




UNIT PLANNING TEMPLATE

(Kendra Stewart)

		Unit Topic / Guiding Question: Grade 2 Mathematics: Geometric Shapes, 2D and 3D		
		Rationale: The purpose of this unit is to review 2D shape attributes with students and introduce 3D shape attributes. Students will have the opportunity to engage in hands-on, experiential activities to build 2D and 3D shapes themselves, to identify the attributes (such as edges, faces, and vertices) of various shapes. This unit will also provide students the opportunity to identify geometric shapes in real-life settings, including outdoor lessons where students will observe shapes around the playground and in nature.		
	UNDERSTAND	Big Ideas	Essential Questions	
		Objects and shapes have attributes that can be described, measured, and compared.	<ul style="list-style-type: none"> - What attributes do 2D shapes have? - What attributes do 3D shapes have? - How can 2D and 3D shapes be measured and compared? - Can you identify 2D shapes as part of 3D shapes? - Can you identify 2D and 3D shapes in the real world? 	
	DO	<p>Core Competencies:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p> Communication</p> <ul style="list-style-type: none"> <input type="checkbox"/> Communicating <input type="checkbox"/> Collaborating <p>Communication: I can listen and respond to others. I can consider my purpose when I am choosing a form and content. I can communicate clearly about topics I know and understand well, using forms and strategies I have practiced.</p> </div> <div style="width: 30%;"> <p> Thinking</p> <ul style="list-style-type: none"> <input type="checkbox"/> Creative Thinking <input type="checkbox"/> Critical & Reflective Thinking <p>Critical Thinking: I can use evidence to make simple judgments. I can ask questions, make predictions, and use my senses to gather information. I can explore with a purpose in mind and use what I learn.</p> </div> <div style="width: 30%;"> <p> Personal & Social</p> <ul style="list-style-type: none"> <input type="checkbox"/> Personal Awareness & Responsibility <input type="checkbox"/> Positive Personal & Cultural Identity <input type="checkbox"/> Social Awareness & Responsibility <p>Social Awareness & Responsibility: In familiar settings, I can interact with others and my surroundings respectfully. I use materials respectfully.</p> </div> </div>		

		<p>Learning Standards – Curricular Competencies:</p> <ul style="list-style-type: none"> - Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving. - Visualize to explore mathematical concepts. - Represent mathematical ideas in concrete, pictorial, and symbolic forms. 	
	<p>KNOW</p>	<p>Learning Standards - Content: Students are expected to learn multiple attributes of 2D shapes and 3D objects, including:</p> <ul style="list-style-type: none"> - sorting 2D shapes and 3D objects. - describing, comparing, and constructing 2D shapes, including triangles, squares, rectangles, circles. - identifying 2D shapes as part of 3D objects. - using traditional northwest First Peoples shapes, reflected in the natural environment. 	
	<p>First Peoples Principles of Learning</p>	<ul style="list-style-type: none"> □ <i>Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.</i> □ <i>Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).</i> □ <i>Learning involves recognizing the consequences of one’s actions.</i> □ <i>Learning involves generational roles and responsibilities.</i> □ <i>Learning recognizes the role of indigenous knowledge.</i> □ <i>Learning is embedded in memory, history, and story.</i> □ <i>Learning involves patience and time.</i> □ <i>Learning requires exploration of one’s identity.</i> □ <i>Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.</i> 	<p>Comments on how you will address the FPPL: This unit aligns with the FPPL: “Learning involves patience and time.” Throughout these lessons, the material will be scaffolded over time. Students will have the opportunity to engage in movement breaks and brain breaks in anticipation of new numeracy concepts. The teacher will share the importance of being patient with oneself during the learning process of new materials and concepts, ensuring that learning takes patience and time. This unit also aligns with the FPPL: “Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place)”. Students will have the opportunity to engage in experiential learning by creating 3D shapes through hands-on activities. Students will also take their learning outside to integrate their understanding of the numeracy concepts in relation with the community and real-life connections.”</p>
<p>Formative Assessment (Assessment as Learning and Assessment for Learning):</p>			

Throughout the lessons of this unit, I will be observing students through class discussions and independent work to gauge their understanding of geometric shapes attributes and their connection with shapes in real-life settings. In class discussions, I will be randomly selecting students with popsicle sticks to share verbally and will also be asking the class to share their responses on the individual white boards to assess their understanding. Based on this formative assessment, further review of the concepts can be added if needed. I will also be formatively assessing students' application of creating their own 2D shapes with playdough on their shape mats, focusing on their shape responses (name and number of sides). At this time, more review of 2D shapes may be added before moving onto 3D shapes.

Summative Assessment (Assessment of Learning):

I will be summatively assessing the students' written responses on their "Shape Sort", "Name the Shape", and "Faces, Edges, Vertices" handout to gauge students' understanding of 2D and 3D shape attributes. I will also be summatively assessing students' final creation of 3D shapes built out of mini wooden dowels and playdough, with their recorded responses on their shape mats of the number of faces, edges, and vertices. For students who may not record their responses, I'll be observing verbal communication or drawings to assess their learning of the materials.



Date/ Lesson	Learning Intentions	Instructional Activities (brief description here – lesson plans will be used to flesh out each lesson)
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#1	I can develop and demonstrate mathematical understanding of 2D shape attributes through play and inquiry.	<ul style="list-style-type: none"> - Teacher briefly asks students what they already know about 2D shapes, recording on the board. - Students follow the dance and sing along “Shape Up” video prepared by the teacher. - Students sit on the carpet with their mini white boards, teacher holds up big cards of 2D shapes and students share their answers for the number of sides on their boards. - Teacher reviews 2D shape anchor charts with names, sides, vertices, etc. - If time permits, students complete the “Side Sort” hand out about 2D shape sides.
#2	I can visualize to explore the mathematical concept of 2D shape attributes.	<ul style="list-style-type: none"> - Teacher reviews 2D shape cards on the carpet, students can draw and name the shape on the mini whiteboards to show their understanding before the card is revealed. - Students return to their desks and hand out 2D shape mats and playdough prepared by the student teacher. - Students make the 2D shape on their mats, writing the name and sides with their dry erase marker. Time permitting, students can switch and try a new shape.
#3	I can develop, demonstrate, and apply mathematical understanding of 3D shape attributes through play and inquiry.	<ul style="list-style-type: none"> - Teacher compares 2D and 3D shapes by showing flat shapes next to 3D shapes, and asks students to identify what they observe. Introduce 3D anchor chart. - Students dance and sing along to 3D video, including shape names, vertices, edges. - Teacher models 3D shape nets, giving options to select their own shape. - Students cut out their own 3D shapes and glue/tape together, creating a character name to help with memorization (example this is Tina the Tetrahedron). - Student volunteers can share their 3D shape creation with the class or in small groups.
#4	I can visualize to explore the mathematical concept of identifying 2D shapes as part of 3D objects.	<ul style="list-style-type: none"> - Teacher reviews 2D and 3D anchor charts. Students prepare to head outside - Outside near the playground, the teacher reviews expectations and shares learning intention. - Students identify shapes outside in the playground or in nature (if nice weather, students can draw the shapes on the concrete with chalk). Discussion of real-life 3D shape examples in the community. - Students return inside and complete the “Name the Shape” handout independently with teacher support.
#5	I can develop, demonstrate, and apply mathematical understanding of 3D shape attributes. through play, inquiry, and problem solving.	<ul style="list-style-type: none"> - Reviews the 3D anchor chart on the carpet and discussion of real-life 3D shape examples in the community. - Teacher holds up 3D shape cards to review names first round, followed by students calling out the names with the teacher covering the answer up. - Students return to their desks to complete the “Faces, Edges, and Vertices” cut and paste activity independently, with the support of the teacher.
#6	I can represent mathematical ideas of 3D shape attributes in concrete, pictorial, and symbolic forms.	<ul style="list-style-type: none"> - Review the attributes of 3D shapes, number of edges, faces, and vertices with the anchor chart. - Teacher models activity at the front or under the document camera, selecting a shape card and building the 3D shape out of playdough and mini wooden dowels (provided by Kendra). - Students receive their shape mat and brainstorm how they are going to build, tracing the shape on paper and counting the shape’s attributes. - Students build their 3D shape with their materials with teachers' support if needed.

Resources needed:

	<p>Resources: https://www.youtube.com/watch?v=QaF84YHNQNg Handout provided by Kendra from 2D & 3D Shape Review by Carrie Lutz 3D Shape Nets printables by https://www.math-salamanders.com/3d-geometric-shapes.html Materials: Anchor charts made by Kendra, sticky notes, markers, mini white boards for students, dry erase markers, playdough or plasticine, mini wooden dowels. Technology: Document camera, laptop</p>
	<p>Interdisciplinary connections: (e.g. How did you weave ELA, Social Studies, Science, Math, Fine Arts, and/or ADST together in this instructional sequence?)</p>
	<p>The primary focus of this Geometric Shapes Unit is Mathematics. This unit is cross-curricular with Fine Arts, Language Arts, and ADST. Students will have the opportunity to be creative when illustrating and making their own 3D shape nets, while also creating a name for their shape with alliteration to support their memory of 3D shape names. Students will also engage in hands-on, experiential activities to build their own shape models with playdough and mini wooden dowels.</p>
	<p>Reflection</p>
	<p>How did the unit go? How do I know?</p>
	<p>Where to next?</p>