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# Shapes

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# UNDERSTANDING BY DESIGN

## Unit Cover Page

Unit Title: Shapes

Grade Level: Pre-Kindergarten

Subject/Topic Area(s): Mathematics

Designed By: Beth Morrow and Anne Peppers

Time Frame: 1 week

School District: East Central Independent School District

School: East Central Development Center

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### **Brief Summary of Unit:**

This unit addresses the Texas Pre-Kindergarten Guidelines “Child recognizes/describes common shapes” (MVC1) and “Child slides, flips, turns shapes to demonstrate they remain the same” (MVC4), as well as the math standard “Child covers an area with shapes.” At the conclusion of this unit, students will know:

- names and features (number of sides/angles) of common shapes: rectangle, square, triangle, circle, oval, and rhombus; and
- shapes remain the same regardless of their position;

and will be able to:

- identify and describe common shapes: rectangle, square, triangle, circle, oval, and rhombus
- cover an area with shapes and explain how they did so
- combine shapes to create an image

**Stage 1 – Desired Results**

<p style="text-align: center;">Established Goals (Texas Pre-Kindergarten Guidelines)</p> <p>Child recognizes/describes common shapes (MVC1)</p> <p>Child slides, flips, turns shapes to demonstrate they remain the same (MVC4)</p> <p>Child covers an area with shapes (assessment)</p>	<b>Transfer</b>	
	<p><i>Students will independently use their learning to...</i></p> <ul style="list-style-type: none"> <li>- Identify shapes</li> <li>- Describe shapes</li> <li>- Combine shapes to create an image</li> <li>- Cover an area with shapes</li> </ul>	
	<b>Meaning</b>	
	<p><b>Understandings</b> <i>Students will understand that....</i></p> <ul style="list-style-type: none"> <li>- Shapes can be flipped, turned, or slid but remain the same shape</li> <li>- Objects around them are made of shapes</li> </ul>	<p><b>Essential Questions</b></p> <ol style="list-style-type: none"> <li>1. How do we identify shapes?</li> <li>2. How can shapes be used?</li> </ol>
	<b>Acquisition</b>	
<p><b>Knowledge</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>- Names and features (number of sides/angles) of common shapes: rectangle, square, triangle, circle, oval, and rhombus</li> <li>- Shapes remain the same regardless of their position</li> </ul>	<p><b>Skills</b> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>- Identify and describe common shapes: rectangle, square, triangle, circle, oval, and rhombus</li> <li>- Cover an area with shapes and explain how they did so</li> <li>- Combine shapes to create an image</li> </ul>	

**Stage 2 – Evidence**

CODE (M or T)	Evaluative Criteria (for rubric)	
<p>A</p> <p>M /T</p> <p>M</p>	<ul style="list-style-type: none"> <li>- Combines shapes</li> <li>- Creates an image</li> <li>- Describes images</li> <li>- Identifies shapes used</li> </ul>	<p><b>Performance Task(s)</b> <i>Students will demonstrate meaning-making and transfer by...</i></p> <ol style="list-style-type: none"> <li>1. Students will use attached Math Mat with shapes to name and describe the following shapes: circle, square, rectangle, rhombus, triangle, and oval.</li> <li>2. Combine shapes to create an image of their choosing and describe the image and identify the shapes used.</li> </ol> <hr style="border-top: 1px dashed black;"/> <p><b>Other Evidence (e.g., formative)</b></p> <ol style="list-style-type: none"> <li>1. Cover an area with shapes (observation during morning work/centers; EMAT assessment)</li> </ol>

**Stage 3 – Learning Plan**

<b>CODE</b>	<b>Pre-Assessment</b>
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	<ul style="list-style-type: none"> <li>- Play-Doh shape mats</li> <li>- Shape snacks (different type of cereal)</li> <li>- Shaving cream shape tracing</li> </ul> <p>Reinforcement:</p> <ul style="list-style-type: none"> <li>- Have students name the shape on a flashcard in order to line up, go to centers, etc.</li> </ul>	
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Rubric for Performance Task 1 (Pacing Guide assessment):

+ names 6 shapes

√ names 3-5 shapes

- names 0-2 shapes

Rubric for Performance Task 2:

	-	√	+
Combines shapes	Child does not combine shapes (uses one shape)	Child uses shapes in isolation	Child uses multiple shapes, combined
Creates an image	Child does not create an image	Child creates a partial image	Child creates a complete image
Describes images	Child does not describe project	Child gives an inaccurate description	Child gives a complete, accurate description of image(s)
Identifies shapes used	Child does not correctly identify shapes	Child correctly identifies some shapes	Child correctly identifies all shapes used

EMAT assessment guidelines:

1. Ask student to use tiles to cover square. \*
2. Ask student to use tiles to cover L shape.\*
3. Ask student to use tiles to cover circle.
4. Ask, “Was it harder to cover the circle than the other shapes? Why?” (Students must say it was harder to cover the circle and that it was because it has no corners/no sides.)

\*Students should keep the tiles within the boundaries of the shape, should leave no large open spaces, and should not stack the tiles.