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# Content and Timeline for Mathematics

## *Kindergarten*



West Virginia DEPARTMENT OF  
EDUCATION



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## Kindergarten

The West Virginia College- and Career-Readiness Standards for mathematics emphasize key content, skills, and Mathematical Habits of Mind at each grade level. The focus of instruction is placed on grade-level standards. Instruction should be attentive to learning across all early and elementary learning grades and link major topics within grades. Instruction should develop conceptual understanding, procedural skill and fluency, and application.

Students in kindergarten will focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space.

The following table highlights the content at the cluster level for kindergarten standards. The bulk of instructional time should be given to the clusters and the standards within them. Standards should not be neglected; to do so would result in gaps in students' learning, including skills and understandings they may need in later grades. Instruction should reinforce standards within the clusters by including problems and activities that support natural connections between clusters. **Teachers and administrators alike should note that the standards are not topics to be checked off after being covered in isolated units of instruction;** rather, they provide content to be developed throughout the school year through rich instructional experiences presented in a coherent manner.

### Explanations

**Domains** are broad components that make up a content area. Domains in mathematics vary by grade-level and by course. For example, the five domains for mathematics in kindergarten are Counting and Cardinality, Operations and Algebraic Thinking, Number and Operations in Base Ten, Measurement and Data, and Geometry.

**Clusters** are groups of standards that define the expectations students must demonstrate to be college- and career-ready.

**Standards** are expectations for what students should know, understand and be able to do; standards represent educational goals.



Grade K Cluster-Level Emphasis	West Virginia College- and Career- Readiness Standards
<b>Counting and Cardinality</b>	
<ul style="list-style-type: none"> <li>• Know number names and the count sequence</li> <li>• Count to tell the number of objects</li> <li>• Compare numbers</li> </ul>	M.K.1 - M.K.3 M.K.4 - M.K.5 M.K.6 - M.K.7
<b>Operations and Algebraic Thinking</b>	
<ul style="list-style-type: none"> <li>• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</li> </ul>	M.K.8 - M.K.12
<b>Number and Operations in Base Ten</b>	
<ul style="list-style-type: none"> <li>• Work with numbers 11-19 to gain foundations for place value.</li> </ul>	M.K.13
<b>Measurement and Data</b>	
<ul style="list-style-type: none"> <li>• Describe and compare measurable attributes.</li> <li>• Classify objects and count the number of objects in each category.</li> </ul>	M.K.14 – M.K.15 M.K.16
<b>Geometry</b>	
<ul style="list-style-type: none"> <li>• Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</li> <li>• Analyze, compare, create and compose shapes.</li> </ul>	M.K.17 – M.K.19 M.K.20 - M.K.22

Adapted from California Mathematics Framework



## Grade K Sample Content Plan

Curricula and how and when to teach certain topics are the responsibility of the classroom teacher. The following chart is an example of how a teacher might structure the school year to ensure all grade-level standards are taught. Teachers must provide students the opportunity to master each of the grade-level content standards. **It is important to understand that neglecting grade-level content standards, will leave gaps in students' skills and understandings and will leave students unprepared for the challenges they face in later grades.** Any content plan must demonstrate a means by which students can be provided the opportunity to address all grade-level content standards and to revisit and practice skills and strengthen understandings throughout the school year. The information below is an example of how to address all kindergarten mathematics standards in a school year.

DOMAIN TOPIC	Counting and Cardinality	Measurement and Data	Operations and Algebraic Thinking	Number and Operations in Base Ten	Geometry
	<i>Use the mathematical habits of mind to count and group objects to gain a deep understanding of number</i>	<i>Use number sense to classify and count objects into categories and to compare measureable attributes</i>	<i>Developing an understanding of addition and subtraction</i>	<i>Understanding place value</i>	<i>Identifying shape to compare, create and compose shapes</i>
SAMPLE TIMELINE	August/ October	November/ December	January/February	March	April/June
CONTENT STANDARDS	M.K.1 M.K.2 M.K.3 M.K.4 M.K.5 M.K.6 M.K.7	M.K.14 M.K.15 M.K.16	M.K.8 M.K.9 M.K.10 M.K.11 M.K.12	M.K.13	M.K.17 M.K.18 M.K.19 M.K.20 M.K.21 M.K.22
RATIONALE	In the sample above, kindergarten mathematics begins with students developing a deep understanding of number by counting and grouping objects. Students gain a critical component of quantitative literacy when they develop one-to-one correspondence and are able to count forward from a randomly given number. This launching point provides the foundation for future numeracy and is critical to college- and career-readiness.				





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