up to 50.<br>**Learning Goal 1:**<br>• Count to 50 by ones and by tens. |
| K.CC.A.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students will be able to:**<br>• Count orally by ones up to 50, beginning at any number.<br>**Learning Goal 2**:<br>• Count forward up to 50 starting from numbers other than one. |
| K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). | MP. 2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• The number of objects can be represented by a numeral.<br>**Students are able to:**<br>• Write numbers from 0 to 20.<br>**Learning Goal 3**:<br>• Represent a number of objects with a written numeral 0 to 20. |
| K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. | MP.1 Make sense of problems and persevere in solving them.<br>MP. 2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Understand addition as putting together and adding to.<br>• Understand subtraction as taking apart and taking from.<br>**Students are able to:**<br>• Create subtraction and addition events with objects (up to 10).<br>• Create subtraction and addition events with drawings and sounds (up to 10).<br>• Create subtraction and addition events by acting out situations and with verbal explanations. |

# Kindergarten - Mathematics

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| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| | | **Learning Goal 4:**<br>• Create addition and subtraction events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations (up to 10). |
| ■ K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10, *e.g., by using objects or drawings to represent the problem.* | MP.1 Make sense of problems and persevere in solving them.<br>MP. 2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.5 Use appropriate tools strategically. | **Concept(s):** *No new concept(s) introduced*<br>**Students will be able to:**<br>• Use objects and drawings to represent addition and subtraction.<br>• Add and subtract within 10.<br>**Learning Goal 5**:<br>• Use objects or drawings to represent and solve addition and subtraction word problems (within 10). |
| ■ K.CC.B.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. | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students are able to:**<br>• Count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration.<br>• Count to tell the number of objects when asked "how many?" questions.<br>• Given a number from 1-20, count out that many object.<br>**Learning Goal 6:**<br>• Answer *how many* questions about groups of up to 20 objects when arranged in a line, rectangular array or circle.<br>**Learning Goal 7:**<br>• Answer *how many?* questions about groups of up to 10 when arranged in a scattered configuration. |
| ■ K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Different groups can have different numbers of objects.<br>• Numbers of objects can be compared using phrases such as *greater than, less than* and *equal to.* |

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| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| or equal to the number of objects in another group *e.g. by using matching and counting strategies.* | MP.8 Look for and express regularity in repeated reasoning. | **Students will be able to:**<br>• Compare the number of objects (up to 10) in two groups.<br>• Identify whether the number of objects in one group is greater than, less than, or equal to to the number of objects in another group.<br>**Learning Goal 8:**<br>• Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (groups of up to 10 objects). |
| K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals. | MP.2 Reason abstractly and quantitatively. | **Concept(s):**<br>• Number names and the count sequence<br>• The next number name in counting is always one greater than the previous number.<br>• Count to tell the number of objects.<br>**Students will be able to:**<br>• Compare numbers (up to 10) written as numerals.<br>**Learning Goal 9**:<br>• Compare numbers (up to 10) written as numerals. |
| K.OA.A.5. Demonstrate fluency for addition and subtraction within 5.– (by the end of Kindergarten | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students will be able to**:<br>• Add within 5 with accuracy and efficiency<br>**Learning Goal 10**:<br>• Use mental math strategies to solve addition facts within 5. |

| School/District Formative Assessment Plan | School/District Summative Assessment Plan |
|---|---|
| *Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards.* | *Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* |

# Kindergarten – Mathematics

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| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| ■ K.CC.A.1. Count to 100 by ones and by tens | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Number names and the count sequence up to 70<br>**Students are able to:**<br>• Count orally by ones up to 70.<br>• Count orally by tens up to 70.<br>**Learning Goal 1:**<br>• Count to 70 by ones and by tens. |
| ◎ K.MD.A.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. | MP.7 Look for and make use of structure. | **Concept(s):**<br>• Measurable attributes: length, weight, size (volume)<br>• A single object can have more than one measurable attribute.<br>**Students are able to**:<br>• Identify measureable attributes.<br>• Describe the measurable attributes of multiple objects.<br>• Describe multiple measurable attributes of a single object.<br>**Learning Goal 2**:<br>• Describe measurable attributes of multiple objects and describe several measurable attributes of a single object. |
| ◎ K.MD.A.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 differences.<br>*For example, directly compare the heights of two children and describe one child as taller/shorter.* | MP.6 Attend to precision.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• When comparing objects by measuring, each object must have the same starting point.<br>• Moving an object does not change its measure.<br>**Students are able to**:<br>• Directly compare and describe two objects with measurable attribute in common using *more of* or *less of*.<br>**Learning Goal 3*:***<br>• Directly compare two objects with a measurable attribute in common*;* use *more of* or *less of* to compare the objects. |

# Kindergarten – Mathematics

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| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. | MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Groups can be sorted by the number of objects in each group.<br>**Students are able to:**<br>• Sort objects into groups.<br>• Sort the group by count.<br>**Learning Goal 4:**<br>• Count the objects in given categories and sort the categories by count (up to 10 objects). |
| K.G.A.2. Correctly name shapes regardless of their orientation or overall size. | MP.7 Look for and make use of structure. | **Concept(s):**<br>• Shapes have names.<br>• Shapes can have the same names but appear different.<br>**Students are able to:**<br>• Correctly names shapes regardless of their orientation or overall size.<br>**Learning Goal 5**:<br>• Correctly names shapes regardless of their orientation or overall size. |
| K.G.A.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid") | MP.7 Look for and make use of structure. | **Concept(s):**<br>• Shapes may be *flat* or *solid.*<br>**Students are able to:**<br>• Identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional ( *not flat, solid*).<br>• Compare two- and three- dimensional shapes, in different sizes, and orientations.<br>**Learning Goal 6:**<br>• Identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional ( *not flat, solid*). |

# Kindergarten – Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| K.OA.A.3. Decompose numbers less than or equal to 10 into pairs in more than one way, *e.g. using objects or drawings*, and record each decomposition by a drawing or equation *(e.g. 5 = 3 + 2 and 5 = 4 + 1)* | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Part-to-whole relationships<br>• Some groups of objects can be broken into two smaller groups while the total number remains the same.<br>• Some groups of objects can be broken into two smaller groups in more than one way.<br>**Students will be able to:**<br>• Decompose numbers less than or equal to ten into two numbers.<br>• Record the decomposition with a drawing.<br>• Record the decomposition with an equation.<br>• Decompose the same number in more than one way.<br>**Learning Goal 7**:<br>• Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equation |
| K.OA.A.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. | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students are able to**:<br>• Find a missing part of 10 using objects.<br>• Given a number from 1 to 9, use drawings, or equations to find the number that makes 10.<br>**Learning Goal 8*:***<br>• Given a number less than 10, find the number that makes 10. |

# Kindergarten – Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| K.NBT.A.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. (benchmarked) | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones.*<br>**Students are able to:**<br>• Compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s).<br>• Use the term *ones* to describe the number of objects in each group.<br>• Record each composition or decomposition using objects and drawings.<br>• Record each composition or decomposition by a drawing or equation.<br>**Learning Goal 9***:*<br>• Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives*;* record each composition or decomposition through a drawing or equation. |
| K.OA.A.5. Demonstrate fluency for addition and subtraction within 5 (by the end of Kindergarten). | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students will be able to**:<br>• Add and subtract within 5 with accuracy and efficiency.<br>**Learning Goal 10**:<br>• Use mental math strategies to solve addition and subtraction facts within 5. |

| School/District Formative Assessment Plan | School/District Summative Assessment Plan |
|---|---|
| *Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards.* | *Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* |

# Kindergarten – Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| K.CC.A.1. Count to 100 by ones and by tens. | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):**<br>• Number names and the count sequence up to 100<br>**Students are able to:**<br>• Count orally by ones up to 100.<br>• Count orally by tens up to 100.<br>**Learning Goal 1:**<br>• Count to 100 by ones and by tens. |
| K.OA.A.5. Demonstrate fluency for addition and subtraction within 5 (by the end of Kindergarten). | MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning. | **Concept(s):** *No new concept(s) introduced*<br>**Students are able to**:<br>• Add and subtract within 5 with accuracy and efficiency.<br>**Learning Goal 2**:<br>• Fluently add and subtract within 5. |
| K.G.B.4. 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).* | MP.7 Look for and make use of structure. | **Concept(s):**<br>• Orientation does not alter attributes or size.<br>• Shapes may have sides of unequal or equal length.<br>• Shapes may or may not have the same number of sides or 'corners'.<br>**Students are able to:**<br>• Compare two- and three- dimensional shapes in different sizes and in different orientations and identify similarities and differences.<br>• Compare parts of two- and three-dimensional shapes [e.g. Number of sides, number of vertices (*corners*)].<br>• Compare attributes of two- and three-dimensional shapes [e.g. Sides have equal length.]<br>• Use informal language to describe similarities, differences, parts, and other attributes when comparing two-and three-dimensional shapes, in different sizes and orientations. |

# Kindergarten – Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| | | **Learning Goal 3**:<br>• Use informal language to describe similarities, differences, parts number of sides, number of *corners*), and other attributes (having sides of equal length) when comparing two- and three- dimensional shapes, in different sizes and orientations. |
| ☐ K.G.B.5. Model shapes in the world by building shapes from components *(e.g., sticks and clay balls)* and drawing shapes. | MP.1 Make sense of problems and persevere in solving them.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Basic shapes exist in real world objects.<br>**Students are able to:**<br>• Recognize basic shapes in the real world.<br>• Use objects (clay, sticks, etc) to model shapes.<br>• Model shapes in the world by drawing shapes.<br>**Learning Goal 4:**<br>• Model shapes in the world by building and drawing shapes. |
| ☐ K.G.B.6. Compose simple shapes to form larger shapes. *For example: "Can you join these two triangles with full sides touching to make a rectangle?"* | MP.1 Make sense of problems and persevere in solving them.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Shapes can be combined to make larger shapes.<br>**Students are able to**:<br>• compose simple shapes to form larger shapes.<br>**Learning Goal 5***:*<br>• Compose simple shapes to form larger shapes. |
| ■ K.NBT.A.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 | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.4 Model with mathematics.<br>MP.7 Look for and make use of structure. | **Concept(s):**<br>• Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones.*<br>**Students are able to**:<br>• Compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s).<br>• Use the term *ones* to describe the number of objects in each group. |

# Kindergarten – Mathematics

THE DIOCESE of ALEXANDRIA

| Content Standards | Suggested Mathematical Practices | Critical Knowledge & Skills |
|---|---|---|
| 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. | MP.8 Look for and express regularity in repeated reasoning. | • Record each composition or decomposition using objects and drawings.<br>• Record each composition or decomposition by a drawing or equation.<br>**Learning Goal 6*:***<br>• Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives. Record each composition or decomposition through a drawing or equation. |

| School/District Formative Assessment Plan | School/District Summative Assessment Plan |
|---|---|
| *Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards.* | *Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* |

# Counting and Cardinality (DOA.K.CC)

| STANDARDS | | |
|---|---|---|
| **Know number names and the count sequence** | | |
| DOA.K.CC.A.1 | Count to 100 by ones and by tens. | |
| DOA.K.CC.A.2 | Count forward beginning from a given number within the known sequence (instead of having to begin at 1). | |
| DOA.K.CC.A.3 | Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects). | |
| **Count to tell the number of objects** | | |
| DOA.K.CC.B.4 | Understand the relationship between numbers and quantities; connect counting to cardinality. | |
| DOA.K.CC.B.4a | When counting objects in standard order, say the number names as they relate to each object in the group, demonstrating one-to-one correspondence. | |
| DOA.K.CC.B.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. | |
| DOA.K.CC.B.4c | Understand that each successive number name refers to a quantity that is one larger. | |
| DOA.K.CC.5 | Count to answer "How many?" questions. | |
| DOA.K.CC.5a | Count objects up to 20, arranged in a line, a rectangular array, or a circle. | |
| DOA.K.CC.5b | Count objects up to 10 in a scattered configuration. | |
| DOA.K.CC.5c | When given a number from 1-20, count out that many objects. | |
| **Compare numbers** | | |
| DOA.K.CC.C.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 strategies.[1] | |
| DOA.K.CC.C.7 | Compare two numbers between 1 and 10 presented as written numerals. | |

[1] Include groups with up to ten objects.

| Operations and Algebraic Thinking (DOA.K.OA) | | |
|---|---|---|
| **STANDARDS** | | |
| **Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.** | | |
| DOA.K.OA.A.1 | Represent addition and subtraction with objects, fingers, mental images, drawings[2], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. | |
| DOA.K.OA.A.2 | Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. | |
| DOA.K.OA.A.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). | |
| DOA.K.OA.A.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. | |
| DOA.K.OA.A.5 | Fluently add and subtract within 5. | |
| **Number and Operations in Base Ten (DOA.K.NBT)** | | |
| **Work with numbers 11-19 to gain foundations for place value.** | | |
| DOA.K.NBT.A.1 | Gain understanding of place value. | |
| DOA.K.NBT.A.1a | Understand that the numbers 11–19 are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. | |
| DOA.K.NBT.A.1b | Compose and decompose numbers 11 to 19 using place value (e.g., by using objects or drawings). | |
| DOA.K.NBT.A.1c | Record each composition or decomposition using a drawing or equation (e.g., 18 is one ten and eight ones, 18 = 1 ten + 8 ones, 18 = 10 + 8). | |

[2] Drawings need not show details but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

| Measurement and Data (DOA.K.MD) | | |
|---|---|---|
| **STANDARDS** | | |
| **Describe and compare measurable attributes.** | | |
| DOA.K.MD.A.1 | Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. | |
| DOA.K.MD.A.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*. | |
| **Classify objects and count the numbers of objects in each category** | | |
| DOA.K.MD.B.3 | Classify objects into given categories based on their attributes; count the numbers of objects in each category and sort the categories by count.[3] | |
| **Work with money** | | |
| DOA.K.MD.C.4 | Recognize pennies, nickels, dimes, and quarters by name and value (e.g., This is a nickel and it is worth 5 cents.) | |
| **Geometry (DOA.K.G)** | | |
| **Identify and describe shapes (squares, circles, triangles rectangles, hexagons, cubes, cones, cylinders, and spheres)** | | |
| DOA.K.G.A.1 | Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*. | |
| DOA.K.G.A.2 | Correctly name shapes regardless of their orientations or overall size. | |
| DOA.K.G.A.3 | Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). | |
| **Analyze, compare, create, and compose shapes** | | |
| DOA.K.G.B.4 | 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). | |
| DOA.K.G.B.5 | Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. | |
| DOA.K.G.B.6 | Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?* | |

[3] Limit category counts to be less than or equal to 10.