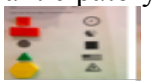
Grade Level	Kindergarten	**Content Area**	Mathematics
Course Title (grades 9-12 Only)	N/A		
Expected Prior Knowledge *List the knowledge/skills mastered earlier in the year that are foundational to the mastery of the Required Standard(s).*	The scholars will have progressed towards mastery from foundational skills previously taught at the beginning of the year that include: the same, similar and different. Scholars will have sequentially mastered solid foundational skills in sorting and classifying simple to complex criteria while making connections about numbers to 10. Examples of those connections are: "There are 5 flowers and 5 bees." "There is the same number of bees and flowers." "This flower is red and has 4 petals." "This flower is red and has 6 petals." "They are similar, but not the same or equal." Scholars will have mastered counting numbers of objects in categories and sorting the categories by count.		
Alignment to Program of Instruction *Describe how the methods of instruction found in this sequence of lessons align to the Program of Instruction described in the application package.*	The Arizona College and Career math standards form the basis for The Grande Innovation Academy's math curriculum. Scholars will learn standards using the Arizona College and Career strands building from year to year. EngageNY will be used along with manipulatives to build conceptual understanding. First in Math online will be used for developing automaticity with math facts to increase mathematical fluency. Scholars, Kindergarten through Eighth Grade, will annually participate in The Grande Innovative Academy's Math Olympics program to generate motivation for math fluency.		
Standard Number* and Description *The standard number and description (see instructions) of the Standard being instructed and assessed to mastery in the curriculum sample*	**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)*		
Materials/Resources Needed *List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables)*	• Magnifying glass • white paper lunch bags • small cut outs of "flat" curved and no curved shapes template • pattern blocks • Wooden three-dimensional shapes of cubes, spheres, cylinders, and cones • Music time with Steve Songs/Shape Songs/ PBS Kids.Org		

******Standard Number*: *For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Cluster, Standard (e.g., 6.EE.B.7). For HS Math, use Conceptual Category-Domain, Cluster, Standard (e.g., A-REI.C.6).*

Lesson (add as needed)	**Instructional Strategies -**. *List and describe teacher actions, lesson by lesson, which will provide students with opportunities to engage the grade-level rigor defined by the Required Standard(s). Indicate alignment of instructional strategies to specific component(s) or content/skill(s) of the Required Standard/component.*	**Student Activities -** *Describe the activities, lesson by lesson, in which students will engage to allow them to master the grade-level rigor defined by the Required Standard(s). Indicate alignment of student activities to specific component(s) or content/skill(s) of the Required Standard/component.*
1	**Anticipatory Set:** Teacher will (TW) have large cutouts of each various flat and curved shapes attached throughout the room. Scholars will have identical smaller cut outs of shapes in a white "mystery" lunch bag and magnifying glass. TW direct scholars to be detectives as they explore the room to find the shapes that match for 10 minutes. TW direct scholars to bring mystery bags and sit at carpet to discuss their mystery shape findings. **Objective and Purpose:** The scholars will find, describe, and classify flat shapes of circles, triangles, squares, rectangles, and hexagons using informal language without naming the shape. **Instructional Delivery: Whole Group at carpet** TW introduce key points and define vocabulary words on the interactive whiteboard while demonstrating the classifications of shapes with lines and shapes with curves. TW model language of these shapes as "flat." TW define the descriptions of attributes during this time such as; "This flat shape has three equal sides." "This flat shape has four equal sides and four vertices/corners." "This flat shape is completely curved like the clock." "This flat shape has four sides, but two are long and two are short." "This shape has six equal sides and six corners/vertices." etc. **Key Points:** • Introduction of attribute vocabulary words such as curved, straight, pointy, round, and length of sides • Introduction of "flat" shapes • Introductions of sides and vertices/corners **Modeling**: TW model language demonstrating shape vertices while using mimeo with my turn, your turn. "This shape has three	**Anticipatory Set:** The scholars will look in their mystery bags and pull out magnifying glass and various shapes to match the shapes teacher has posted throughout the room for 10 minutes. The scholars will bring mystery bags and shapes to come sit at the carpet to discuss findings. **Objective and Purpose:** The scholars will find, describe, and classify flat shapes of circles, triangles, squares, rectangles, and hexagons using informal language without naming the shape. **Instructional Delivery: Whole Group at carpet** Scholars will describe and explain their decisions while classifying identical shapes on the interactive whiteboard as they are called upon. **Key points: Curved, straight, round, pointy, sides, "flat"** **Modeling:** Scholars will observe teacher modeling and will chorally echo their turn number of vertices after teacher has turn. **Check for Understanding-** Scholar respond, "this shape has number of sides." after teacher cold calls "Get Ready Scholar." **Guided Practice: (Small Group)** Scholars will engage in small groups listening for direction from teacher to classify shapes templates as either curved or no curve flat shapes. The scholars will cut, paste, and classify shapes without naming the shapes, but describing attributes such as "three sides and three corners/vertices." "Four sides are the same." Etc.

	equal sides." **Check for Understanding:** TW cold call with "Get Ready Scholar" and ask how many sides does this shape have? **Guided Practice: (Small Group)** TW distribute two templates to scholars. One template is blank with line running down with curved separation and line separation. The second template has various shapes from the anticipatory set for scholars to cut and paste according to curves or no curve line shapes. TW recommend scholars to cut and paste flat shapes that have one attribute of just curves or no curves first. The scholars will participate in a centers exercise to promote concept development in no curve (line) and curved flat shapes. The scholars will cut and paste various flat shapes based on curves and no curves. **Independent Practice:** TW provide scholars with problem sets to do their personal best with an exit ticket and allotted time of 10 minutes to match 5 shapes to object shapes. **Closure/Exit Ticket:** TW line up cut out shapes from mystery bags on desk and call scholar individually to pick up a shape and explain how many vertices.	 **Independent Practice:** The scholars will complete 5 problems by matching shapes to object shapes as a no curve to a clock, a three-sided shape to a sign, an unequal four-sided shape to a flag, etc. **Closure/Exit Ticket:** Scholar will pick up shape cut out and tell teacher how many vertices.
2	**Anticipatory Set: Anticipatory Set:** TW distribute per pair blank Independent Practice ticket from lesson one and redistribute to scholars with circle, square, rectangle, hexagon, and triangle pattern blocks. TW direct scholars to feel, observe, and match shapes discussing attributes. TW circulate around room listening and observing scholars. TW play Steve Songs "Shape Songs" on interactive whiteboard as scholars complete anticipatory set with partners and sit on the carpet. **Objective and Purpose: Objective:** The scholars will find, describe, and classify flat shapes of circles, triangles, squares, rectangles, and hexagons using the 2D language and naming the	**Anticipatory Set: Anticipatory Set:** The scholars will pair share as they match up pattern blocks of a circle, square, rectangle, hexagon, and triangle to a blank copy from lesson one-exit ticket. Scholars will describe attributes of the shapes as they match to the paper. Scholars will listen to Shapes Song as they complete anticipatory set.  **Objective and Purpose: Objective:** The scholars will find, describe, and classify flat shapes of circles, triangles, squares, rectangles, and hexagons using the 2D language and naming the

	shape. **Instructional Delivery: Whole Group Direct Instruction** TW play Steve Songs "Shape Songs" on interactive whiteboard as scholars sit on the carpet. TW will ask scholars to describe the song they listened to. TW use interactive whiteboard to engage scholars in multiple meanings as scholars describe attributes of shapes. TW name shapes and scholars will repeat chorally. TW demonstrate sides and vertices on interactive whiteboard. Scholars will repeat chorally as an "a circle has no vertices." "A square has "four equal sides and four vertices." etc. **Key Points:** • Circles have no vertices/corners • Squares have four equal sides and four vertices/corners • Rectangles have two short and two long sides with four vertices/corners • Hexagons have six sides and six vertices/corners • Triangles have three sides with three vertices/corners **Modeling:** TW will model language with echo response.TW use mimeo pointer and pen for visuals. **Check for Understanding:** TW cold call with "Get Ready Scholar" and ask how many sides does this shape have? **Guided Practice:** TW give scholars a template with numbers to write their name in the center of paper. TW will model center of paper by writing "name" in center. TW will give scholars a template of flat shapes that have a circle, triangle. square, rectangle, and hexagon. Scholars will cut out the five shapes. TW instruct scholars and walk the room in guidance to place the shape with zero vertices above their name. TW instruct scholars to place the shape with three vertices above the shape with zero vertices. TW instruct scholars to place the shape with four vertices that has two short and two long sides below their name. TW instruct	shape. **Instructional Delivery: Whole Group** The scholars will describe shapes in the song they listened to. The scholars will describe their attributes of shapes as teacher uses interactive whiteboard to demonstrate flat or two-dimensional shapes. Scholars will echo chorally after teacher classifies the name, sides and vertices/corners. Scholars will repeat chorally as an "a circle has no vertices." "A square has "four equal sides and four vertices." etc. **Key Points:** • Circles have no vertices/corners • Squares have four equal sides and four vertices/corners • Rectangles have two short and two long sides with four vertices/corners • Hexagons have six sides and six vertices/corners • Triangles have three sides with three vertices/corners **Modeling:** Scholars will echo and use mimeo pointer and pen modeling after teacher**.** **Check for Understanding:** Scholar respond, "this shape has number of sides." after teacher cold calls "Get Ready Scholar." **Guided Practice:** The scholars will write their name in the center of a paper after teacher has modeled. Scholars will listen as teacher guides to place shapes on paper according to vertices. Scholars will place the shape that has zero vertices above their name. Scholars will place the shape with three vertices above the shape with zero vertices. Scholars will place shape with four vertices that have two short and two long sides below their name. Scholars place shape that has four vertices and four equal sides in the front of their name. Scholars place shape that has six vertices behind their name

	scholars to place the shape with four vertices and four equal sides in front of their name. TW instruct scholars to place the shape that has six vertices behind their name or at the end of their name. TW check for understanding after scholars have completed the guided practice. Scholars will glue the shapes on the paper with their name after teacher has checked guided practice. **Independent Practice:** TW provide scholars a template with a circle, rectangle, square, hexagon and triangle. Scholars will have 15 minutes to do their personal best and label how many vertices. **Closure/Exit Ticket:** TW check independent practice.	or at the end of their name. Scholars will glue placed shapes after teacher has checked for understanding. **Independent Practice:** The scholars will label the correct number of vertices/corners. **Closure/Exit Ticket:** Scholars will show teacher independent practice.
3	**Anticipatory Set:** Teacher will (TW) have large pictures of circle, square, triangle, rectangle, and hexagon flat shapes in addition to large pictures of real world items such as an ice cream cone, a soccer ball, a dice, and a can solid shapes. Scholars will have identical pattern block flat shapes and wooden solid shapes in a white "mystery" lunch bag. TW direct scholars to be detectives as they explore the room to find the shapes that match for 10 minutes. TW direct scholars to bring mystery bags and sit at carpet to discuss their new mystery shape findings. **Objective and Purpose:** Scholars will find and describe three dimensional solid shapes while comparing and analyzing attributes to two dimensional flat shapes**.** **Instructional Delivery: Whole Group at Carpet** TW review "flat shapes" definitions and attributes. TW model language of these shapes as "flat." TW introduce new shapes of sphere, cone, cube, and cylinder as scholars bring their mystery bags. TW ask scholar was is different about these shapes? TW explain solid shapes are called three-dimensional. TW describe a sphere as continuous curve, with no faces or vertices like a ball. TW say" Show me the shape that looks like a ball. TW describe cone as one face and no vertices like an ice cream cone.TW direct scholars to pull shape that looks like and ice cream cone. TW	**Anticipatory Set:** Scholars will have mystery shape bags with pattern blocks of circle, square, triangle, rectangle, and hexagon flat shapes; and new mystery wooden shapes to match to pictures throughout the room for 10 minutes. Scholars discuss their new findings. **Objective and Purpose:** Scholars will find and describe three dimensional solid shapes while comparing and analyzing attributes to two dimensional flat shapes**.** **Instructional Delivery: Whole Group** Scholars will have mystery bags at carpet. Scholars will pull shape that looks like a ball from mystery bag. Scholars pull shape that looks like an ice cream cone. Scholars will pull shape that looks like a dice. Scholars pull shape that looks like a can. Scholars look around for solid shapes. • **Key Points:** Solid shapes are called three dimensional • Solid shapes are everywhere and used everyday

	describe cube as six faces and eight vertices like a dice. TW direct scholars to pull shape that looks like a dice. TW describe cylinder as 2 faces and zero vertices like a can. TW direct scholars to pull shape that looks like a can. TW explain many solid shapes are all around us and are used in building things. TW ask scholars to look around for solid shapes. **Key Points:** • Solid shapes are called three dimensional • Solid shapes are everywhere and used everyday • Solid shapes are used to build things • A Sphere, cone, cube, and cylinder are solid shapes **Modeling:** TW hold wooden items while describing and feeling attributes and stack solids on each other**.** **Check for Understanding:** TW will use cold call method as scholars are holding solid shapes, "Get Ready, Get Ready, Scholar what kind of shape do you have?" **Guided Practice: (Small groups**) TW direct scholars to sort and analyze their shapes by comparing flat and solid shapes. TW give scholars paper with line vertically down center. "solid/3D" is on right, "flat/2D" on left. TW direct scholars to sort and compare shapes. **Independent Practice:** TW distribute Independent Practice sheet for scholars to differentiate flat and solid shapes. TW will dictate scholars to put an X on the flat shapes and circle the solid shapes. **Closure/Exit Ticket:** TW check Independent Practice.	• Solid shapes are used to build things • A Sphere, cone, cube, and cylinder are solid shapes **Modeling:** Scholars hold wooden shapes while describing and feeling attributes and stack on each other. **Check for Understanding:** Scholar gets ready to respond to question "What kind of shape do you have?" Scholar replies, "Solid like a can." Etc. **Guided Practice: (Small groups)** Scholar sorts and analyzes shapes. Scholar places "solid/3D" shapes on left and "flat/2D" shapes on left. Scholar analyzes and compares shapes. **Independent Practice:** Scholars will place an X on flat shapes and circle the solid shapes. **Closure/Exit Ticket:** Scholars will show Independent Practice to teacher.

S.A.	*Provide an opportunity for the student to complete the summative assessment items which is clearly separate from instruction and guided or independent practice, and in which the student is assessed independently. In the Student Activities column, provide a brief description of the summative assessment (S.A.) items that will allow students to demonstrate mastery of the rigor of the Required Standard(s)/components, and the context in which the items will be administered.*	Scholars will complete the assessments drawing and telling the teacher the correct answer. Scholars will be seated at their tables to complete the assessment.

Summative Assessment #1 (Oral instruction from teacher.)
1 point for each answer, (5 possible points) with 4 of 5 points considered mastery. (75% or greater)

1. Write the number of vertices on each flat shape.

1a. 1b. 1c. 1d. 1e.

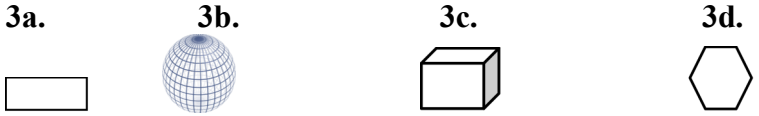
Summative Assessment #2 (Oral instruction from teacher.)
1 point for each answer, (7 possible points) with 6 of 7 points considered mastery. (75% or greater)

2. Tell me if the following shapes are flat or solid.

Summative Assessment #3 (Oral instruction from teacher.)
1 point for each answer, (4 possible points) with 3 of 4 points considered mastery. (75% or greater)

3. Place an X on flat shapes. Circle the solid shapes.

3a. **3b.** **3c.** **3d.**



Summative Assessments Answer Key:

SA#1 1a. 0 1b. 4 1c. 3 1d. 4 1e. 6

SA#2 circle/flat triangle/flat cone/solid sphere/solid hexagon/flat cylinder/solid cube/solid

SA#3 3a. X 3b. O 3c. O 3d. X