

## Lesson Plan Template

Lesson Information and Activities		SI Strand(s)														
<p><b>Lesson Title:</b> Create a Quilt</p> <p><b>Content Area:</b> Mathematics/Geometry                      <b>Grade Level(s):</b> 6, 7</p> <p><b>Unit Description:</b> A quilt (made of fabric, or even computer-based) can be used for students to explore and demonstrate their individual knowledge of geometrical figures and manipulation of them, as well as to explore symmetry. They can also be used as a group activity for learners to share their learning and knowledge and collaborate making a quilt. Quilts can also be used as a group activity for learners to share their learning, thereby using and developing academic mathematical language.</p> <p>Students can create their own geometric shapes on paper, a computer, or other medium like fabric, to demonstrate understanding of geometrical figures and to describe the relationships between various two and three-dimensional figures. Students can create their own individual quilt piece and then add it to that created by others to make a cohesive quilt that represents the diversity of knowledge, understanding, and collaboration in the classroom.</p> <p>Various types of quilts can be constructed. Students can show differing kinds of shapes or symmetry and find matches or non-matches in pairs. They can also work in groups to make patterns, ultimately forming a whole quilt.</p> <p>Students can write about their creation of quilts, comparing and contrasting their shapes and evaluating symmetrical and non-symmetrical figures</p> <p><b>Length of lesson:</b> 2 days                      <b>Number of ELs:</b> 1-25</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">Proficiency Levels</th> <th style="width: 10%;">All</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td><b>ELs (numbers and/or names)</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Classroom Setting:</b> Mathematics</p> <p><b>Program Model:</b> mainstream/sheltered classroom</p> <p><b>Other relevant student information:</b></p>		Proficiency Levels	All						<b>ELs (numbers and/or names)</b>							<p><b>Apply</b></p>
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<p><b>Standards and Objectives</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="width: 5%;"></th> <th style="width: 45%;">Language Objectives</th> <th style="width: 50%;">English language proficiency standards</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;">1</td> <td>Students will be able to describe and compare geometrical shapes or types of symmetry using oral and written descriptive language such as <i>pointed</i>, <i>equal sides</i>, as well as comparative structures such as <i>different from</i> or <i>longer than</i>.</td> <td><u>WIDA</u> English Language Learners communicate information, ideas, and concepts necessary for academic success in the content area of math.</td> </tr> </tbody> </table>			Language Objectives	English language proficiency standards	1	Students will be able to describe and compare geometrical shapes or types of symmetry using oral and written descriptive language such as <i>pointed</i> , <i>equal sides</i> , as well as comparative structures such as <i>different from</i> or <i>longer than</i> .	<u>WIDA</u> English Language Learners communicate information, ideas, and concepts necessary for academic success in the content area of math.	<p><b>Define</b></p>								
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		<p><u>CA ELD</u> Exchanging information and ideas with others through oral collaborative discussions on a range of social and academic topics</p> <p>Interacting with others in written English in various communicative forms (print, communicative technology, and multimedia)</p>	
2	Students will be able to discuss, ask and answer questions about symmetry in their self and group created quilts.	<p><u>WIDA</u> English Language Learners communicate information, ideas, and concepts necessary for academic success in the content area of math.</p> <p><u>CA ELD</u> Offering and justifying opinions, negotiating with and persuading others in communicative exchanges</p>	
3			
	<b>Content Objectives</b>	<b>Content Standards</b>	
1	Students will be able to solve real world mathematical problems involving area, surface area, and volume.	<p>CCSS Mathematics Geometry 6.G</p> <p>Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real world and mathematical problems.</p>	
2	Students will be able to draw, construct, and describe geometrical figures and describe the relationships between them	<p>CCSS Mathematics Geometry 7.G</p> <p>Draw (freehand, with ruler and protractor and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p>	
3			

<b><u>Incorporating all four language domains</u></b>				<b>Apply</b>
Identify how each of the language demands of the tasks are related to each language domain.				
	<b>Written</b>	<b>Oral</b>		<b>Modify</b>
<b>Receptive</b>	<b>Reading</b> Students will read descriptions in their textbooks or on websites that discuss geometric shapes, symmetry, and the creation and use of quilts.	<b>Listening</b> Students will listen to each other while reading academic texts or from each other’s descriptive and comparative writing on geometrical shapes and their characteristics, as well as their quilt development.		
	<b>Productive</b>	<b>Writing</b> Students can write about their creation of quilts, comparing and contrasting their shapes, and evaluating symmetrical and non-symmetrical figures.	<b>Speaking</b> Students discuss each other’s descriptive and comparative writing on geometrical shapes and their characteristics and their quilt construction and development.	
<b><u>Key language for students</u></b> (words and phrases, grammatical structures, sentence types, structure and amount of speech/text, organization of ideas, genre, etc.)				
<b>General academic language</b>		<b>Language specific to the content area</b>		
Use of comparative structures such as <i>different from</i> or <i>longer than</i> , as well as descriptive language used in general.		Use of descriptive language such as <i>pointed</i> , <i>equal sides</i> , and use of terms such as <i>polygon</i> , <i>triangle</i> , <i>quadrilateral</i> , <i>symmetrical</i> .		
<b><u>Key characteristics of teacher talk</u></b> (ways to make the content comprehensible for all students, ways to model key language, etc.)				
Teachers will illustrate how shapes can be described and defined using visuals. Teachers will show symmetry and non-symmetry examples as well as how examples of how quilts can be arranged to create a cohesive whole. Teachers will model language but will also provide sentence stems and models for writing on the board for students to see. The teacher will also highlight key vocabulary and tie it to literacy by writing it on the board (for students to include in their journals).				
<b><u>How the lesson will incorporate bilingualism/students’ native languages as resources</u></b>				
They can also use their home language to read and manipulate the symmetry or shapes and do corresponding activities.				
<b><u>Materials and Texts</u></b>				
<b>Name</b>	<b>Genre (e.g., narrative)</b>	<b>Level</b>	<b>Connection to Sts (What will this mean to them? How can you make it even more meaningful?)</b>	
<a href="http://www.learner.org/teacherslab/math/geom">http://www.learner.org/teacherslab/math/geom</a>	technology	all	They can use technology to link to both geometry and home culture	

[etry/shape/quilts/quilts\\_1.html](#)

<http://mathwire.com/quilts/quilts2.html>

**Supplementary Materials and Realia**

## Lesson Plan Template

<p><b>Estimated Time:</b> 1-2 days</p> <p><b>Language Domains:</b> x Reading x Writing x Listening x Speaking</p> <p><b>Grouping:</b>  <input type="checkbox"/> Independent Work <input type="checkbox"/> Pair <input checked="" type="checkbox"/> Small Group <input checked="" type="checkbox"/> Whole class</p> <p><b>Reason for grouping:</b>  X First language x English proficiency <input type="checkbox"/> Reading level <input checked="" type="checkbox"/> Content understanding <input type="checkbox"/> Interest <input type="checkbox"/> Other:</p> <p><b>Preview:</b> Connections to past learning or the larger unit sequence</p> <p>Students will review formulas for area, triangles, as well as other known information, such as knowledge of geometrical shapes and how they relate to each other. They will also discuss symmetry and descriptive and comparative language. Teachers will activate potential prior knowledge of quilts by using realia such as real quilts and pictures of quilts.</p> <p><b>Presentation:</b> Primary activity steps associated with lesson implementation</p> <p>Differentiation, scaffolding, modifications, strategies employed, interaction activities, materials integrated that function to shelter language and content for the EL students</p> <p>The application of using quilting is rich. Students can work in collaborative groups or pairs to use oral discourse including questions and answers, thereby utilizing listening and speaking. They can also write and read reflections on their learning. Teachers will show students examples of shapes, symmetry, and quilts. That is, the students will understand characteristics of how individual pieces relate to a whole. Visuals will be used to facilitate understanding and written language will available to students on the board. Teacher will show examples and non-examples of symmetry using images, pictures, diagrams, and sentence stems such as 'this is symmetrical' and 'this is not symmetrical'. The students will also have an opportunity to identify examples and non-examples in small, heterogeneous groups of varying language proficiency and content knowledge.</p> <p><b>Assessment:</b> activities for formative and summative assessment during and after primary lesson activities. How does assessment account for the language demands embedded in core content for ELs?</p> <p>Oral and spot check formative assessments will be conducted throughout the lesson. Rubrics can be implemented to evaluate group work on the quilt as well as on writing activities related to the quilting activity. Students will individually or collaboratively write an essay addressing how they created their quilt and identifying which features they chose to include as symmetrical or non-symmetrical. This will be evaluated with a rubric.</p>	<p><b>Cultivate</b></p> <p><b>Modify</b></p>
<p>How are parents, families, and the community invited into or associated with the content, delivery, or extension of this lesson?</p> <p>Quilts are a part of many families and some cultures. Parents and grandparents can be invited to the classroom to discuss ways in which quilts or related notions play a role in the family's home culture.</p>	<p><b>Cultivate</b></p>

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Alternatively, teachers can assign an interview to the students to ask questions about the role of quilting (or similar concepts) in their home culture. Students can write up results and present in class.	
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## Four Strands of Sheltered Instruction

Sheltered Instruction is an approach that makes academic content, as well as language development, more accessible for EL students. The Education Connections activities are based on **Four Strands** of Sheltered Instruction. They are: Define, Modify, Cultivate, Apply.

### Define

- **Develop, define, refine, communicate, and assess *content objectives* for every lesson**
- **Develop, define, refine, communicate, and assess *language objectives* for every lesson**
- **Ensure objectives derive from, and are aligned with, English language proficiency (ELP), as well as content standards**

### Modify

- **Differentiate instruction through lesson adaptation and instructional modifications**
- **Scaffold instruction in response to students' individualized language and content learning needs**
- **Identify the language demands and domains embedded in lessons and explicitly address language use and needs for both teaching and learning**

### Cultivate

- **Explicitly identify and acknowledge the **cultural competence, human capital, knowledge, experiences, and resources students bring to the classroom****
- **Invite parental and/or familial involvement in the school and classroom and make connections that extend beyond the core curriculum**
- **Support native language maintenance, additive bilingualism, and biliteracy development**

### Apply

- **Directly promote language use through interaction with peers, teachers, as well as the core content**
- **Encourage and facilitate language use in both English, as well as students' home languages**
- **Develop and implement activities that require use of all four language domains**