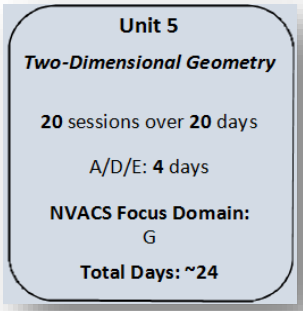
Kindergarten Unit 5: Two-Dimensional Geometry

Big Conceptual Idea: K-6 Progression on Geometry (pp. 1-7)



Kindergarten Curriculum Pacing Framework: Balanced Calendar

Read the Bridges Unit Overview/Introduction for Unit 5 pp. i-vi. Also read each Module Overview for the current week's sessions, and the current Session Summary along with details for the teaching of each session as you work through Unit 3. These Introduction/Overview/Summary sections provide focus, clarity, vocabulary, definitions, and examples for the "big mathematical ideas and understandings" critical to Kindergarten. This information will support your professional decision-making within the Sessions and Modules as needed.

Mathematical Background: Read Bridges Unit 5 Overview and Introduction (pp. i-vi)	Unit Essential Question for the Teacher: How do I help my students flexibly recognize, name, describe, sort, compare, compose, decompose, and construct two-dimensional shapes observed in their environment, using precise attributes regardless of size or orientation?

Instructional note:
Unit 5 focuses heavily on Geometry, although K.CC, K.OA, and K.MD Standards continue to be developed. Geometry, as identified by the NVACS, is one of the critical areas of focus for Kindergarten. The Standards expectations summarized in the NVACS document on p. 9 state,

> *"(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes" (NVACS, 2010)*

In Kindergarten, students work systematically, deeply, and extensively to build mental visualization of geometric concepts and spatial relations. It is beneficial to keep this in mind in working through the Bridges instructional materials especially for Units 5 and the first two Modules of Unit 6. Position words such as above, below, next to, behind, in front of, and beside are also introduced and used in *Number Corner*.

The focus for Kindergarten is spatial structuring and spatial relations, including the composing and decomposing of shapes. This work becomes the foundation for all further work involving spatial structuring in higher mathematics (multiplication, area, volume…) and lays foundations for work in the physical sciences, engineering, and the arts (K-6 Progression on Geometry, pp. 2, 4). Therefore, it is important to vary in many ways the examples and models used so students build flexible understandings of geometric concepts and do not learn these in limited ways. WCSD has available an additional set of shape cards, which provide various orientations and sizes to support the development of this flexible understanding of shape, orientation, and relative position.

Two-dimensional shapes are defined by NVACS as shapes lying in a plane or "flat". These shapes have only the dimensions of length and width. Three-dimensional shapes are defined as "solid". These shapes have the dimensions of length, width, and height, as they have thickness or "stackability". "Lying in a plane" is our more precise understanding of two-dimensional, although with emergent learners we support their emerging cognitive understandings of more general differences, encouraging growth to more precise understandings over time. Consider carefully, however, the materials and vocabulary presented as to not create confusion for our students. Throughout this Unit there are a number of suggestions, clarifications, and supports provided to inform work in geometry with students. Consider referencing the K-6 Progression on Geometry (referenced above) if further explanations or examples are needed regarding what students should know and be able to do within geometry by the end of Unit 6.

The mathematics content of Unit 5:

Children construct understandings in connected and integrated ways, not as isolated, individual pieces. Therefore, continually ask students to explain how they are problem solving ("How did you know?", "What made you think that?", etc.) so you can make explicit the connections students are already making from previous learning, strengthen the synaptic connections being constructed, and encourage the continuance of this sense-making behavior (NVACS, 2010, p. 6).

- Support and instruct to the development of the new big mathematical ideas of:
  - Circle- a two-dimensional (flat) shape made by drawing a curve that is always the same distance from a point called the center.
  - Triangle- a two-dimensional (flat) shape with 3 sides.
  - Rectangle- a two-dimensional (flat) shape with 2 pairs of parallel sides (4 sides total) and 4 right angles.
  - Square- a two-dimensional (flat) shape with 4 congruent sides and 4 right angles.
  - Hexagon- a two-dimensional (flat) shape with 6 sides.

- Trapezoid- a two-dimensional (flat) shape with 4 sides, exactly 1 pair of which are parallel.
- Rhombus-a two-dimensional (flat) shape with 4 congruent sides.
- Cube- a three-dimensional shape (solid) whose 6 faces are all squares.
- Cone- a three-dimensional shape (solid) with a circular or elliptical base and a curved surface that tapers to the vertex.
- Sphere- a three-dimensional shape (solid) constructed so that every point of the surface is the same distance from a point called the center.
- Cylinder- a three- dimensional shape (solid) with one curved surface and two congruent flat ends that are circular or elliptical.
- Vertex/corner – The point at which the sides of a polygon, or the edges of a polyhedron meet.

- Watch for students' attempts at thinking about and using these new strategic behaviors/strategies to demonstrate their emerging understandings of the big mathematical ideas:
  - Graphing
  - Classifying objects by attributes
  - Composing shapes (making shapes out of other shapes (E.g. Making a rectangle out of two triangles).
  - Decomposing shapes (breaking a shape into other shapes (E.g. Making two triangles from a rectangle).
  - Constructing shapes (putting attributes together to build a shape (E.g. drawing three straight lines connected at three separate corners to create a closed shape called a triangle).

Over time, with supportive and scaffolded instruction and interactions, students come to more precise understandings of geometry, as well as develop appropriate precision with mathematics content and vocabulary.

On-going enrichment:

- Continue noting the ***Skills Across the Grade Level*** chart in the Introduction section (Unit 5 p. v). K.MD.3 and K.G 1-4 are standard expectations benchmarked to be secure by the end of this Unit. This includes classifying, counting and graphing objects; naming and describing shapes by name and using positional words (regardless of size and orientation); and identifying and comparing 2-D shapes by attributes (regardless of size and orientation). K.OA.3 & 6 and K.G.5 & 6 continue to be developed. (See p. v) This is important information for those day-to-day professional instructional decisions you have to make within each Session as to what discussions or activities to extend or cut short or emphasize or skip or, etc.
- Expect all students to engage with the mathematics.

Essential Academic Vocabulary Use these words consistently during instruction.		
Essential Academic Vocabulary: (first time explicitly taught) *indicates Word Resource Cards are available in the materials	**Review Vocabulary:** (Vocabulary from Number Corner or prior units)	
vertex or corner*	*compare**	*circle**
side*	*trapezoid**	*triangle**
flat	*hexagon**	*square**
round	*rhombus**	*rectangle* length**
solid	*above**	
curved	*below**	
straight	*beside**	
sphere*	*next to**	
three-dimensional (3-D) shape*	*attribute**	
two-dimensional/ (2-D) shape*	*pattern**	
estimate*	*more/less*	
least*		
most*		

Additional terminology that students may need support with: shape(s)*, sort, graph, in all,* color, large*,* small*, strategies, problem, order.*

Standards listed in **bold** indicate a focus of the lesson.

NVACS (Content and Practices)	Mathematical Development of the Big Idea	Instructional Clarifications & Considerations
Module 1- Session 1: What Do You Know About Shapes?		
K.MD.3 K.G.1 K.G.2 K.G.4 MP.1 MP.6 MP.7	Access Prior Learning and Connections to Future Learning: • Classify objects into categories, and count the number objects in different categories are covered in Unit 7. Describe and identify objects in the environment using geometric shape names is also addressed in Unit 6. Beginning with the Big Idea and key Strategic Behaviors: • naming shapes • identifying shapes by their defining attributes	Guiding Questions: • What shapes can we see in our world? • What makes shapes different from each other? How can a shape be described? Instructional Notes: • Visual Models are pattern blocks or preferably die cut-outs if available. • Pattern blocks are actually 3-dimensional shapes because they have a length as width and a height. • Use pattern block sorting as an anticipatory set. Consider tracing around the shape as you add it to the chart (it is the footprint that creates the 2-dimensional shape; the interior is not part of the shape, just the line segments create the shape). • Focus your conversation around the 2-dimensional shape formed by tracing around the pattern block on the poster. • Word resource cards are helpful for constructing the chart. • ELL suggestion says to sort by gender (boys, girls). Separating by gender may have negative impacts to students' identities, especially those who are gender fluid. Consider sorting by shirt color. Literature Connections: • *The Shape of Things* by Dayle Ann Dodds - good connection to point out how shapes are seen around our environment. Launches discussion of " What is a 2-D shape?" Number Corner Connections: • Classify objects into categories, count the number objects in different categories. It reappears in Oct, Dec., Jan, Feb, Mar, Apr, & May. • Describe and identify objects in the environment using geometric shape names. Addressed in Sept, Nov, and Dec.
Module 1- Session 2: What Is a Circle?		
K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.6 MP.7	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional is reinforced in Unit 6. • Identify shapes regardless of orientation or size is also covered in Unit 6. Beginning with the Big Idea and key Strategic Behaviors: • naming shapes • identifying shapes by their defining attribute	Guiding Questions: • What is a circle? • What makes shapes different from each other? • What is the difference between a 2-D and 3-D shape? Instructional Notes: • Visual models are various circles and spheres; clay spheres. • Omit all aspects of this lesson that smash a sphere into a circle - Step 9, 11, 12, 13. • After Step 8 - teacher & students makes spheres with clay. Omit students cutting their spheres in half; teacher only brings in other spherical objects including an orange (or other object that could be cut without losing its shape) as visuals; teacher only cuts the orange in half again like yesterday tracing around the half sphere to create the footprint of the circle, added to the chart from yesterday. • Continued steps discussion is based around the teachers 2-dimensional circle that the teacher created on the chart and the students clay spheres and other spherical objects. • In Step 16 – clarify that we can make circles out of the items names (such as "a clock" or "a plate") by tracing around it; you might bring examples of brainstorming items that might demonstrate this. Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. It is addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. It is addressed in Sept. and Nov. months. Writing and Enrichment: • *Home Connections* p. 10 and *Home Connection* tab p. 99-103. Search for circles also needs to be clarified with students to reinforce that it is the outline of a clock is a circle...the clock itself could be a cylinder.

Module 1- Session 3: Pattern Block Sort and Count

K. CC.3 K.CC.6 K.CC.7 K.G.4 K.MD.3 MP.1 MP.2 MP.6	Access Prior Learning and Connections to Future Learning: • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes is reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • estimating • classifying objects • graphing Developing to Secure: • identifying shapes by their defining attributes	Guiding Questions: • How can I use math tools to explore shapes? • How can shapes be sorted? Instructional Notes: • Visual models are 2-D shapes cut-outs (or pattern blocks) and graphs. • Step 6 – clarify again that for a 2-dimensional shape we are only looking at the footprint of the shape, not including the interior; possibly reinforce by having students trace around the outside of the pattern blocks or provide shape templates. • Shape Trace and Count w/ pattern blocks, recording sheets and mats: Bridges web site. • Consider using the Shape Shifting Tool: http://www.ictgames.com/YRshape.html. Number Corner Connections: • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes is expected to be secure within this unit. It is also addressed in Sept. and Nov. months. Writing and Enrichment: • As a warm-up game, consider projecting and hiding a shape on available technology. Reveal sections one at a time as students reason what shapes it could be, having discussions throughout. By the third uncovering, student may be able to identify the shape. • Students create a math journal entry about how they grouped their shapes. Provide a sentence frame such as: These shapes go together because _____. • Additional prompts: What was the rule you used to sort? Could you have sorted them another way?

Module 1- Session 4: Circles & Squares Race to Twenty

K.CC.1 K.CC.4 K.CC.6 K.CC.7 K.OA.3 MP.1 MP.2 MP.7	Access Prior Learning and Connections to Future Learning: • Identify whether the number of objects in one groups is greater, less, or equal to the number objects in another group reappears in all units Developing the Big Idea and key Strategic Behaviors: • understanding hierarchical inclusion • using the five-structure • recognizing magnitude • comparing	Guiding Questions: • How do I know if a number is greater than or less than; bigger or smaller? • Who is closest to 20? How many more do I need to make 20? • How do I know who has more? How do I know who has less? Instructional Notes: • Visual models is the number line. • While this game uses circles and squares to keep track of rolls, the main focus here is using a number line with landmark numbers, such as 5, 10, 15. Consider providing opportunities (for the first few times of play) to play the game with adult support, in order to foster discussions around the guiding questions. • Digital display tool link on the Bridges web site. Number Corner Connections: • Identify whether the number of objects in one groups is greater, less, or equal to the number objects in another group is a developing concept. It reappears in Oct., Dec., Jan., Feb., Mar., Apr., & May. Child Watching and Assessments: • Sort & Count CHECKPOINT – work with 4 students (see p. 18 and T3). Also see reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab p. 54. For the Assessment – consider pattern block as just objects for this work; shape attributes are not considered in this assessment tasks.

Module 1- Session 5: Introducing Work Place 5A Circles & Squares Race to Twenty

K.CC.1 K.CC.6 K.CC.7 K.OA.3 MP.1 MP.2 MP.7	Access Prior Learning and Connections to Future Learning: • Identify whether the number of objects in one groups is greater, less, or equal to the number objects in another group reappears in all units. Developing the Big Idea and key Strategic Behaviors: • using hierarchical inclusion • using the five-structure • recognizing magnitude • using composition	Guiding Questions: • How do I know if a number is greater than or less than/bigger than or smaller than another number? How can the number line help me? Instructional Notes: • Visual model is the number line representation. • Alternating colors each roll is to emphasize compositions of numbers and understanding of number relationships. • Students are problem solving "how many more?" • Digital display tool link on the Bridges web site. Number Corner Connections: • Identify whether the number of objects in one groups is greater, less, or equal to the number objects in another group is a developing concept. It reappears in Oct., Dec., Jan., Feb., Mar., Apr., & May. *-continues on next page-*

		Writing and Enrichment: • See *Teacher Masters* (p. T4) of *the Work Place Guides for Differentiation* ideas. • See *Work Place Instructions* (T. 5) for game variations. • Optional Unit 5 *Work Place Log* available on p. T6. • *Home Connections* p. 21 and *Home Connection* tab pp. 105-109.
Module 2- Session 1: Shape Sorting		
K.CC.1 K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.7 MP.8	Access Prior Learning and Connections to Future Learning: • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes are reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • naming shapes • identifying shapes by their defining attributes • analyzing and classifying shapes	Guiding Questions: • What happens when you change a shape's position and orientation (slides, flips, turns)? • What are attributes or properties of a shape? • Which attributes are important to naming a shape? Instructional Notes: • Visual models are the shape cards (consider also using 2-D shape models in various colors, sizes, and orientations). • Step 2 – reinforce discussions about 2-dimensional shapes not being able to be picked up and 3-dimensional shapes having thickness and "stackability". Emphasize that students may describe shapes initially using visual descriptions (long, pointy, etc.) but focus attention on the relevant attributes (e.g. number of sides, sides of equal length, etc.). Note: color is a non-defining attribute. • Step 7 - emphasize the use of attributes of shapes during the student discussions. • Instead of using the Bridges shape cards only (which show the shapes in only one type and only one orientation), consider including the WCSD Shape Card options for variety. Literature Connections: • *Shapes, Shapes, Shapes* by Tana Hoban Number Corner Connections: • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes is expected to be secure within this unit. It is also addressed in the months of Sept. and Nov.
Module 2- Session 2: Sorting & Graphing Shapes by Name		
K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.4 MP.1 MP.7 MP.8	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional is reinforced also in Unit 6. • Identify shapes regardless of orientation or size, and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are also reinforced in Unit 6. • Model two-dimensional shapes in the world by drawing them is also reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • graphing Developing to Secure: • naming shapes • identifying shapes by their defining attributes • analyzing and classifying shapes	Guiding Questions: • What happens when you change a shape's position and orientation (slides, flips, and turns)? • What are attributes or properties of a shape? • Which attributes are important to naming a shape? Instructional Notes: • Visual models are various 2-D shapes, shape cards, and written equations. • Step 13 – consider singing the Shape Song as students are drawing shapes (use updated WCSD shape songs to replace p. T2, will be place on the WCSD C&I website when available); consider having tools such as shape templates or straight edges to help with drawing straight lines. • Use the Bridges shape cards and the WCSD shape options. Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. It is addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. It is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. It is also addressed in Sept. and Nov. months. • Developing concept/skill - model two-dimensional shapes in the world by drawing them. Writing and Enrichment: • Have students record their shape drawings in math journal and label attributes on the shape drawings using their own informal language and invented spelling. • *Home Connections* p.10 and *Home Connection* tab pp. 111-115; consider helping students be able to describe and justify the attributes during the Bingo game.

Module 2- Session 3: Sorting Shapes by Sides & Corners		
K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.4 MP.7	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional, identify shapes regardless of orientation or size, analyze and compare two-dimensional shapes, and using informal language to describe their parts and attributes are all reinforced in Unit 6. • Model two-dimensional shapes in the world by drawing them is addressed in Unit 6. Developing the Big Idea and key Strategic Behaviors: • graphing Developing to Secure: • identifying shapes by their defining attributes • classifying shapes by attributes	Guiding Questions: • How are shapes alike and different? What makes shapes different from each other? • What are attributes or properties of a shape? Instructional Notes: • Visual models are various 2-D shapes and shape cards. • Consider integrating the WCSD shape options for other shape types. • Circle is a continuous closed curve. Closed means when drawing a square and getting to that last corner, I stop to close the shape. I do not continue going over the lines already drawn. Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. This is addressed in Sept and Nov. months. • Identify shapes regardless of orientation or size. It is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is also addressed in Sept. and Nov. months.
Module 2- Session 4: Goodbye Shapes!		
K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.7 MP.8	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional and identify shapes regardless of orientation or size are reinforced in Unit 6 also. Developing the Big Idea and key Strategic Behaviors: • classifying objects • identifying shapes by their defining attributes • analyzing and comparing shapes • graphing	Guiding Questions: • How can shapes be sorted? • What are attributes or properties of a shape? • How are shapes alike and different? What makes shapes different from each other? Instructional Note: • Visual models are various 2-D shapes. Number Corner Connections: • Expected to be secure at this time - Identify shapes as two-dimensional or three-dimensional. This is also addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. It is addressed in Sept. and Nov. months.
Module 2- Session 5: Introducing Work Place 5B Geoboard Shapes		
K.G.1 K.G.2 K.G.3 K.G.4 K.G.5 MP.1 MP.6	Access Prior Learning and Connections to Future Learning: • 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 is also reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • classifying objects • identifying shapes by their defining attributes Developing to Secure: • constructing shapes	Guiding Questions: • How can we describe the position or location of an object or shape? What are some words we use when we describe the position or location of objects or shapes? Instructional Notes: • Visual models are various 2-D shapes, Geoboard shape cards, shapes constructed on the Geoboards. • Opportunity for students to use complete sentences and positional words when describing their shapes on the geoboard. (e.g. "My rhombus starts in the top row in the middle…") • Reinforce having students place the geoboard on top of the card to see how the shape they constructed is similar or different from the shape card. • Digital display tool, Web app or Tablet link on the Bridges web site. • Digital Geoboard - Geoboard by The Math Learning Center www.mathlearningcenter.org. Literature Connections: • *All About Where* by Tana Hoban *-continues on next page-*

		Number Corner Connections: • Expected to be secure - 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. Months Sep., Nov., and Dec. feature this standard. Writing and Enrichment: • See *Teacher Masters* (M2 S5 p. T3) of the *Work Place Guides for Differentiation* ideas. • See *Work Place Instructions* (p. T4) for game variations. • *Home Connection* p. 22 and *Home Connection* tab pp. 117-123. Consider sending home some of the copied WCSD Shape Options to enrich the home experience.
Module 3- Session 1: Introducing Work Place 5C Shapes & Spinners Graphing		
K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 K.G.5 MP.1 MP.7	Access Prior Learning and Connections to Future Learning: • Classify objects into categories and count the number objects in different categories are introduced and reinforced in Unit 1, 4, and 7. • Model two-dimensional shapes in the world by drawing them is addressed in Unit 6. Developing the Big Idea and key Strategic Behaviors: • constructing shapes • graphing Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • Why do shapes have names? Instructional Notes: • Visual models are drawn shapes. • Consider providing students with rulers, card stock, templates, or other straight edges to assist with their shape constructions. • Digital display tool link on the Bridges web site. Literature Connections: • *Square Cat* by Elizabeth Shoonmaker Number Corner Connections: • Expected to be secure - Classify objects into categories, count the number objects in different categories. It reappears in Oct., Dec., Jan., Feb., Mar., Apr., & May. Writing and Enrichment: • See *Teacher Masters* (M3 S1 p. T1) of the *Work Place Guides for Differentiation* ideas. • See *Work Place Instructions* (p. T2) for game variations.
Module 3- Session 2: Introducing Work Place 5D Pattern Block Designs		
K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.6 MP.1 MP.4 MP.7	Access Prior Learning and Connections to Future Learning: • Classify objects into categories and count the number objects in different categories are introduced and reinforced in Unit 1, 4, and 7. • Compose simple shapes to form larger shapes. It is also covered in Unit 2. Developing the Big Idea and key Strategic Behaviors: • constructing shapes • composing and decomposing shapes Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • How do the pattern block shapes relate to one another? • How can I use smaller shapes to form larger shapes? • How do we use shapes in daily life? Where can I find shapes around my world? Instructional Notes: • Visual models are pattern blocks (or die cut-outs or foam shapes) and design mats. • If using actual pattern blocks, clarify to students you are using the footprint of the shape for recording how many on the recording sheet and not actually the 3-D shape. • Digital display tool link on the Bridges web site. Literature Connections: • *Color Farm* by Lois Elhert • *Color Zoo* by Lois Elhert • *I Spy Shapes in Art* by Lucy Micklethwait Number Corner Connections: • Expected to be secure - Classify objects into categories, count the number objects in different categories. It reappears in Oct., Dec., Jan., Feb., Mar., Apr., & May. Writing and Enrichment: • See *Teacher Masters* (M3 S2 p. T4) of the *Work Place Guides for Differentiation* ideas. • See *Work Place Instruction* (p. T2) for game variations. • *Home Connections* p. 10 and *Home Connection* tab pp. 125-130.

Module 3- Session 3: Introducing Work Place 5E Spin & Count Shapes		
K.CC.6 K.OA.4 K.MD.3 K.G.1 K.G.2 K.G.5 MP.1 MP.7	Access Prior Learning and Connections to Future Learning: • Classify objects into categories and count the number objects in different categories are introduced and reinforced in Unit 1, 4, and 7. • Decompose numbers less than or equal to 10 into pairs into more than one way is covered in all units except Unit 4. Developing the Big Idea and key Strategic Behaviors: • identifying combinations to 10 Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes Secure: • understanding cardinality	Guiding Questions: • Why do shapes have names? • How does grouping help me count? Instructional Notes: • Visual models are 0-5 numeral die and shape pictures. • Consider providing students with rulers, card stock templates, or other straight edges to assist with their shape constructions. • Digital display tool link on the Bridges web site. (see p. 2). Number Corner Connections: • Expected to be secure - Classify objects into categories, count the number objects in different categories. It reappears in Oct., Dec., Jan., Feb., Mar., Apr., & May. • Developing concept/skill - Decompose numbers less than or equal to 10 into pairs into more than one way. Explored in all months except Sept. Writing and Enrichment: • See *Teacher Masters* (M3 S3 p. T20) of the *Work Place Guides for Differentiation* ideas
Module 3- Session 4: Hungry Caterpillars		
K.CC.6 K.G.1 K.G.2 K.G.4 K.G.6 MP.1 MP.5 MP.7	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional, identify shapes regardless of orientation or size and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are all reinforced in Unit 6. • Compose simple shapes to form larger shapes is also addressed in Unit 2. Developing the Big Idea and key Strategic Behaviors: • composing and decomposing shapes Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • How do the pattern block shapes relate to one another? • How can I use smaller shapes to form larger shapes? Instructional Notes: • Visual models are caterpillar game boards, shape spinners, and pattern blocks or 2-D pattern block shapes. • This session's focus is working on strategies for composing and decomposing shapes. • Step 8 – Clarify to students you are using the footprint of the shape not actually the 3-D shape. • Digital display tool link on the Bridges web site.(see p. 2). Literature Connections: • *Ten Wriggly Wiggly Caterpillars* by Tiger Tales and Debbie Tarbett • *The Hungry Caterpillar* by Eric Carle Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. It is addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. This is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is also addressed in Sept. and Nov. months. Child Watching and Assessments: • Two-Dimensional Shapes & Their Attributes CHECKPOINT – observe students in *Work Places* (see p. 18 and T23). Also, see reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab p. 56.

Module 3- Session 5: Introducing Work Place 5F Hungry Caterpillars		
K.CC.6 K.G.1 K.G.2 K.G.4 K.G.6 MP.1 MP.5 MP.7	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional, identify shapes regardless of orientation or size and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are all reinforced in Unit 6. • Compose simple shapes to form larger shapes is also addressed in Unit 2. Developing the Big Idea and key Strategic Behaviors: • composing and decomposing shapes Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • How do the pattern block shapes relate to one another? • How can I use smaller shapes to form larger shapes? • What is the best strategy to fill your caterpillar to win this game? Instructional Note: • Visual models are pattern blocks or 2-D pattern block shape cut outs. Literature Connections: • *Ten Wriggly Wiggly Caterpillars* by Tiger Tales and Debbie Tarbett • *The Hungry Caterpillar* by Eric Carle Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. This is addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. This is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is also addressed in Sept. and Nov. months. Writing and Enrichment: • See *Teacher Masters* (M3 S5 p. T24) of the *Work Place Guides for Differentiation* ideas. • See *Work Place Instructions* (p. T25) for game variations. • *Home Connection* p. 21 and *Home Connections* tab pp. 131-132.
Module 4- Session 1: Shapes & More Shapes		
K.CC.3 K.CC.6 K.MD.3 K.G.1 K.G.2 K.G.3 K.G.4 K.G.5 K.G.6 MP.1 MP.4 MP.5 MP.7	Access Prior Learning and Connections to Future Learning: • Identify shapes as two-dimensional or three-dimensional, identify shapes regardless of orientation or size and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are all reinforced in Unit 6. • Compose simple shapes to form larger shapes is also addressed in Unit 2. Developing the Big Idea and key Strategic Behaviors: • constructing shapes • graphing • composing and decomposing shapes Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • How do we use shapes in daily life? Where can I find shapes around my world? Instructional Notes: • Visual models are the 5 *Work Place* models and various game board visuals. • Emphasize that students can describe shapes initially using visual descriptions (long, pointy, etc.) but try to focus their attention on the relevant attributes (e.g. number of sides, sides of equal length). A discussion here would also include how color is a non-defining attribute. Literature Connections: • *Captain Invincible and the Space Shapes* by Stuart J. Murphy Number Corner Connections: • Expected to be secure - Identify shapes as two-dimensional or three-dimensional. This is addressed in Sept. and Nov. months. • Identify shapes regardless of orientation or size. This is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is also addressed in Sept. and Nov. months.

Module 4- Session 2: There's a Shape in My Pocket, Day 1		
K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.3 MP.8	Access Prior Learning and Connections to Future Learning: • Identify shapes regardless of their orientation or size, and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • analyzing data Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • Why do shapes have names? • What questions can I ask to find out what shape it is quickly? Instructional Notes: • Visual models are 2-D shapes. • Consider enriching with the WCSD Shape options. Note that color is a non-defining attribute. • This activity provides opportunities to discuss logical reasoning strategies and questions that are most efficient to deduce what shape is in the person's pocket. • Digital display tool link on the Bridges web site. Number Corner Connections: • Expected to be secure - Identify shapes regardless of orientation or size. This is addressed in Sep.t and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is addressed in Sept. and Nov. months. Writing and Enrichment: • *Home Connection* p. 10 and *Home Connection* tab pp. 133-134.
Module 4- Session 3: There's a Shape in My Pocket, Day 2		
K.G.1 K.G.2 K.G.3 K.G.4 MP.1 MP.3 MP.8	Access Prior Learning and Connections to Future Learning: • Identify shapes regardless of orientation or size and analyze and compare two-dimensional shapes using informal language to describe their parts and attributes are all reinforced in Unit 6. Developing the Big Idea and key Strategic Behaviors: • analyzing data Developing to Secure: • naming shapes • classifying shapes • identifying shapes by their defining attributes	Guiding Questions: • Why do shapes have names? • What questions can I ask to find out what shape it is quickly? Instructional Notes: • Visual models are 2-D shapes. • Consider enriching with the WCSD Shape options. Note that color is a non-defining attribute. • This activity provides opportunities to discuss logical reasoning strategies and questions that are most efficient to deduce what shape is in the person's pocket. Number Corner Connections: • Expected to be secure - Identify shapes regardless of orientation or size. It is addressed in Sept. and Nov. months. • Analyze and compare two-dimensional shapes and use informal language to describe their parts and attributes. This is also addressed in Sept. and Nov. months.
Module 4- Session 4: Triangles & Squares (optional)		
K.G.1 K.G.2 K.G.3 K.G.4 K.G.6 MP.6 MP.7	Access Prior Learning and Connections to Future Learning: Developing the Big Idea and key Strategic Behaviors: • composing and decomposing shapes	Instructional Notes: • Optional Session or time can be used as an A/D/E day. • Visual models are triangles and squares.
Module 4- Session 5: Assembling the Shoo Fly Quilt (optional)		
K.G.1 K.G.2 K.G.4 K.G.6 MP.7 MP.8	Access Prior Learning and Connections to Future Learning: Developing the Big Idea and key Strategic Behaviors: • composing and decomposing shapes	Instructional Notes: • Optional Session or time can be used as an A/D/E day. • Visual models are triangles and squares. Writing and Enrichment: • *Home Connections* p. 20 and *Home Connection* tab p. 135-136.

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