Tangram Lesson Plan

by Stephanie Harrington for Hip Homeschool Moms
A mini lesson plan for Chinese tangrams.

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Lesson Objectives:
- To expose children to story telling with Tangrams.
- To introduce children to a Chinese puzzle known as Tangrams.
- To introduce geometrical mathematic concepts of acute and obtuse angles and congruency.

Materials needed:
- Demonstration set of tangrams: 1 for you while telling the story
- Printed Tangram Squares (pg. 5 of this packet)- 1 per child
- Construction paper for making your own (optional)
- Scissors for each child
- Map of China
- Crayons (optional)

Additional Vocabulary:
China, Tangrams, Tan

Resources:
Make Your Own Tangrams
Introduction to the Tangram (15 min)

Begin by quickly reviewing the seven continents. Introduce this lesson by asking the children if they know where China is. Let the child who knows point it out on the map. Remind them that China is only one of the countries in Asia. Pass out a copy of page 5 of this packet to each child.

Say: “China has a very fun puzzle called Tangrams. It is made up of seven geometric pieces (or tans). The puzzle must be played while using all 7 pieces. What seven shapes do you see in your tangram square?”

Have them verify that they see all seven pieces or tans as follows:
- a small square
- two congruent triangles
- two large congruent triangles
- a medium size triangle
- a parallelogram

Go through each shape with them, and while pointing the shapes out, discuss the meaning of congruent: figures with segments or angles that have the same size and shape.

Have each child color the tangram as desired. When ready, cut out each shape on the dotted line. For younger children, you may wish to help them cut.

To make your own tangrams I recommend using the instruction resource links on pg. 1. Using the template is good for younger children while older children may wish to make their own out of construction paper. The process of actually making your own set of tangrams is a geometry lesson in and of itself.
**Telling Stories with Tangrams (10-20 min)**

For this portion, read to the children the desired story or use your tangrams to tell a story. Here are a few stories to choose from:

*Grandfather Tang’s* Story by Ann Tompert  
*The Warlords Puzzle* by Virginia Pilegard

These resources are fantastic for explaining the art of Tangram Story Telling:

*Story Puzzles: Tales in the Tangram Tradition* by Valerie Marsh  
*Tangram Tales: Story Theater using Ancient Chinese Puzzle* by Dianne de Las Casas

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**Solve The Tangram Puzzle (5-10 min)**

Review and/or discuss these math concepts as applicable while you aid children in returning it to the original square.

*Acute*—an angle that is smaller than a right angle (i.e., measures less than 90 degrees)  
*Congruent*—figures, segments, or angles that have the same size and shape  
*Obtuse*—an angle that is greater than a right angle (i.e., measures more than 90 degrees)  
*Parallel*—lines that do not intersect  
*Parallelogram*—a quadrilateral with two pairs of parallel sides

With younger children, you may prefer also to review the very basic geometric shapes. If they have trouble returning it to a square, provide the template on pg. 5 uncut.
Make a Tangram with this easy template.

Print at least one tangram for each child. They can color if desired and then cut out.
Making Tangram Pictures:

Make the tangram pictures below by having your children recreate them on their own. They are not in the same scale as the template but can be helpful to look at. Or, you can make the game harder by using the solid black versions of each puzzle at the very end. You can also let the children make their own or try a few from the story you read! They must follow these rules:

❖ All 7 pieces must be used;
❖ All pieces must lie flat;
❖ All pieces must touch;
❖ No pieces may overlap;
❖ Pieces may be rotated and/or flipped to form the desired shape.

Practice the following:
Print the following puzzles for a greater challenge. (They are not to scale with the template.)
**Have the children teach someone in their family or a friend how to make tangram pictures and solve tangram puzzles. If they want, they can prepare a story to tell with their tangram.
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