



# Geometric Figures

----- **For Kindergarteners.**

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# Introduction



This geometry course is designed for K-level students. During the class, students will study quadrilaterals, circles, and triangles and identify shapes and create patterns throughout the learning unit. Teachers need to help students find, recognize, name and compare figures, remember and describe the shapes they see and experience shapes in a way that engages all the senses.

An abstract graphic on the left side of the slide. It features several overlapping organic shapes in orange, yellow, and teal. The orange shape has white wavy lines and a dotted pattern. The yellow shape has a white plus sign pattern. The teal shape has a dotted pattern. The background is white with scattered black dots and wavy lines.

# BTT 1: Emotional Climate

# Students Check-Ins

Rituals help to motivate and engage students and build a sense of group identity (Hardiman, 2012). The ritual of check-in drives both self and collective awareness.

Hardiman, M. M. (2012). *The brain-targeted teaching model for 21st-century schools*. Corwin Press. 43.

# Classroom Celebrations



# BTT 2 : Physical Environment

- **Lighting in the Classroom**
- **Sound in the Learning Environment**
- **Scent in the Classroom**
- **Order and Beauty in the Classroom**




# BTT2: Physical Environment




Natural light and comfortable temperature.

Nature-scented aromatherapy.

Placed music box & mini piano.



Wrote "have fun" with emoji ; shape of a triangle, circle, and quadrilateral; goal, agenda, and assessment on the whiteboard.



Cute dolls, globes, colored shape cards, rulers cookies of different shapes, and graphic cards on the desk.

Geometry books in the classroom library.

Exhibit students drawings about geometry.


Display of good and bad behaviors.



Fitness balls as seats.

Decorations above the whiteboard.

Placed graphic tools, plants, and pens.



Students found their place by comparing the figure on the chair to their shape card.  
Students will be given time to think quietly.





**Have Fun 🍌 !!!**


**Goal**

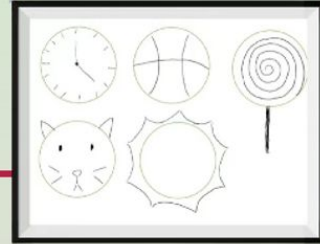
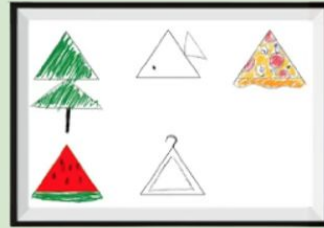
**Agenda**

**Assessment**

  
 triangle

  
 circle

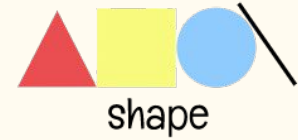
  
 quadrilateral



Class Resources  
Geometric Book



# BTT2 Citation



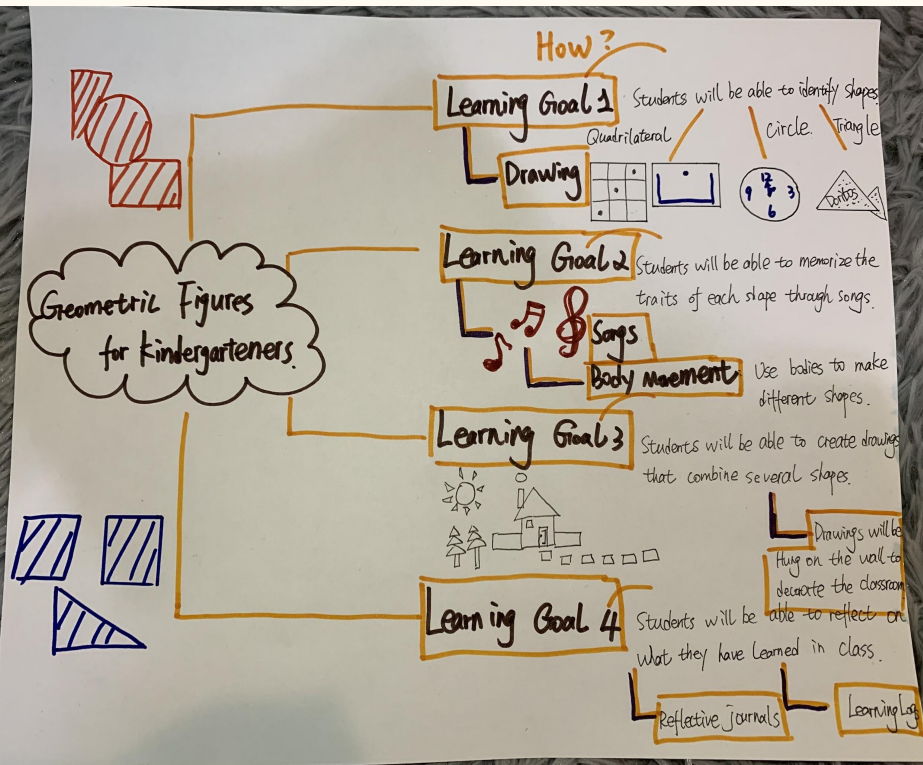
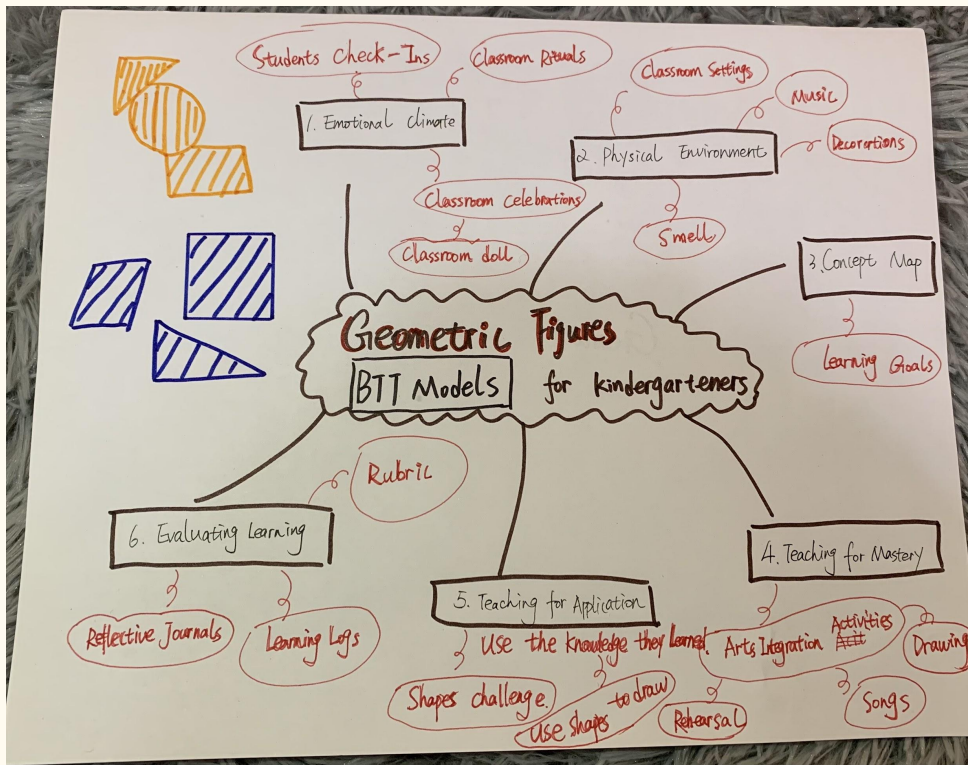
- Students who studied in classrooms with the most daylight demonstrated better scores on math assessments (Hardiman, 2012).
- Scents can affect mood and performance to enhance students' concentration and memory (Hardiman, 2012).
- Exercise has strong, positive influences on cognition and attention (Hardiman, 2012).
- Hardiman (2012) indicated that "Learning is optimized when children are in environments that are free from clutter and are aesthetically pleasing" (p. 69).
- Hardiman (2012) showed that "Music has been shown to have relaxing effects on adults in experimental studies" (p.66).

## References

Hardiman, M. M. (2012). *The brain-targeted teaching model for 21st-century schools*. Corwin.



# BTT 3: Concept Map



# BTT 4: Teaching for Mastery

## Long-term memory

-To store the information, it has to move from short term memory to long-term memory.

-Declarative memory

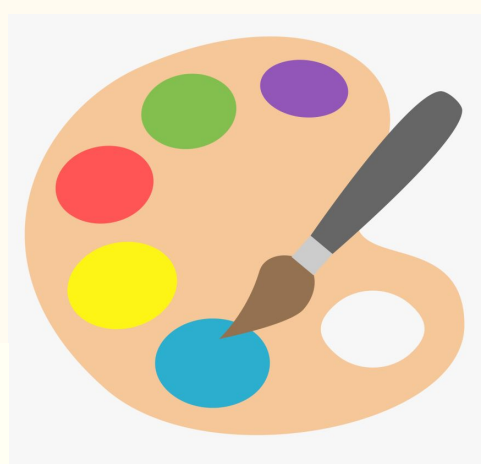
## Arts integration

-Can be integrate in different ways to improve long term retention of content

## Memorize effects:

-Rehearsal

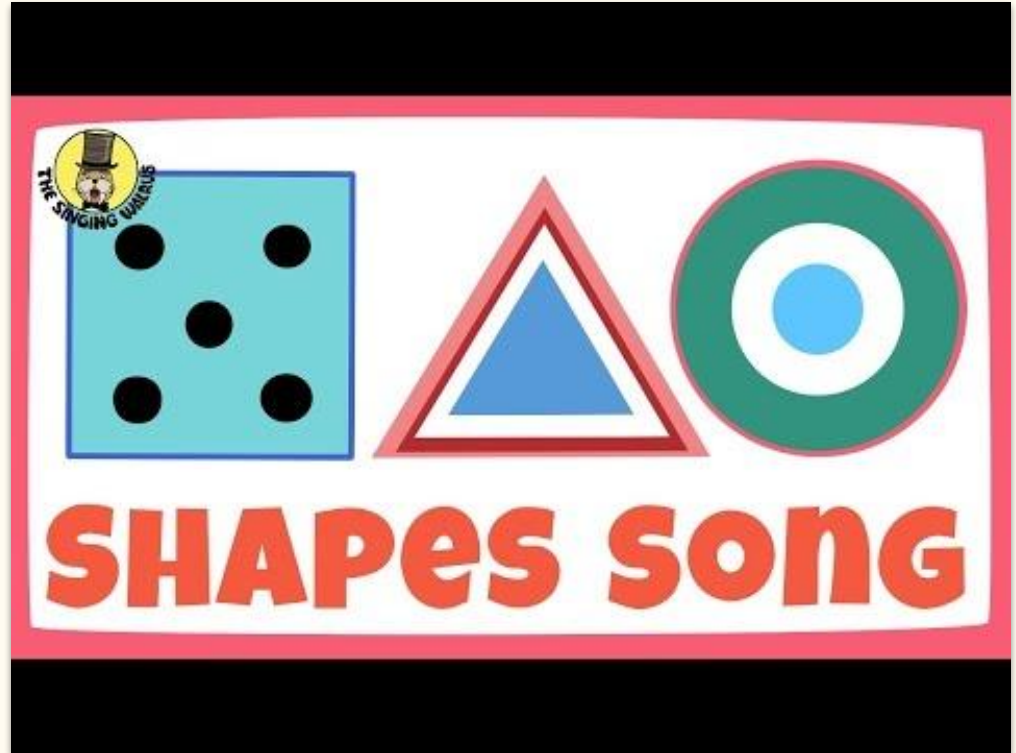
-Elaboration



# Activities in BTT 4

Rehearsal

-Shape songs



# Activities in BTT 4


## Elaboration

-Do you see these shapes in the daily lives?


In what situation?

Have you ever seen these shapes in you daily lives? In what situation?  
Please drawing that down. (At least 2 pictures)


Circle



Triangle



Rectangular



Square

Rectangular

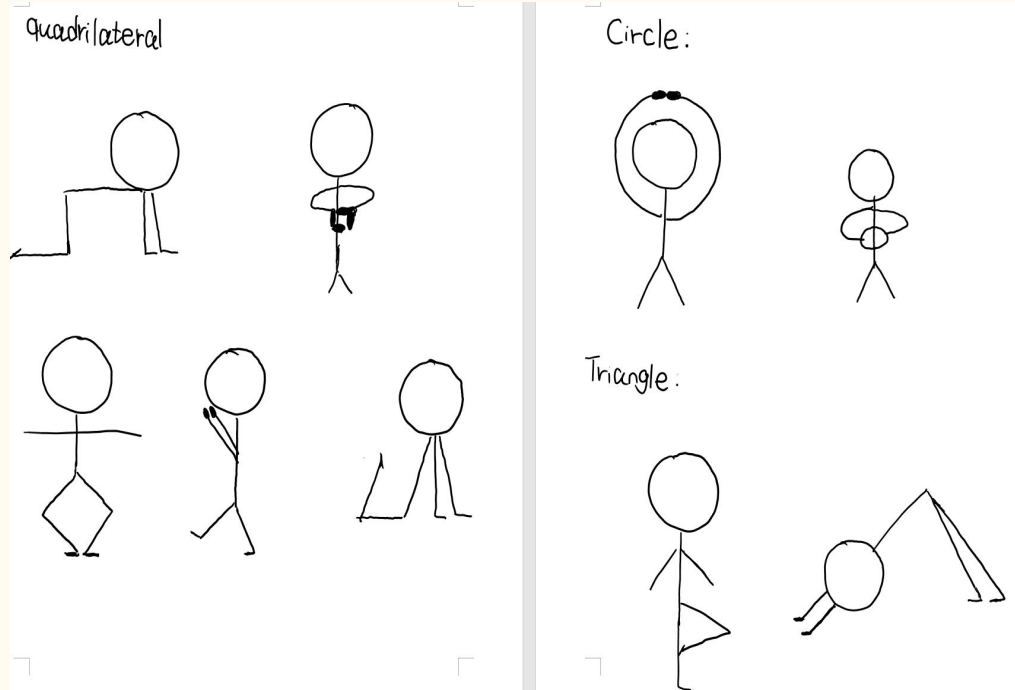
Rhombus

Trapezoid

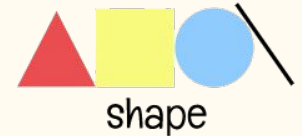
# Activities in BTT 4

## Elaboration

-Making body shapes



## References for BTT 4



- Hardiman, M., Rinne, L., & Yarmolinskaya, J. (2014). The Effects of Arts Integration on Long-Term Retention of Academic Content. *Mind, Brain & Education*, 8(3), 144–148. <https://doi-org.proxy1.library.jhu.edu/10.1111/mbe.12053>
- Hardiman, M., & Denckla, M. B. (2012). *The brain-targeted teaching model for 21st-century schools*. Thousand Oaks, California: Corwin.
- Rinne, L., Gregory, E., Yarmolinskaya, J., & Hardiman, M. (2011). Why Arts Integration Improves Long-Term Retention of Content. *Mind, Brain, and Education*, 5(2), 89-96. doi:10.1111/j.1751-228x.2011.01114.x

# BTT 5: Teaching for the extension and application of knowledge

Think creatively

## Reference

Hardiman, M. M. (2012). *The brain-targeted teaching model for 21st-century schools*. Corwin Press. 33-58.



# Activities in BTT 5

Activity 1: Use shapes to draw picture.





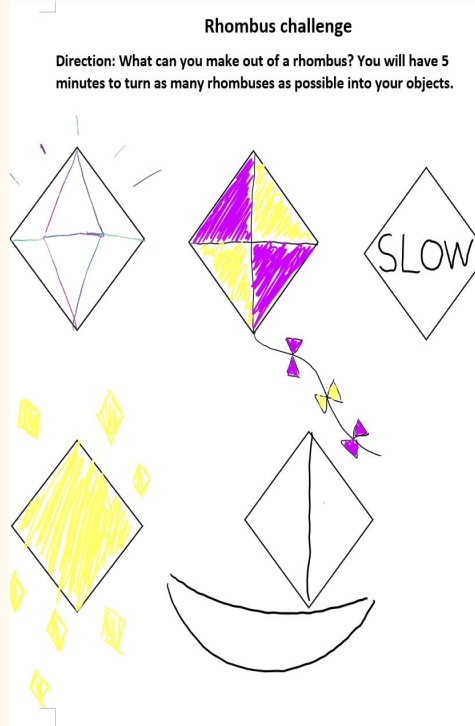
# Activities in BTT 5

## Activity 2: Shapes Challenge

- What can you make out of circle
- What can you make out of square
- What can you make out of triangle?
- What can you make out of rhombus?
- etc.

**Rhombus challenge**

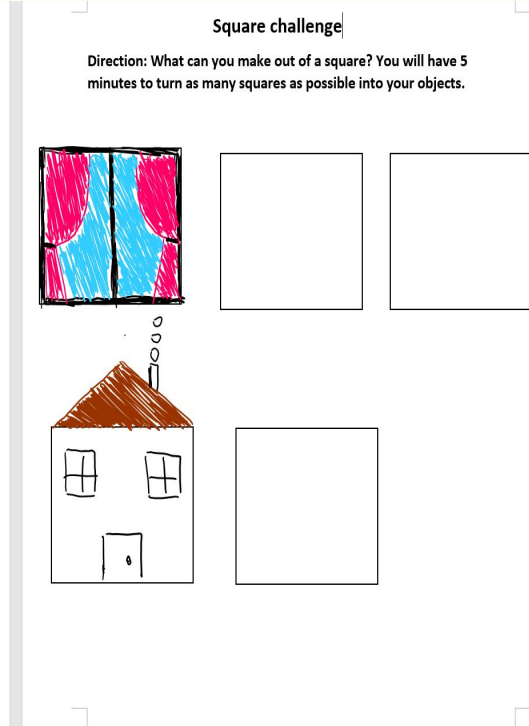
Direction: What can you make out of a rhombus? You will have 5 minutes to turn as many rhombuses as possible into your objects.



The image shows several examples of rhombuses used to create objects. At the top left is a rhombus divided into four triangles by its diagonals. To its right is a rhombus divided into four quadrants, colored purple and yellow. Further right is a rhombus with the word 'SLOW' written inside. Below these are a yellow rhombus surrounded by smaller yellow rhombuses, and a white rhombus with a vertical line through it, positioned above a curved line representing a boat's hull.

**Square challenge**

Direction: What can you make out of a square? You will have 5 minutes to turn as many squares as possible into your objects.



The image shows examples of squares used to create objects. At the top left is a square divided into four quadrants, colored red and blue, representing curtains. To its right are two empty squares. Below these is a square representing a house with a brown roof, two windows, and a door. To its right is one empty square.

# BTT 6 : ASSESSMENT



## Combining reflective journals and learning logs

In our class, in addition to ongoing timely informative assessment, we choose the combination of reflective journals and learning logs with an accompanying summative assessment because we believe this strategy is appropriate and beneficial for this particular population most in this class.

Grading Criteria (Analytic Rubric)			
	Content Knowledge	Engagement in Activity	Critical Reflection
Weight Total Score	*1	*1	*2
3 points	Precisely analyze and compare circle, triangle, and quadrilateral	Provides detailed narrative story about what you create and how you create it during the class activity	Thoroughly describe preferred and disliked activity with sufficient detailed reasons
2 points	Partly or vaguely analyze and compare circle, triangle, and quadrilateral	Provides narrative story but lack of enough details about what you create and how you create it during the class activity	Partly describe preferred and disliked activity with some reasons but lack of details
1 point	Incompletely analyze and compare circle, triangle, and quadrilateral	Provides possibly vague narrative story about what you create and how you create it during the class activity	Incompletely describe preferred and disliked activity with few reasons

### Reference

Hardiman, M. M. (2012). *The brain-targeted teaching model for 21st-century schools*. Corwin Press.