HPISD Grade 1 Math

UNIT NAME	ESTIMATED DURATION	9 WEEKS			
UNIT 12: GEOMETRY	2 WEEKS	1	2	3	4

Unit Overview

This unit develops an understanding of 2D and 3D shapes and their attributes.

Enduring Understandings

The student will understand that:	• Attributes can be used to sort shapes. Many sets of shapes can be sorted in more than one way. • Many everyday objects are close approximations of standard plane shapes. • Plane shapes have many properties that make them different from one another. • Plane shapes have many properties that make them different from one another. These properties can be used to create shapes. • Plane shapes can be combined to make new plan shapes. • Many everyday objects closely approximate standard geometric solids. • Many solid figures are made up of flat surfaces and vertices. • Some problems can be solved by reasoning about the conditions in the problem.

Concepts

Geometric Figures	Two- and three-dimensional objects with or without curved surfaces can be described, classified, and analyzed by their attributes. An object's location in space can be described quantitatively.
Practices, Processes, and Proficiencies	Mathematics content and processes can be applied to solve problems.

Guiding/Essential Questions

- How can a shape be described?
- What are ways shapes can be sorted?
- What are the attributes of a shape?
- Where in the real world can I find shapes?
- How can objects be represented and compared using geometric attributes?
- How are plane shapes different from solids?
- In what ways can you match solid geometric figures to real world objects?
- How can I put shapes together and take them apart to form other shapes?

Learning Targets & Prerequisites

Prerequisite:

- Understand two-dimensional geometry vocabulary
- Formulate real life examples of two-dimensional shapes
- Identify a circle, triangle, rectangle, and square

Learning Target:

- The student will identify and sort two-dimensional shapes: triangles, circles, hexagons, rhombuses, rectangles, and squares.

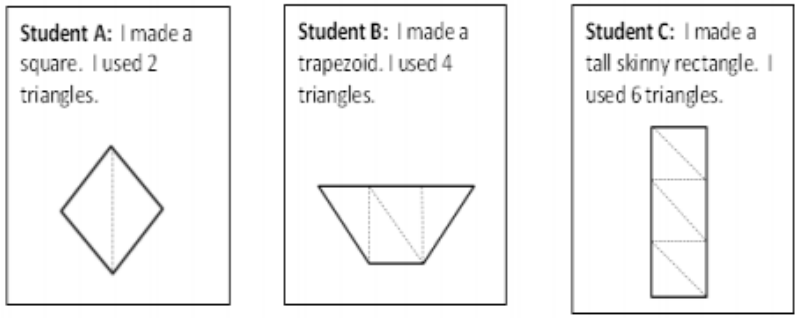
Second Grade Connection:

- 2.8 (A) Create two-dimensional shapes based on given attributes, including number of sides and vertices.
- 2.8 (C) Classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices.

Progressions

- Recognize squares as special rectangles.
- Create and draw two-dimensional shapes including triangles, circles, hexagons, rhombuses, rectangles, and squares.
- Distinguish between attributes that define a two-dimensional shape and those that do not.
- Combine shapes that make a new shape.

Example: What shapes can you create with triangles?



<table>
<tr><td><u>Prerequisite:</u>
● Understand three-dimensional geometry vocabulary (vertices, edges, and faces)
● Formulate real life examples of three-dimensional shapes
● Identify a cylinder, cone, sphere and cube
<u>Learning Target:</u>
● The student will identify three-dimensional solids and describe their attributes: spheres, cones, cylinders, rectangular prisms, cubes, and triangular prisms.
<u>Second Grade Connection:</u>
● Develops generalizations about three-dimensional solids and their properties.</td><td>● Classify and sort shapes by the number of vertices or corners and by the number of sides it has.
● Distinguish between attributes that define a three-dimensional solid and those that do not.</td></tr>
<tr><td>Formative Assessments</td><td>Summative Assessments</td></tr>
<tr><td></td><td></td></tr>
<tr><td>TEKS: Readiness Standards</td><td>TEKS: Supporting Standards</td></tr>
<tr><td>*1.6 (A) Classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language.
*1.6 (D) Identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles, rhombuses, and hexagons, and describe their attributes using formal geometric language.
*1.6 (E) Identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language.</td><td>*1.6 (B) Distinguish between attributes that define a two-dimensional or three-dimensional figure that attributes that do not define the shape.
*1.6 (C) Create two-dimensional figures, including circles, triangles, rectangles, and squares as special rectangles, rhombuses, and hexagons.
*1.6 (F) Compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible.</td></tr>
<tr><td colspan="2">TEKS Process Standards</td></tr>
<tr><td colspan="2">1.1(A) Apply mathematics to problems arising in everyday life, society, and the workplace.</td></tr>
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1.1 (B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

1.1(C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

1.1(D) Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

1.1(E) create and use representations to organize, record, and communicate mathematical ideas.

1.1(F) Analyze mathematical relationships to connect and communicate mathematical ideas.

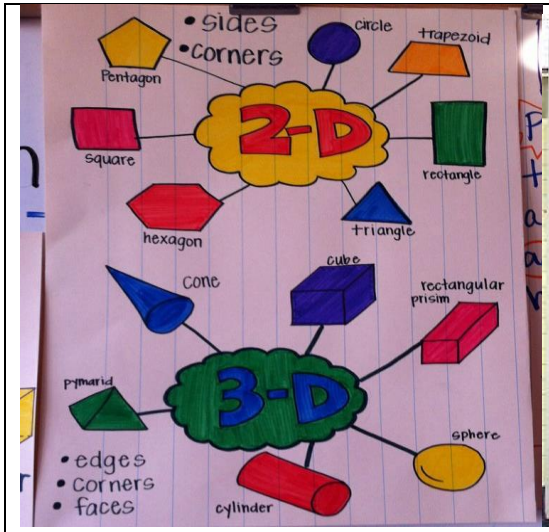
1.1(G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

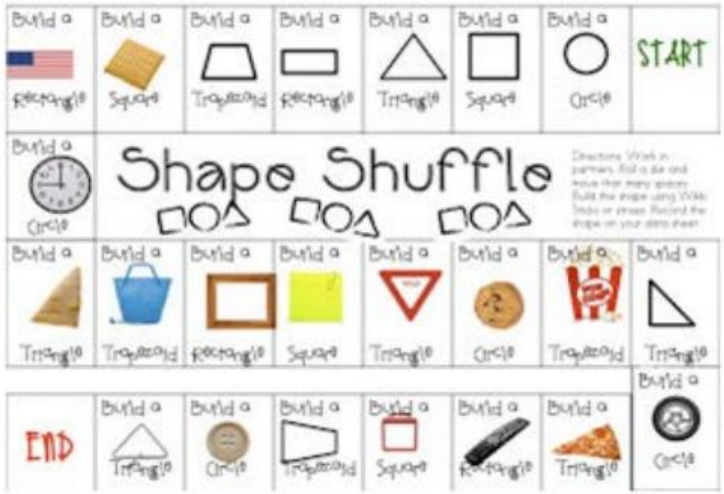
Processes and Skills: **What students should be able to DO**	**Facts:** **What students should KNOW**
● Students should be able to fill a given region in different ways with a variety of shapes. ● Students should be able to use geometric language to describe and identify important features of familiar 2-D and 3-D shapes. ● Students should be able to identify, describe, and sort 2-D and 3-D shapes. (Example: Ryan sorts shapes by the number of sides they have.) ● Students should be able to compose and decompose shapes. (Example: Tara glued together 3 straws in the shape of a triangle.)	● Students know that plane shapes can be compared by how they are alike and different ● Students know that simple materials can be used to make shapes that we know and recognize. ● Students know that new shapes can be made from other plane shapes. ● Students know that objects in our real world are made up of solid figures. ● Students know that a solid figure can be described by the number of flat surfaces, edges, and vertices it has.
Topics	
Envision Topic 12	

Language of Instruction
attributes cone corner cylinder edges faces flat surface hexagon plane shapes rectangular prism rhombus side sphere sort three-dimensional vertex vertices

State Assessment Connections	National Assessment Connections

Resources





https://www.youtube.com/watch?v=yVgP3AZCfdU