



Content and Timeline for Mathematics

Grade 2



West Virginia DEPARTMENT OF
EDUCATION



**West Virginia Board of Education
2018-2019**

David G. Perry, President
Miller L. Hall, Vice President
Thomas W. Campbell, CPA, Financial Officer

F. Scott Rotruck, Member
Debra K. Sullivan, Member
Frank S. Vitale, Member
Joseph A. Wallace, J.D., Member
Nancy J. White, Member
James S. Wilson, D.D.S., Member

Carolyn Long, Ex Officio
Interim Chancellor
West Virginia Higher Education Policy Commission

Sarah Armstrong Tucker, Ed.D., Ex Officio
Chancellor
West Virginia Council for Community and Technical College Education

Steven L. Paine, Ed.D., Ex Officio
State Superintendent of Schools
West Virginia Department of Education

Grade 2

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 the second grade will focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes. Mathematical habits of mind, which should be integrated in these content areas, include: making sense of problems and persevering in solving them, reasoning abstractly and quantitatively; constructing viable arguments and critiquing the reasoning of others; modeling with mathematics; using appropriate tools strategically; attending to precision, looking for and making use of structure; and looking for and expressing regularity in repeated reasoning.

The following table highlights the content at the cluster level for second grade 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 four domains for mathematics in Grade 2 are 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 2 Cluster-Level Emphasis	West Virginia College- and Career- Readiness Standards
Operations and Algebraic Thinking	
<ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction. • Add and subtract within 20. • Work with equal groups of objects to gain foundations for multiplication. 	M.2.1 M.2.2 M.2.3-M.2.4
Number and Operations in Base Ten	
<ul style="list-style-type: none"> • Understand place value. • Use place value understanding and properties of operations to add and subtract. 	M.2.5 - M.2.8 M.2.9 – M.2.13
Measurement and Data	
<ul style="list-style-type: none"> • Measure and estimate lengths in standard units. • Relate addition and subtraction to length. • Work with time and money. • Represent and interpret data. 	M.2.14 – M.2.17 M.2.18 – M.2.19 M.2.20 – M.2.21 M.2.22 – M.2.23
Geometry	
<ul style="list-style-type: none"> • Reason with shapes and their attributes. 	M.2.24 – M.2.26

Adapted from California Mathematics Framework



Grade 2 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 Grade 2 mathematics standards in a school year.

DOMAIN TOPIC	Operations and Algebraic Thinking	Measurement and Data	Number and Operations in Base Ten	Geometry
	<i>Problem-solve using addition and subtraction to build foundational understanding for multiplication</i>	<i>Relate addition and subtraction to length, time and money</i>	<i>Using place value to add and subtract numbers</i>	<i>Recognizing shapes are made of parts to begin developing fractional understanding</i>
SAMPLE TIMELINE	August/ October	October/ January	February/April	May/June
CONTENT STANDARDS	M.2.1 M.2.2 M.2.3 M.2.4	M.2.14 M.2.15 M.2.16 M.2.17 M.2.18 M.2.19 M.2.20 M.2.21 M.2.22 M.2.23	M.2.5 M.2.6 M.2.7 M.2.8 M.2.9 M.2.10 M.2.11 M.2.12 M.2.13	M.2.24 M.2.25 M.2.26
RATIONALE	In the sample above, Grade 2 mathematics begins with students supporting previous learning by solving word problems using addition, subtraction, and to begin to see the relationship between addition and multiplication. Fluency when adding and subtracting is important in second grade, thus all standards provide applicable use of addition and subtraction throughout the year.			





Steven L. Paine, Ed.D.
West Virginia Superintendent of Schools