

Unpacked South Dakota State Mathematics Standards

Purpose: In order for students to have the best chance of success, standards, assessment, curriculum resources, and instruction must be aligned in focus, coherence, and rigor. Unpacked standards documents are intended to help align instruction to the focus, coherence, and rigor of the South Dakota State Mathematics Standards. The standards have been organized in clusters as they are not so much built from topics, but rather woven out of progressions. Not all content in a given grade is emphasized equally in the mathematics standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting standards will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

Domain: Geometry		Grade Level: Kindergarten
K.G.A Cluster: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		
Students find and identify shapes in their environment and describe their positional location. They recognize, compare, and sort two-dimensional and three-dimensional shapes. Students need numerous activities to explore various forms of shapes including different types of triangles, different sizes, and different orientations.		
**This is an ADDITIONAL cluster. Students should spend the large majority of their time (65-85%) on the major work of the grade. Supporting work and, where appropriate, additional work should be connected to and engage students in the major work of the grade.		
K.G.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.		
K.G.2 Correctly name shapes regardless of their orientations or overall size.		
K.G.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).		
Aspects of Rigor for Student Learning: (Conceptual, Procedural, and/or Application)		
Conceptual Understanding	Procedural Fluency	Application
Identify shapes in the environment beginning to use mathematical terminology (a clock is a circle, a ball is a sphere, a tile is a square) (K.G.1) Use positional vocabulary to describe the location of objects in the environment (the clock is above board) (K.G.1)		
Understand that size and orientations do not change the name of the shape (K.G.2)	Accurately, efficiently, flexibly, and appropriately name shapes (K.G.2)	
Recognize a shape as flat (2D) or solid (3D) (K.G.3)		
Enacting the Mathematical Practices - Evidence of Students Engaging in the Practices		
<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. <ul style="list-style-type: none"> The composing of larger shapes and pictures from smaller shapes 		

2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
 - Use shapes to create a representation of real world objects
 - Use shapes to create a new shape
5. Use appropriate tools strategically.
6. Attend to precision.
 - Use accurate vocabulary for names of shapes and attributes
 - Use position words clearly to indicate the location of shapes
7. Look for and make use of structure.
 - Recognize shapes with a particular set of attributes will have the same name
 - Sort a collection of shapes according to attributes
 - Perceive a variety of shapes in their environments and describe these shapes
8. Look for and express regularity in repeated reasoning.

Vertical and Horizontal Coherence and Learning Progressions

<u>Previous Learning Connections</u>	<u>Current Learning Connections</u>	<u>Future Learning Connections</u>
<p>Early childhood learning guidelines address:</p> <p>Recognize circle, triangle, and rectangle which includes squares</p> <p>Recognize that a shape remains the same shape when it changes position</p> <p>Demonstrate and begin to use the language of the relative position of objects in the environment and play situations, such as up, down, over, under, top, bottom, inside, outside, in front, behind, between, next to</p> <p>Create two-dimensional shapes and three-dimensional structures that have symmetry</p> <p>Compare length and other attributes of objects, using the terms bigger, longer, and taller</p> <p>Arrange objects in order according to characteristics or attributes, such as height</p>	<p>Clusters within this domain will progress to analyze, compare, create, and compose shapes</p> <p>Students will use their knowledge of sorting by attributes to investigate measurement and data (K.MD.1,2,3)</p>	<p>These understandings developed in kindergarten will support the following learning in first grade:</p> <p>Reason with shapes and their defining attributes</p> <p>Identification of additional shapes (trapezoids, half-circles, quarter-circles)</p> <p>Combine three-dimensional shapes to create larger shapes</p>

Vocabulary (Key Terms Used by Teachers and Students in this Cluster):

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| <ul style="list-style-type: none"> • Two-dimensional • Three-dimensional • Square • Circle • Triangle • Rectangle • Hexagon | <ul style="list-style-type: none"> • Cube • Cone • Cylinder • Sphere • Shape • Size • Small | <ul style="list-style-type: none"> • Medium • Large • Above • Below • Beside • In front of • Next to |
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Relevance, Explanations, and Examples:

Regular and non-regular shapes should be used in a variety of orientations.

