Ames Public Library **@HOME Activities**

Shapes

We live in a world of shapes. Learning to identify and use shapes helps with math and letter recognizing skills. The study of shapes and size is called geometry. To learn more how these skills can be developed see a related video on the Library's YouTube Channel at http://bit.ly/APLvideos.

Books and Media:

Title	Author / Performer	Call Number
The Crayola Shapes Book	Schuh, Mari	ETR 516 SCH
Windows, Rings, and Grapes: A Look at Different Shapes	Cleary, Brian	J 510 CLE
Bedtime Math	Overdeck, Laura	J 510 OVE
The Illustrated Dictionary of Math	(Usborne)	J 510.3 LAR
A Triangle for Adaora, an African Book of Shapes	Onyefulu, Ifeoma	J 516 ONY
Math Lab for Kids: Tangram and Puzzles	Rapoport, Rebecca and Yoder, J.A.	J 516 RAP
Fun Crafts with Shapes	Ros, Jordina	J 745.5 ROS
Shapes in Math, Science and Nature	Ross, Catherine	J 754.5 AND
Sam Loyd's Book of Tangrams	Loyd, Sam	J 793.73 LOY
Math Puzzles and Patterns for Kids	Fulton, Kristy	J PC 510 FUL 2007
READAbout: Patterns & Shapes	(READAbout bag)	J READABOUT PAT
Exploration Station	(Launchpad tablet)	J LAUNCH PAD
Geometry (DVD).	(Schlessinger)	J 516 (DVD) GEO

Websites:

URL	Notes
https://mathigon.org/tangram	*This site allows building and experimenting with different shapes using a virtual tangram*

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Take Away Kit: Tangram set

Bag Contents:

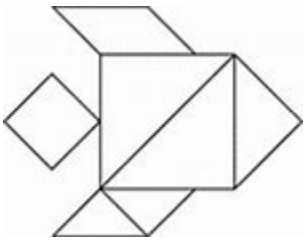
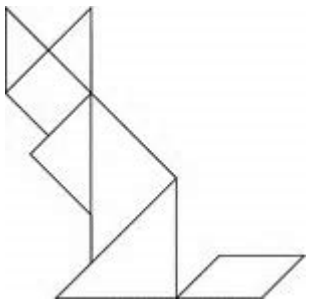
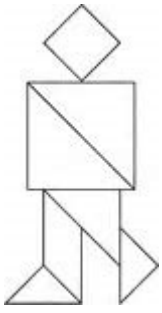
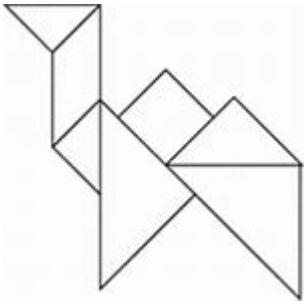
- One tangram set consists of:
    - 2 small triangles
    - 1 medium triangle
    - 2 large triangles
    - 1 square
    - 1 parallelogram

Tangrams are a great way to learn how shapes can be manipulated to create new shapes or to reproduce shapes in nature and in our world. Tangrams were invented in China hundreds of years ago. According to one legend, a Chinese emperor's servant dropped a precious tile that broke into seven pieces. As the servant attempted to put the pieces together, he discovered he could create different shapes using the same seven pieces.

Playing with tangrams is a great way to have fun and also build problem solving skills, develop geometric intuition, and improve pattern recognition. These skills are fundamental to success in school.

To learn more and watch the @Home Activity video on the library's YouTube Channel at http://bit.ly/APLvideos.

- Below are some suggested shapes that you could build with your tangrams:

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Vocabulary

Angle – The turn or bend between two intersecting lines, line segments, rays, or planes.

Attribute – A characteristic of an object, such as color, shape, or size.

Degree – A unit used to measure angles, it is indicated by the symbol °

Geometry – The study of shapes and size of things.

Parallelogram – Is a four-sided rectilinear figure with opposite sides parallel. 

Right angle – An angle measuring 90°. 

Reflection – (flip) a transformation which produces the mirror image of a figure (i.e. flipping a figure across a line). 

Rectangle – Is a closed two-dimensional shape with four right angles and four corners.

Rotation – (turn) a transformation obtained by rotating a figure around a fixed point (i.e., turning a figure about a point). 

Square – Is a closed two-dimensional shape with 4 equal sides and 4 corners.

Three-dimensional – An object that has length, width, and height.

Triangle – Is a closed two-dimensional shape with three sides and three corners. There are different types of triangles:

- Equilateral triangle has three equal sides and three equal angles, always 60°. 
- Isosceles triangle - has two equal sides and two equal angles. 
- Scalene triangle has no equal sides or angles.

Two-dimensional – A figure that has length and width but not height (i.e. a plane figure such as a triangle or rectangle).

Source :
https://www.carrollk12.org/curriculum/elementary/mathematics/fifthgrade/Documents/GeometryTerms.pdf