West Virginia

College & Career Readiness Standards

Resource Booklet

Grade 3

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Foreword

Dear West Virginia Early and Elementary Educators,

In an effort to make planning a standards-based curriculum more expedient, the West Virginia Department of Education (WVDE) has created the West Virginia College-and Career-Readiness Kindergarten Content Standards Booklet for those serving kindergarten children in our state.

This document is an anthology of West Virginia content standards taken from the applicable West Virginia Board of Education (WVBE) policies for kindergarten, and is intended to assist early and elementary educators with planning integrated instruction by including all relevant standards in a single document. Each content area contains an introduction and an explanation of terms from the original policy document, as well as the kindergarten content standards for that area.

Early and elementary educators provide foundational learning opportunities that help enhance each child's likelihood of social and emotional well-being, as well as academic achievement, as they progress over time. It is my hope that you will utilize this resource to tailor your instruction and curricula to meet the needs of all the children you serve.

As we continue to promote the well-being and academic achievement of all West Virginia children, I offer you a sincere thank you for your dedication to the success of our West Virginia kindergarten children.

Sincerely,

W. Clayton Burch
State Superintendent of Schools

WVBE Policy 2510, Assuring the Quality of Education: *Regulations for Education Programs*

Chart 1: Comprehensive Pre-K through Grade 5 Standards-Focused Approach to Learning

A holistic approach to early learning requires teachers to be knowledgeable about child development and skilled in providing experiences that meet students' needs. Social/emotional, cognitive, and physical development are interrelated domains which emphasize the development of positive dispositions to learning.

Developmental Domain: Social/Emotional	**Social and Emotional Domains** › Personal and Social Relationships and Development › Knowledge of Family and Community › Academic and Learning Development › Career Development and Life Planning › Global Citizenship	Early Learning programming focuses on students' social and emotional development to lay the foundation for all learning. Progressive physical, cognitive, and academic development depends on a student's ability to intentionally engage in learning activities through a variety of modalities. Essential to this process is the student's ability to self-regulate and persist in activities when challenged with new experiences. Active learning is achieved through students' ability to solve problems within the context of positive relationships, communicate their needs effectively, and evaluate themselves. Effective teaching strategies help students develop strong self-regulation, which in turn prepares students to succeed in school. These social and emotional foundations are also reflected in W. Va. 126CSR44U, Policy 2520.19, West Virginia College- and Career-Readiness Dispositions and Standards for Student Success for Grades K-12 (Policy 2520.19) and Policy 2525.
Developmental Domain: Cognitive	**Content Areas** › English Language Arts (ELA) › Mathematics › Music › Science › Social Studies › Visual Art	Best practices for a comprehensive approach to early learning instruction indicate appropriate and sufficient emphases in all content areas are provided. Developmentally appropriate integration of literacy, numeracy, and other content is utilized to provide rigor based on students' prior experiences, knowledge, and developmental levels.

Pre-K through Grade 5 Practices for Wellness Education

Developmental Domain: Physical	› Physical Education	Students in Early Learning Programs require multiple opportunities to engage in play and movement experiences throughout the instructional day, enhancing the critical link between physical activity and brain functioning. In grades Kindergarten-5 at least 30 minutes of physical education, including physical exercise and age appropriate physical activities, for at least three days a week shall be provided as per W. Va. Code §18-2-7a. At least 50 percent of class time for physical education will be spent in moderate to vigorous-intensity physical activity. Schools that do not currently have the number of certified physical education teachers or required physical setting may develop alternate programs to enable current staff and physical settings to be used to meet this requirement. Alternate programs shall be submitted to the WVDE for approval.
	Physical Activity	In grades Kindergarten-5 physical activity in the form of recess or informal physical activity will be provided for at least 30 minutes daily for all students. West Virginia Universal Pre-K classrooms are required to offer at least 60 minutes of daily outdoor activity, weather permitting. Indoor time may be utilized when weather conditions are not conducive to outdoor activity. Physical activity is provided through an integrated approach as part of the comprehensive curricular framework as defined by Policy 2525.

Chart 2: Classroom Learning Environments, Routines, and Instructional Practices (Grades Pre–K-5)

<table>
<tr><th>Early Learning Readiness (Grades Pre-K-Kindergarten)</th><th>Early Learning Primary (Grades 1-2)</th><th>Early Learning Intermediate (Grades 3-5)</th></tr>
<tr><td colspan="3">Early Learning Programs provide responsive environments that include time, space, and developmentally appropriate materials necessary to create print- and language-rich environments conducive for learning and integration of standards. Classrooms are designed and equipped in a manner that supports discovery, small group and individual learning, exploration, and problem solving. Early Learning Readiness, Primary, and Intermediate classrooms have sufficient quantity and variety of appropriate materials and resources to support student-centered learning.</td></tr>
<tr><td colspan="3">Early Learning Readiness, Primary, and Intermediate educators ensure that sufficient time is provided for students to engage in developmentally appropriate and effective experiences that promote developmental growth and mastery of content and skills in all applicable state-approved content standards.</td></tr>
<tr><td colspan="2">Early Learning Readiness and Primary programs ensure that transitions are minimized throughout the day to provide students with maximized opportunities to engage in developmentally effective experiences.</td><td>Early Learning Intermediate programs ensure that blocks of time are sufficient in duration for student engagement and content integration.</td></tr>
<tr><td>Early Learning Readiness grades utilize a holistic approach to ensure content areas are interrelated, not addressed in isolation, and are based on developmentally appropriate experiences that focus on students' interests and prior knowledge.</td><td>Early Learning Primary grades integrate content areas through developmentally appropriate experiences and instruction based on interests and prior knowledge.</td><td>Early Learning Intermediate grades focus on integrated instruction that includes student-driven experiences based on interests and prior knowledge. Students in these grades may be ready for developmentally appropriate instruction that is content area focused.</td></tr>
<tr><td colspan="3">Instruction in Early Learning Readiness, Primary, and Intermediate Programs is personalized and based on the formative assessment process. Collecting authentic evidence is a central component to documenting student progress.</td></tr>
<tr><td>Early Learning Readiness grades focus on individualized learning through a developmental context.</td><td colspan="2">Appropriate implementation of Personalized Learning foundations may be utilized to help students achieve mastery or above in English/language arts and mathematics in all Early Learning Primary and Intermediate grades.</td></tr>
</table>

College- and Career-Readiness Standards for the Arts

Introduction

WVCCRS have been developed with the goal of preparing students for a wide range of high-quality postsecondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The WVCCRS establish a set of knowledge and skills that all individuals need to transition into higher education or the workplace, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

WVCCRS for the Arts promote proficiency in performing a range of material or creating two or three dimensional artworks, analyzing and processing feedback, the application of verbal and non-verbal communication, and integrity in responsible collaboration with peers. Students will develop problem solving and critical thinking skills independently and collaboratively as they engage in the common domains of the arts – create, connect, explore, perform, relate, respond, and others germane to specific arts disciplines. College-and career-readiness is supported in the arts as students acquire and further develop abilities to become creators, consumers and advocates of the arts.

Committees of educators from across the state convened to revise the standards. The overarching goal was to build rigorous, relevant and challenging arts education programming that would prepare students for college- and career-readiness. West Virginia educators and representatives from higher education institutions played a key role in shaping the standards to align with research and best practice in the field of arts education. The contribution of these professionals was critical in creating a policy that is meaningful to classroom teachers and appears in a format that can easily be used and understood.

Explanation of Terms

Domains are the broad components that make up a content area; e.g., create, connect, explore, perform, relate, respond are domains found in all arts disciplines.

Create - In the arts, to create is to generate, conceptualize, and express artistic ideas and work. It can include a performance, a composition, and/or a two and three dimensional piece of art.

Connect - In the arts, to connect is to synthesize and relate knowledge and experiences to make art. It can include relating artistic ideas and works with societal, cultural and historical context to deepen understanding.

Explore - In the arts, to explore is to study, analyze, experience, describe and interpret arts disciplines.

Perform - In the arts, to perform is to interpret, develop and refine artistic ideas and works for presentation and study. It can include individual and group efforts.

Relate - In the arts, to relate is to understand the relationship of a single arts discipline to other arts disciplines, other disciplines outside the arts, and to a variety of cultures and historical periods.

Respond - In the arts, to respond is to perceive, interpret, and analyze artistic work giving it meaning. It can include applying criteria to evaluate artistic work.

Others specific to theatre and visual art are: Theatre - scriptwriting, acting, technical theatre, directing, and Visual Art – media, techniques and processes, elements of art and principles of design, subject matter, symbols, and Ideas, art history and diversity, reflection and analysis and multi-disciplinary connections. These content-specific domains are featured in chart form at the beginning of standards in which they appear.

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

Numbering of Standards

The numbering for each standard is composed of three or four parts, each part separated by a period:

- the content area code (e.g., MU for Music).
- the grade level or high school content area,
- the course level (when applicable), and
- the standard.

Illustration: MU.K-2.1 refers to General Music, grades K-2, standard 1; MU.B.3.22 refers to Band, level III, standard 22.

Abbreviations:
MU – Music
VA – Visual Art
DA - Dance
TH – Theatre

The following four arts disciplines are:

Music education
Music education provides students with opportunities to explore the world of music through singing, playing instruments, moving, and listening and to develop skills to perform, create, and appreciate music. Civic literacy is developed in music education through the study of patriotic and folk music. In addition, global awareness will be introduced to the student through experiencing the music of other cultures. Collaboration skills will be emphasized as students learn to perform with others in various ensembles. Critical-thinking skills will be sharpened as students actively listen and respond to what they hear. Creativity and problem-solving skills will be developed through simple composition and improvisation. Students will relate music to other disciplines, including literature, math, science, and visual art.

Visual Art education
The study of visual art provides students with the skills to appreciate and create and visual art. In visual art, students explore the world of art through subject matter that centers on the student's own environment, allowing them to express feelings and ideas using a variety of media and tools. Communication skills are developed as students discover how to communicate through art and to discuss their own creations. Technical expertise is honed as they learn to use tools properly for drawing, painting, printing, and sculpture. As they develop their artistic sensibilities, students will build upon their knowledge of the elements and principles of visual art to investigate more complex concepts of artistic design. Civic literacy is developed as subject matter expands from personal to the community, environment, nature and other cultures, and an understanding of connections between the arts and other disciplines is formed.

Dance education
The study of dance provides students with the skills to perform, create, and appreciate dance. Students will experience a variety of dance concepts, ideas, and techniques. Advancing personal knowledge of a variety of dance concepts, ideas, and techniques, students develop as dance artists. In dance education, students evaluate personal actions, commitment, and discipline necessary to achieve dance goals discovering an individual voice as an artist performer. Health literacy is developed as students identify strategies and approaches which can ensure the health and care of the dancer's instrument (body). Civic literacy is developed as students explore the influence of culture, historical period, and context on the creation and interpretation of dance.

Theatre education
The study of theatre provides students with the skills to perform, create, and appreciate theatre. In theatre, students study, adapt, and create stories for performance; identify contemporary styles of theatre/drama and depict characters in them; identify elements of technical theatre; and demonstrate technical theatre knowledge and skills. Communication and collaboration skills are

developed as students discuss multiple interpretations for production ideas and collaborate to uncover how the non-dramatic art forms enhance a theatre production. Through exploration of diverse texts, students will study the influence of culture, historical period, and context on the creation and interpretation of theatre.

General Music - Grades K-8

The sequential program of music study will include, but not be limited to, general music kindergarten through eighth grade. Sufficient time should be allotted for students to achieve the General Music Standards. A quality music program brings richness to the school curriculum; therefore, it is recommended that schools provide more than a sufficient amount of time for the delivery of the music curriculum. The standards are written to maximize teacher flexibility and creativity in delivering quality music instruction to all students.

Performing	**Exploring**
› Sing, alone and with others, a varied repertoire of music. › Perform on instruments, alone and with others, a varied repertoire of music.	› Read and notate music › Listen to, analyze, and describe music › Evaluate music and music performances.
Creating	**Relating**
› Improvise melodies, variations, and accompaniments. › Compose and arrange music within specified guidelines.	› Understand relationships between music, the other arts, and disciplines outside the arts. › Understand music in relation to history and culture.

General Music - Grades 3-5

IIn General Music – 3-5, students will develop further independence in the use of the singing voice. Terms will be added to the basic music vocabulary for continued music literacy. Through the use of the voice, classroom instruments and body percussion, students' creativity and problem-solving skills will be further developed as they improvise and compose rhythms and melodies. Critical-thinking skills will be refined by evaluating personal musical performances and the performances of others. Global awareness will be expanded through performing and listening to music of other cultures. Students will continue to collaborate with others in classroom ensembles. Students will relate music to other disciplines by singing songs in foreign languages and examining the correlation of music with history and visual art.

Performing

MU.3-5.1	Demonstrate singing a variety of musical styles.
MU.3-5.2	Demonstrate understanding of the structure and the elements of music (e.g., rhythm, pitch, form, and harmony) in music for selected performances.
MU.3-5.3	Read and perform music using standard notation.
MU.3-5.4	Demonstrate a variety of tempi and form through movement.
MU.3-5.5	Perform music following the cues of a conductor.
MU.3-5.6	Demonstrate and explain intent through interpretive decisions and expressive qualities (e.g., dynamics, tempo, timbre, and articulation/style).

Exploring

MU.3-5.7	Identify aurally and visually a variety of instruments, vocal timbres, and music ensembles.
MU.3-5.8	Demonstrate understanding of musical concepts through the use of standard and/or iconic notation and/or recording technology.
MU.3-5.9	Read and notate from the grand staff.
MU.3-5.10	Discover a variety of expressive qualities (e.g., dynamics, phrasing, articulation, form, and tempo) relating to musical performance.
MU.3-5.11	Analyze and understand appropriate tone production for instruments and voices.

Creating

MU.3-5.12	Improvise rhythmic, melodic, and harmonic ideas, and explain connections to specific purpose and context (e.g., social, cultural, and historical).
MU.3-5.13	Generate musical ideas (e.g., rhythms, melodies, and accompaniment patterns) within specific related tonalities, meters, and simple chord changes.
MU.3-5.14	Create rhythmic and melodic ideas based on varied music forms.

Relating

MU.3-5.15	Demonstrate and interpret the influence of personal interest, knowledge, and context and technical skill on music selection.
MU.3-5.16	Relate contextual influence (e.g., social, cultural, and historical) to music performances.
MU.3-5.17	Sing, perform, and relate West Virginia songs to West Virginia history and West Virginia geography.
MU.3-5.18	Compare and contrast personal and expressive preferences in the evaluation and active listening of music for specific purposes, citing evidence from the elements of music.
MU.3-5.19	Apply teacher-provided, collaboratively-developed, and/or established criteria and feedback to evaluate accuracy of ensemble and personal performances.
MU.3-5.20	Demonstrate connections between music and other arts, other disciplines, varied contexts, and daily life.
MU.3-5.21	Explore life skills relevant to musical careers.

College- and Career-Readiness Standards for English Language Arts

Introduction

West Virginia's College- and Career-Readiness Standards have been developed with the goal of preparing students for a wide range of high-quality post-secondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The West Virginia College- and Career-Readiness Standards establish a set of knowledge and skills that all individuals need to transition into higher education or the workplace, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

West Virginia's College- and Career-Readiness Standards for English Language Arts promote proficiency in reading a range of material, fluency in writing in several modes, adaptability in verbal and written communication, and integrity in responsible collaboration with peers. Students will develop problem solving and critical thinking skills independently and collaboratively as they engage in the four domains of reading, writing, speaking/listening, and language. College- and career-readiness is supported in English language arts as students acquire and further develop their abilities to be critical consumers of what they read or hear and informed sources when they write or speak.

The West Virginia College- and Career-Readiness Standards are the result of a statewide public review of the state's educational standards held in 2015. In 2019, as part of the WVBE's content standard revision cycle, the West Virginia College- and Career-Readiness Standards for English Language Arts were reviewed by a team of diverse stakeholders, including educators, administrators, representatives from higher education, parents, and community members who made recommendations for revisions. The West Virginia College- and Career-Readiness Standards incorporate the feedback provided by these stakeholders.

Explanation of Terms

Domains are the broad components that make up a content area. English language arts is primarily composed of four domains: reading, writing, speaking/listening, and language. In Kindergarten through Grade 8, an additional domain is present: Literacy Foundations.

Literacy Foundations
Students are expected to master foundational literacy skills in order to become proficient readers with the capacity to comprehend, discuss, and write to increasingly complex texts as they mature. The foundational literacy skills include print concepts, phonological awareness, phonics and word recognition, and fluency as well as morphology, context use, and handwriting. These foundations are critical to the development of literacy and require explicit instruction and intervention when necessary. In Grades 6 through 8, the Literacy Foundations domain transitions to focus on applying previously learned skills to increasingly complex texts and tasks.

Language – Students will learn and apply the standard rules of written and spoken English while approaching language as a matter of craft and informed choice among alternatives to communicate. Students will understand words and phrases, their relationships, and their nuances and acquire new vocabulary, particularly general academic and domain-specific words and phrases.

Reading – The development of proficient reading skills is critical for mastering academic content. Students must show a steadily growing ability to discern more from and make fuller use of text. This includes making an increasing number of connections among ideas and between texts, considering a wider range of textual evidence and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in text. Students will gain exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. The complexity of a text includes quantitative complexity (such as Lexile), qualitative complexity (such as figurative language, historical context, and layers of meaning), and reader and task considerations (such as student interest/motivation and instructional goal for reading).

Speaking/Listening – Students will be required to communicate ideas clearly and efficiently, including but not limited to formal presentation. They will use oral communication and interpersonal skills as they work together. They will need to be able to express and listen carefully to ideas, integrate information from oral, visual, quantitative and media sources, evaluate what they hear, use media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Writing – Students will apply writing skills and strategies to communicate effectively for different purposes using specific writing types. They will use the writing process by appropriately applying the organization of ideas, development of main ideas and supporting details, varied sentence structure, word choice, and mechanics. Using a variety of literary and informational texts, print sources, and media sources, students will select, organize, and evaluate for research purposes.

Clusters are smaller groups of standards that provide an organizational structure for the overarching skills and understandings that students must demonstrate to be college- and career-ready.

Standards are the specific_expectations for what students should know, understand, and be able to do by the end of each grade level; standards represent educational goals.

Numbering of Standards

The numbering for each standard is composed of three parts, each part separated by a period:

- the content area code (e.g., ELA for English language arts),
- the grade level or high school course, and
- the standard.

Illustrations: ELA.3.1 refers to English language arts, grade 3, standard 1. ELA.C.14 refers to high school Creative Writing and Reading, standard 14.

Abbreviations

C – Creative Writing and Reading
TE – Technical English Language Arts
T – Transition English Language Arts for Seniors

The following standards will be organized and numbered continuously for English language arts in grades K-12*. The chart below demonstrates how the standards are organized by cluster and domain for grades K-12*.

Literacy Foundations (Grades K-8)	
Literacy Foundations	Foundation I-V
Reading	
Key Ideas and Details	Standards 1-6
Craft and Structure	Standards 7-12
Integration of Knowledge and Ideas	Standards 13-17
Range of Reading and Text Complexity	Standards 18-19
Writing	
Text Types and Purposes	Standards 20-22
Production and Distribution of Writing	Standards 23-25
Research to Build and Present Knowledge	Standards 26-28
Range of Writing	Standard 29
Speaking & Listening	
Comprehension and Collaboration	Standards 30-32
Presentation of Knowledge and Ideas	Standards 33-35

Language	
Conventions of Standard English	Standards 36-37
Knowledge of Language	Standard 38
Vocabulary Acquisition and Use	Standards 39-41

*Standards for additional high school courses are presented at the end of the document and feature their own course-specific organizational charts.

College- and Career-Readiness Indicators for English Language Arts

The grades K-12 standards define what students should know, understand, and be able to do by the end of each grade level. They correspond to the College- and Career-Readiness Indicators for English language arts below by cluster. The College- and Career-Readiness Indicators and grade-specific standards are necessary complements – the former providing broad standards, the latter providing additional specificity – that together define the skills and understandings that all students must demonstrate to be college- and career-ready.

Literacy Foundations (K-8)

Cluster: Fluency – Students practice reading a variety of texts to gain the ability of reading accurately and with appropriate rate and expression. Because fluent readers do not have to struggle with decoding individual words in a text, they are able to focus on the meaning of the text and gain greater comprehension.

Cluster: Phonics and Word Recognition – Students learn to connect their understanding of oral language to written text. Students examine simple letter-sound correspondences to more complex spelling patterns following a specific scope and sequence. Accurate word recognition and decoding yield fluent readers with better comprehension.

Cluster: Handwriting - Students develop fine motor skills as they connect letter names with their shapes and begin to express themselves with written language. The development of handwriting skills creates a bridge to phonics development and written expression. Students will move from print to cursive or joined italics to fluently and clearly express themselves as writers.

Cluster: Phonological Awareness – Students orally identify and manipulate individual whole words, syllables, and sounds to demonstrate their awareness of the spoken language. As students move to phonemic awareness of individual sounds, they will demonstrate critical skills needed for reading including segmenting and blending sounds in words.

Cluster: Print Concepts – Students explore print directionality and mechanics as they distinguish between sentences, words, and letters in text. They realize that written language is related to oral language and that text has meaning. The ability to understand how print works leads to the learning of reading and writing.

Reading

Cluster: Key Ideas and Details – Students read closely to determine what is said explicitly as well as to determine the central ideas or themes of texts. Students also analyze how and why central ideas or themes, individuals, events, and details develop and interact over the course of the text supporting their conclusions with specific evidence from the text when writing or speaking.

Cluster: Craft and Structure – Students analyze how specific parts of a text contribute to the overall structure as well as how specific word or phrase choices shape meaning and tone. Students also assess how point of view or purpose shapes the content and style of text and evaluate the effectiveness or impact of authors' choices.

Cluster: Integration of Knowledge and Ideas – Students evaluate content from a range of print, non-print, and digital texts and media integrating it appropriately to build knowledge or to compare authors' approaches. Students also delineate and evaluate arguments and specific claims within texts placing an emphasis on examining the validity of the reasoning and relevance and sufficiency of the evidence used to support the argument and claims within the text.

Cluster: Range of Reading and Text Complexity – Students read and comprehend increasingly complex literary and informational texts each year with the goal of reaching college- and career-readiness by the end of Grade 12. The complexity of a text includes quantitative complexity (such as Lexile), qualitative complexity (such as figurative language, historical context, layers of meaning), and reader and task considerations (such as student interest/motivation and instructional goal for reading). With regard to quantitative complexity, to be college- and career-ready, students should read and comprehend texts that fall between 1185L and 1385L on the Lexile scale independently and proficiently.

Writing

Cluster: Text Types and Purposes – Students write a variety of text types for diverse purposes to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence, to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content, and to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Cluster: Production and Distribution of Writing – Students use the writing process to produce clear and coherent writing and strengthen writing as needed to ensure the development, organization, and style are appropriate to task, purpose, and audience. Students also use a variety of technology tools to produce and publish writing and to interact and collaborate with others.

Cluster: Research to Build and Present Knowledge – Students engage in a range of research projects in which they gather information from multiple print, non-print, and digital sources assessing the credibility and accuracy of each source and demonstrating understanding of the subject by integrating information from a variety of sources while avoiding plagiarism. Students also draw evidence from literary and informational texts to support analysis, reflection, and research.

Cluster: Range of Writing – Students write routinely over extended time frames for research, reflection, and revision and shorter time frames for a range of tasks, purposes, and audiences.

Speaking/Listening

Cluster: Comprehension and Collaboration – Students prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on other's ideas and expressing ideas clearly and persuasively; they also integrate and evaluate information presented in diverse media and formats and evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Cluster: Presentation of Knowledge and Ideas – Students present information, findings, and supporting evidence clearly with organization, development, and style appropriate to task, purpose, and audience_making strategic use of digital media and visual displays, adapting speech to a variety of contexts and tasks, and demonstrating command of formal English when indicated or appropriate.

Language

Cluster: Conventions of Standard English – Students demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing and command of the conventions of Standard English grammar and usage when writing and speaking.

Cluster: Knowledge of Language – Students apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Cluster: Vocabulary Acquisition and Use – Students demonstrate understanding of figurative language, word relationships, and nuances in word meanings, determining or clarifying the meaning of unknown and multi-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials as appropriate. Overall, students acquire and accurately use a range of general academic and discipline-specific words and phrases sufficient for reading, writing, speaking, and listening at the college- and career-readiness level and demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

English Language Arts – Grade 3

All West Virginia teachers are responsible for classroom instruction that integrates content standards, technology, and dispositions for student success. In grade 3, students should be immersed in a literacy-rich environment and have numerous opportunities to read, discuss, and write to complex texts appropriate for third grade in order to meet college- and career-readiness expectations. The complexity of a text includes quantitative complexity (such as Lexile), qualitative complexity (such as conceptual knowledge, text structure, and figurative language), and reader and task considerations (such as student interest/motivation and instructional goal for reading). Over the course of the entire instructional day, students should be given opportunities to engage with a balance of literary and informational text and to write for a variety of purposes and audiences including an even distribution of opinion, informative, and narrative writing. Students in third grade will continue enhancing skills in a developmentally-appropriate progression of standards. Following the skill progressions from second grade, the following chart represents the college- and career-readiness indicators that will be developed in third grade:

College- and Career-Readiness Indicators for Grade 3

Literacy Foundations

- Read with sufficient accuracy and fluency to support comprehension.
- Use word analysis skills and phonics to decode unfamiliar words.
- Write legibly in cursive or joined italics with correct margins and spacing.

Reading	Writing
› Read and comprehend a variety of complex texts including texts that fall in the 420-820 Lexile range. › Ask and answer questions about key details in literary and informational texts referring explicitly to the text as the basis for the answers. › Use text features to locate information and compare and contrast different types of informational texts. › Refer to specific parts of literary and informational texts, describe connections, and distinguish between different viewpoints.	› Write opinion and informative pieces by introducing a topic, supplying facts and reasons, using linking words and providing a concluding statement or section. › Write narratives with appropriate sequences, including details, dialogue, transitional words, and a sense of closure. › Conduct short research projects that build knowledge about a topic.

Speaking/Listening	Language
› Participate in collaborative conversations about third grade topics and texts and follow agreed-upon rules for discussions. › Speak audibly in complete sentences to express thoughts, feelings, and ideas clearly.	› Produce a variety of sentence types and structures. › Capitalize appropriate words in titles and use commas, quotation marks and possessives. › Use context, affixes, and root words to determine the meaning of a word with multiple meanings. › Demonstrate an understanding of word relationships and nuances. › Acquire and accurately use grade-appropriate conversational, general academic, and domain-specific words and phrases.

Literacy Foundations

Cluster	Fluency
ELA.3.I	Read with sufficient accuracy and fluency to support comprehension. › Read grade-level text with purpose and understanding. › Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. › Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Cluster	Phonics and Word Recognition
ELA.3.II	Know and apply grade-level phonics and word analysis skills in decoding words. › Identify and know the meaning of the most common prefixes and derivational suffixes. › Decode words with common Latin suffixes. › Decode multi-syllable words. › Read grade-appropriate irregularly spelled words.

Cluster	Handwriting
ELA.3.III	Write legibly in cursive or joined italics, allowing margins and correct spacing between letters in a word and words in a sentence.

Reading

Cluster	Key Ideas and Details
ELA.3.1	Ask and answer questions to demonstrate understanding of a literary text, referring explicitly to the text as the basis for the answers.

ELA.3.2	Recount stories, including fables, folktales, and myths from diverse cultures; determine the central idea, lesson, or moral and explain how it is conveyed through key details in the literary text.
ELA.3.3	Describe characters in a literary story and explain how their actions contribute to the sequence of events.
ELA.3.4	Ask and answer questions to demonstrate understanding of an informational text, referring explicitly to the text as the basis for the answers.
ELA.3.5	Determine the main idea of an informational text; recount the key details and explain how they support the main idea.
ELA.3.6	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in an informational text, using language that pertains to time, sequence, and cause/effect.

Cluster	**Craft and Structure**
ELA.3.7	Determine the meaning of words and phrases as they are used in a literary text, distinguishing literal from nonliteral language.
ELA.3.8	Refer to parts of stories, dramas, and poems when writing or speaking about a literary text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
ELA.3.9	Distinguish one's point of view from that of the narrator or those of the characters in a literary text.
ELA.3.10	Determine the meaning of general academic and domain-specific words and phrases in an informational text relevant to a grade 3 topic or subject area.
ELA.3.11	Use informational text features and search tools to locate information relevant to a given topic efficiently
ELA.3.12	Distinguish one's own point of view from that of the author of an informational text.

Cluster	**Integration of Knowledge and Ideas**
ELA.3.13	Explain how specific aspects of a literary text's illustrations contribute to what is conveyed by the words in a story.
ELA.3.14	Compare and contrast the themes, settings, and plots of literary stories written by the same author about the same or similar characters.
ELA.3.15	Use information gained from illustrations and the words in an informational text to demonstrate understanding of the text.
ELA.3.16	Describe the logical connection between particular sentences and paragraphs in an informational text.
ELA.3.17	Compare and contrast the most important points and key details presented in two informational texts on the same topic.

Cluster	Range of Reading and Text Complexity
ELA.3.18	By the end of the year, read and comprehend literary texts at the high end of the grades 2–3 text complexity range independently and proficiently.
ELA.3.19	By the end of the year, read and comprehend informational texts, including social studies, science, and technical texts, at the high end of the grades 2–3 text complexity range independently and proficiently.

Writing

Cluster	Text Types and Purposes
ELA.3.20	Write opinion pieces on topics or texts, supporting a point of view with reasons. › Introduce the topic or text being discussed, state an opinion, and create an organizational structure that lists reasons. › Provide reasons that support the opinion. › Use linking words and phrases to connect opinion and reasons. › Provide a concluding statement or section.
ELA.3.21	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. › Introduce a topic and group related information together; include illustrations when useful to aid comprehension. › Develop the topic with facts, definitions, and details. › Use linking words and phrases to connect ideas within categories of information. › Provide a concluding statement or section.
ELA.3.22	Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. › Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. › Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. › Use transitional words and phrases to signal event order. › Provide a sense of closure.

Cluster	Production and Distribution of Writing
ELA.3.23	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.
ELA.3.24	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing to demonstrate command of Language standards up to and including grade 3.
ELA.3.25	With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others.

Cluster	Research to Build and Present Knowledge
ELA.3.26	Conduct short research projects that build knowledge about a topic.
ELA.3.27	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
ELA.3.28	(Begins in grade 4.)

Cluster	Range of Writing
ELA.3.29	Write routinely over extended time frames for research, reflection, and/or revision and shorter time frames for a range of discipline-specific tasks, purposes, and audiences.

Speaking & Listening

Cluster	Comprehension and Collaboration
ELA.3.30	Engage effectively in a range of collaborative discussions with diverse partners including one-on-one, small groups, and teacher-led on grade 3 topics and texts, building on others' ideas and expressing ideas clearly. › Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. › Follow agreed-upon rules for discussions. › Ask questions to check understanding of information presented, stay on topic, and link comments to the remarks of others. › Explain ideas and understanding in light of the discussion.
ELA.3.31	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
ELA.3.32	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Cluster	Presentation of Knowledge and Ideas
ELA.3.33	Report on a topic or text; tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly and coherently.
ELA.3.34	Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visuals when appropriate to emphasize or enhance certain facts or details.
ELA.3.35	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Language

Cluster	Conventions of Standard English
ELA.3.36	Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. › Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences. › Form and use regular and irregular plural nouns. › Use abstract nouns. › Form and use regular and irregular verbs. › Form and use the simple verb tenses. › Ensure subject-verb and pronoun-antecedent agreement. › Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified. › Use coordinating and subordinating conjunctions. › Produce simple, compound, and complex sentences.
ELA.3.37	Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. › Capitalize appropriate words in titles. › Use commas in addresses. › Use commas and quotation marks in dialogue. › Form and use possessives. › Use conventional spelling for high-frequency words and for adding suffixes to base words. › Use spelling patterns and generalizations in writing words. › Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Cluster	Knowledge of Language
ELA.3.38	Use knowledge of language and its conventions when writing, speaking, reading, or listening. › Choose words and phrases for effect. › Recognize and observe differences between the conventions of spoken and written Standard English.

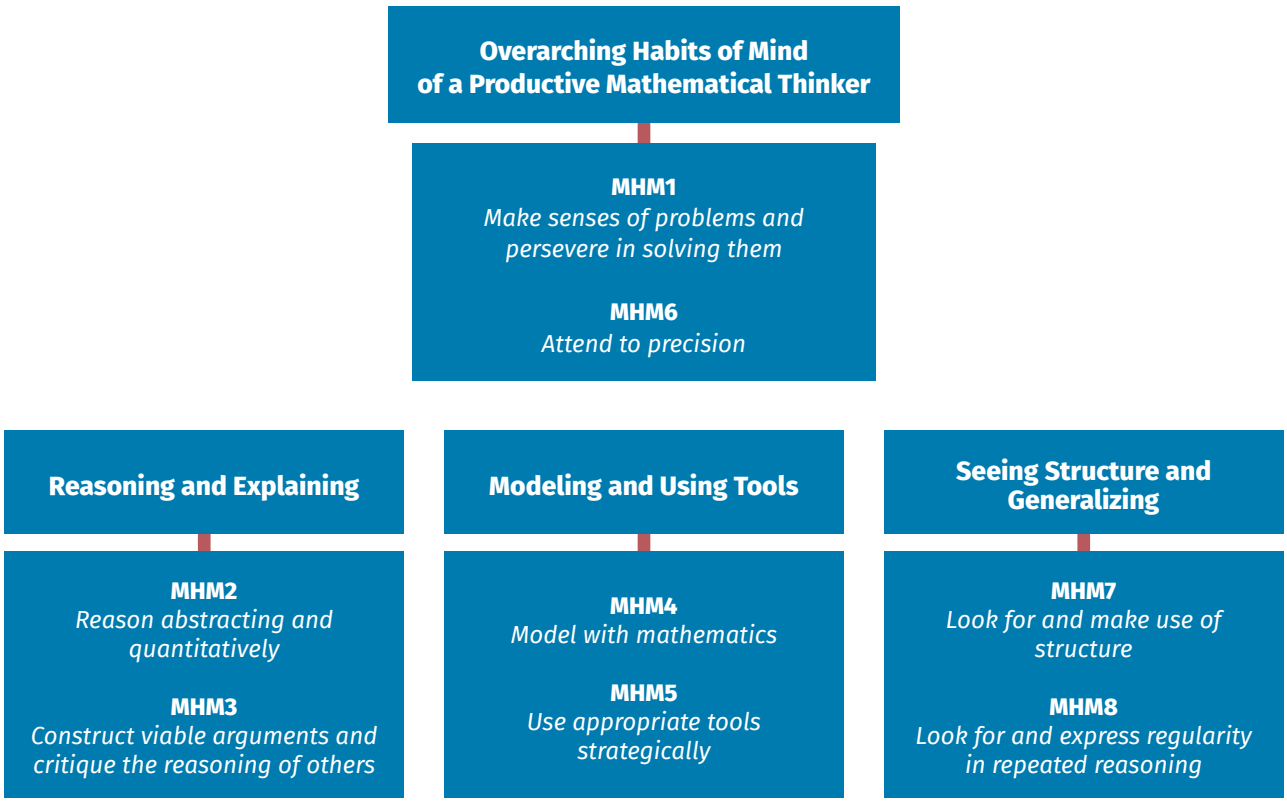
Cluster	Vocabulary Acquisition and Use
ELA.3.39	Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. › Use sentence-level context as a clue to the meaning of a word or phrase. › Determine the meaning of the new word formed when a known affix is added to a known word. › Use a known root word as a clue to the meaning of an unknown word with the same root. › Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.
ELA.3.40	Demonstrate understanding of word relationships and nuances in word meanings. › Distinguish the literal and nonliteral meanings of words and phrases in context. › Identify real-life connections between words and their use. › Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., knew, believed, suspected, heard, and wondered).
ELA.3.41	Acquire and accurately use grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and transitional relationships.

West Virginia College- and Career-Readiness Standards for Mathematics

Introduction

Included in Policy 2520.2B, the West Virginia College- and Career-Readiness Standards for Mathematics are two types of standards: the Mathematical Habits of Mind and the grade-level or course-specific Mathematics Content Standards. These standards address the skills, knowledge, and dispositions that students should develop to foster mathematical understanding and expertise, as well as concepts, skills, and knowledge – what students need to understand, know, and be able to do. The standards also require that the Mathematical Habits of Mind and the grade-level or course-specific Mathematics Content Standards be connected. These connections are essential to support the development of students' broader mathematical understanding, as students who lack understanding of a topic may rely too heavily on procedures. The Mathematical Habits of Mind must be taught as carefully and practiced as intentionally as the grade-level or course-specific Mathematics Content Standards are. Neither type should be isolated from the other; mathematics instruction is most effective when these two aspects of the West Virginia College- and Career-Readiness Standards for Mathematics come together as a powerful whole.

Mathematical Habits of Mind



The eight Mathematical Habits of Mind (MHM) describe the attributes of mathematically proficient students and the expertise that mathematics educators at all levels should seek to develop in their students. The Mathematical Habits of Mind provide a vehicle through which students engage with and learn mathematics. As students move from elementary school through high school, the Mathematical Habits of Mind are integrated in the tasks as students engage in doing mathematics and master new and more advanced mathematical ideas and understandings.

The Mathematical Habits of Mind rest on important "processes and proficiencies " with longstanding importance in mathematics education. The first of these are the National Council of Teachers of Mathematics' process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report Adding it Up: adaptive reasoning, strategic competence, conceptual understanding, procedural fluency, and productive disposition (NGA/CCSSO 2010).

Ideally, several Mathematical Habits of Mind will be evident in each lesson as they interact and overlap with each other. The Mathematical Habits of Mind are not a checklist; they are the basis for mathematics instruction and learning. To help students persevere in solving problems (MHM1), teachers need to allow their students to struggle productively, and they must be attentive to the type of feedback they provide to students. Dr. Carol Dweck's research (Dweck 2006) revealed that feedback offering praise of effort and perseverance seems to engender a "growth mindset." In Dweck's estimation, growth-minded teachers tell students the truth about being able to close the learning gap between them and their peers and then give them the tools to close the gap (Dweck 2006).

Students who are proficient in the eight Mathematical Habits of Mind are able to use these skills not only in mathematics, but across disciplines and into their lives beyond school, college, and career.

Policy 2520.2B

West Virginia College- and Career-Readiness Standards for Mathematics

Mathematical Habits of Mind

The Mathematical Habits of Mind (hereinafter MHM) describe varieties of expertise that mathematics educators at all levels should develop in their students.

MHM1. Make sense of problems and persevere in solving them.
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables and graphs or draw diagrams of important features and relationships, graph data and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MHM2. Reason abstractly and quantitatively.
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize - to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand, considering the units involved, attending to the meaning of quantities, not just how to compute them, and knowing and flexibly using different properties of operations and objects.

MHM3. Construct viable arguments and critique the reasoning of others.
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases and can recognize and use counterexamples. They justify

their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense and ask useful questions to clarify or improve the arguments.

MHM4. Model with mathematics.
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MHM5. Use appropriate tools strategically.
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

MHM6. Attend to precision.
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are

careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MHM7. Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

MHM8. Look for and express regularity in repeated reasoning.
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$ and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Mathematics – Grade 3

All West Virginia teachers are responsible for classroom instruction that integrates content standards and mathematical habits of mind. Students in the third grade will focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional 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. Continuing the skill progressions from second grade, the following chart represents the mathematical understandings that will be developed in third grade:

<table>
<tr><th>Operations and Algebraic Thinking</th><th>Number and Operations in Base Ten</th></tr>
<tr><td>» Understand and know from memory how to multiply and divide numbers up to 10 x 10 fluently.
» Solve word problems using addition, subtraction, multiplication, and division.
» Begin to multiply numbers with more than one digit (e.g., multiplying 9 × 80).</td><td>» Understand place value and properties of operations to perform multi-digit arithmetic, such as 10 x 2, 50 x 3, and 40 x 7.</td></tr>
<tr><th>Number and Operations- Fractions</th><th>Measurement and Data</th></tr>
<tr><td>» Understand fractions and relate them to the familiar system of whole numbers (e.g., recognizing that 3/1 and 3 are the same number).</td><td rowspan="3">» Measure and estimate weights and liquid volumes, and solve word problems involving these quantities.
» Tell time and write time to the nearest minute.
» Recognize area as a quality of two-dimensional regions.
» Understand that rectangular arrays can be broken into identical rows or into identical columns. By breaking rectangles into rectangular arrays of squares, students connect area to multiplication, and explain how multiplication is used to determine the area of a rectangle.</td></tr>
<tr><th>Geometry</th></tr>
<tr><td>» Reason about shapes (e.g., all squares are rectangles but not all rectangles are squares).
» Find areas of shapes, and relate area to multiplication (e.g., why is the number of square feet for a 9-foot by 7-foot room given by the product 9 × 7?).
» Understand the connection between equal parts of a shape being a unit of the whole.</td></tr>
</table>

Numbering of Standards

The following Mathematics Standards will be numbered continuously. The following ranges relate to the clusters found within Mathematics:

Operations and Algebraic Thinking	
Represent and solve problems involving multiplication and division.	Standards 1-4
Understand properties of multiplication and the relationship between multiplication and division.	Standards 5-6
Multiply and divide within 100.	Standard 7
Solve problems involving the four operations, and identify and explain patterns in arithmetic.	Standards 8-9
Number and Operations in Base Ten	
Use place value and properties of operations to perform multi-digit arithmetic.	Standards 10-12
Number and Operations- Fractions	
Develop an understanding as fractions as numbers.	Standards 13-15
Measurement and Data	
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	Standards 16-17
Represent and interpret data.	Standards 18-19
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	Standards 20-22
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	Standard 23
Geometry	
Reason with shapes and their attributes.	Standards 24-25

Operations and Algebraic Thinking

Cluster	**Represent and solve problems involving multiplication and division.**
M.3.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each (e.g., describe context in which a total number of objects can be expressed as 5 × 7).
M.3.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each (e.g., describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8).

M.3.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
M.3.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers (e.g., determine the unknown number that makes the equation true in each of the equations 8 **×** ***?*** = 48, 5 = ? ÷ 3, 6 × 6 =?).
Cluster	**Understand properties of multiplication and the relationship between multiplication and division.**
M.3.5	Apply properties of operations as strategies to multiply and divide (e.g., If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known: Commutative Property of Multiplication. 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30: Associative Property of Multiplication. Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56: Distributive Property. Instructional Note: Students need not use formal terms for these properties.
M.3.6	Understand division as an unknown-factor problem (e.g., find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8).
Cluster	**Multiply and divide within 100.**
M.3.7	Learn multiplication tables (facts) with speed and memory in order to fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 **×** 5 = 40, one knows that 40 **÷** 5 = 8) or properties of operations by the end of Grade 3.
Cluster	**Solve problems involving the four operations, and identify and explain patterns in arithmetic.**
M.3.8	Solve two-step word problems using the four operations, represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Instructional Note: This standard is limited to problems posed with whole numbers and having whole number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
M.3.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain those using properties of operations (e.g., observe that 4 times a number is always even and explain why 4 times a number can be decomposed into two equal addends).

Number and Operations in Base Ten

Cluster	Use place value understanding and properties of operations to perform multi-digit arithmetic.
M.3.10	Use place value understanding to round whole numbers to the nearest 10 or 100.
M.3.11	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
M.3.12	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Number and Operations- Fractions

Cluster	Develop understanding of fractions as numbers.
M.3.13	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. Instructional Note: Fractions in this standard are limited to denominators of 2, 3, 4, 6, and 8.
M.3.14	Understand a fraction as a number on the number line and represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. (e.g., Given that b parts is 4 parts, then 1/b represents 1/4. Students partition the number line into fourths and locate 1/4 on the number line.) b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. (e.g., Given that a/b represents 3/4 or 6/4, students partition the number line into fourths and represent these fractions accurately on the same number line; students extend the number line to include the number of wholes required for the given fractions.) Instructional Note: Fractions in this standard are limited to denominators of 2, 3, 4, 6, and 8.

M.3.15	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size or the same point on a number line. b. Recognize and generate simple equivalent fractions (e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent (e.g., by using a visual fraction model). c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. (e.g., Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.) d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, = or < and justify the conclusions (e.g., by using a visual fraction model). Instructional Note: Fractions in this standard are limited to denominators of 2, 3, 4, 6, and 8.

Measurement and Data

Cluster	**Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.**
M.3.16	Tell and write time to the nearest minute, measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes (e.g., by representing the problem on a number line diagram).
M.3.17	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg) and liters (l). Add, subtract, multiply or divide to solve one-step word problems involving masses or volumes that are given in the same units (e.g., by using drawings, such as a beaker with a measurement scale) to represent the problem. Instructional Note: Exclude compound units such as cm^3 and finding the geometric volume of a container.
Cluster	**Represent and interpret data.**
M.3.18	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs (e.g., draw a bar graph in which each square in the bar graph might represent 5 pets).
M.3.19	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves or quarters.

Cluster	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
M.3.20	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by b unit squares is said to have an area of b square units.
M.3.21	Measure areas by counting unit squares (square cm, square m, square in, square ft. and improvised units).
M.3.22	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive and find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Cluster	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
M.3.23	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Geometry

Cluster	Reason with shapes and their attributes.
M.3.24	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), that the shared attributes can define a larger category (e.g. quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
M.3.25	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as ¼ or the area of the shape.

West Virginia College- and Career-Readiness Standards for Science

Introduction

The WVBE and the WVDE are pleased to present Policy 2520.3C, The Next Generation Content Standards and Objectives for Science in West Virginia Schools. West Virginia educators, including regular classroom teachers, special education teachers, teachers representing higher education institutions, and informal science educators convened to revise the content standards and objectives; they played a key role in shaping the content standards to align with national standards and rigorous national assessments. The committees considered major advances in science, research from the American Association for Advancement in Science and the National Research Council, and their understanding of how students learn science as decisions were made regarding science content, science and engineering practices, cross-cutting concepts, the nature of science, science literacy and the sequencing of standards. The contribution of these professionals was critical in creating a policy that is meaningful to classroom teachers and appears in a format that can easily be understood and used.

Policy 2520.3C is organized around the two major components of a standards-based curriculum: learning standards and instructional objectives. The learning standards are the broad descriptions of what all students must know and be able to do at the conclusion of the instructional sequence. Science learning standards address science content, engineering design, and literacy. The accompanying grade-level objectives are specific descriptors of knowledge, skills, practices and attitudes that, when mastered, will enable students to attain each standard. The instructional objectives guide instructional planning and provide a basis for determining appropriate *instructional strategies, resources and assessments.*

There is a deliberate sequencing of objectives (based on programmatic level) to ensure students will develop skills to acknowledge and distinguish claim(s) from alternate or opposing claims, support arguments either claims or counterclaims with evidence, and communicate about science related topics/issues in a knowledgeable, clear and objective manner. In combination, the use of learning standards and instructional objectives become a comprehensive guide for delivering a rigorous and relevant science curriculum to all West Virginia students. These elements, when used to guide the instructional process and delivered with the creativity and instructional expertise of West Virginia teachers, will become a powerful resource for preparing students to be scientifically literate and meet the challenges of the 21st century.

Explanation of Terms

Content Standards are broad descriptions of what students should know and be able to do in a content area. Content standards describe what students' knowledge and skills should be at the end of a K-12 sequence of study.

There are two types of elementary science standards- Content and Engineering, Technology, and the Application of Science. There are three types of standards in each course in middle and high school: Content, Engineering, Technology, and the Application of Science, and Science Literacy.

Objectives are incremental steps toward accomplishment of content standards. Objectives are listed by course title and are organized around the content standards. Where appropriate, objectives are arranged by topics. Objectives followed by an asterisk (*) denote the integration of traditional science content with an engineering practice.

Numbering of Standards and Objectives

The number for each standard and objective is composed of four parts, each part separated by a period:

- the content area code is S for Science,
- the grade level or programmatic level,
- a capital letter or letters indicating the standard,
- the objective number.

Examples:

- S.K-2.ETS.3 refers to science objective # 3 in the Engineering, Technology, and the Application of Science Standard for kindergarten through second grade.
- S.8.PS.1 refers to science objective #1 in the Physical Science Content Standard (PS) for eighth grade.
- S.9-10.L.7 refers to science objective #7 in the Literacy Standard (L) for ninth and tenth grades.

Unique Electronic Numbers (UENs)

Unique Electronic Numbers (or UENs) are numbers that electronically identify, categorize and link specific bits of information. Once Policy 2520.3C is available on the Internet, each standard and objective will have a Unique Electronic Number (UEN) that will always remain the same.

The codes printed in Policy 2520.3C form the basis of the UENs. The only additional set of numbers that will be added to each code to formulate its UEN will be a prefix that indicates the year and month that a particular version of Policy 2520.3 is approved by the WVBE.
The prefix for the UENs for each content area in Policy 2520.3C is noted at the top of each page containing standards, objectives and performance descriptors. As sections of 2520.3C are revised, UENs will be changed to reflect the new approval date.

UENs (Unique Electronic Numbers) are unique numbers that facilitate implementation of West Virginia Next Generation Science Standards and Objectives into Electronic formats such as Databases and XML Files. The WVDE encourages everyone who is going to use the West Virginia Next Generation Science Standards and Objectives in any kind of electronic distribution, alignment, or software development to use the UENs so that all efforts can be cross-referenced and there is consistency across initiatives.

Abbreviations

Content Area

S	Science

Programmatic Levels

K-2	Kindergarten through Second Grades
3-5	Third through Fifth Grades
6-8	Sixth through Eighth Grades
9-10	Ninth and Tenth Grades
11-12	Eleventh and Twelfth Grades
HS	High School

Standards

GS	General Science Content
ESS	Earth and Space Science Content
LS	Life Science Content
PS	Physical Science Content
C	Chemistry Content
P	Physics Content
ENV	Environmental Content
FS	Forensics Science Content
HAP	Human Anatomy and Physiology Content
ETS	Engineering, Technology, and Applications of Science
L	Literacy

SCIENCE – Policy 2520.3C

Science is the study of the structures and processes of the physical and natural world through observations and experiments. By its very nature, science embodies the ***doing*** of science and engineering practices which builds and organizes knowledge in the form of testable explanations, predictions about the universe, and technological applications. The science policy describes students engaging in those practices as they acquire science knowledge and skills necessary for the furtherance of their education, careers, and general welfare.

The overarching goal of Policy 2520.3C, as referenced by A Framework for K-12 Science Education, is to ensure that "by the end of 12th grade, all students have some appreciation of the beauty and wonder of science; possess sufficient knowledge of science and engineering to engage in public discussions on related issues; are careful consumers of scientific and technological information related to their everyday lives; are able to continue to learn about science outside school; and have the skills to enter careers of their choice, including (but not limited to) careers in science, engineering, and technology. For those reasons, the policy addresses what all students should know in preparation for their individual lives and for their roles as citizens in this technology-rich and scientifically complex world, and it provides the foundational knowledge for those who will become the scientists, engineers, technologists, and technicians of the future." [Source: Committee on Conceptual Framework for the New K-12 Science Education Standards, Board on Science Education, Division of Behavioral and Social Sciences and Education, and National Research Council. (2012). A framework for K-12 science education: Practices, crosscutting concepts, and core ideas. H. Quinn, and T. Keller (Eds.). Washington, D.C.: The National Academies Press.]

Numerous sources were referenced and used to identify and describe the major ideas for K-12 science education. These include Science for All Americans and Benchmarks for Science Literacy (1993), developed by the American Association for the Advancement of Science (AAAS); the National Science Education Standards (1996), developed by the NRC; and A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas (2012) by the Committee on Conceptual Framework for the New K-12 Science Education Standards. The policy is also informed by recent works of the American Association for the Advancement of Science (in Project 2061 especially) and the National Science Teachers Association (particularly the 2009 Anchors project), Common Core Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects, in addition to the guidelines of National Assessment of Education Progress (NAEP), American College Testing (ACT), Standardized Aptitude Test (SAT) and various accredited assessment consultants. The foundation of West Virginia's Next Generation Science Content Standards and Objectives is to identify what students should know and to guide them in the development of their skills, practices and dispositions. With this philosophy as a guide, members of West Virginia's Next Generation of Science Standards Lead State Team, The Next Generation of Science Standards Steering Committee and West Virginia's Next Generation of Science Middle School and High School Subcommittees support the vision for education in the sciences and engineering in which students, over multiple years of school, actively engage in scientific and engineering practices and apply crosscutting concepts to deepen their understanding of the core ideas in these fields.

The Common Core State Standards for Literacy in History/Social Studies, Science and Technical Subjects were adopted by the WVBE in May 2010. West Virginia educators found the standards to be research-and evidenced-based, aligned with college and work expectations, rigorous and internationally benchmarked. The Literacy Standards and Objectives for Science, and Technical Subjects are required and crucial for the delivery of science instruction. Achievement in reading, writing and reasoning in science will accelerate students' progress in all subjects. The Literacy Standards are meant to complement the specific content demands of science, not replace them.

West Virginia's vision for education includes the integration of technology and critical thinking skills throughout the curriculum so that all West Virginia students have the opportunity to develop skills that support achievement. Successful learning environments provide opportunities for students to use educational technology with curricular content in relevant context. West Virginia teachers are responsible for integrating Policy 2520.14, 21st Century Learning Skills and Technology Tools, into the content standards and objectives.

Science Standards K-12

General Science Content

The General Science Standard is a content standard that provides an integrated approach to science instruction that is arranged in a coherent manner, follows the logic of learning progressions and spans kindergarten through middle school. The three disciplines of science--Physical Science, Life Science, and Earth and Space Science--are limited to the major topics in the core ideas from each discipline. From the Life Science discipline the core ideas are the following: From Molecules to Organisms: Structures and Processes; Ecosystems: Interactions, Energy, and Dynamics; Heredity: Inheritance and Variation of Traits Across Generations; and Biological Evolution: Unity and Diversity. From the Physical Science discipline, the topics are the following: Matter and Its Interactions; Motion and Stability, Forces and Interactions; Energy; and Waves and Their Applications in Technologies for Information Transfer. Earth's Place in the Universe; Earth's Systems; and Earth and Human Activity are the topics from the Earth and Space Science discipline. Limiting instruction to the main topics of core ideas allows opportunities for deep exploration of important concepts and provides time for students to develop meaningful understandings, engage in science and engineering practices, and reflect on crosscutting concepts and the nature of science. The foundation not only provides an organizational structure for the acquisition of new knowledge, it prepares students to engage in deeper levels of scientific and engineering practices as they continue to high school, college, and beyond.

Earth and Space Science Content

The Earth and Space Standard is a content standard which spans kindergarten through high school and provides opportunities for students to investigate processes that operate on Earth and also address its place in the solar system and the galaxy. The standard encompasses three core ideas: Earth's Place in the Universe; Earth's Systems; and Earth and Human Activity. Beginning in kindergarten, students make observations, ask questions, and make predictions as they describe patterns in their local Weather and Climate. In later grades, the content progresses to include these topics: Space Systems: Patterns and Functions; Earth Systems: Processes that Shape the

Earth; Earth's Systems: Space Systems: Stars and the Solar System; History of Earth; and Human Impacts. Elementary students observe and investigate matter and processes in their own yards and neighborhoods with their own eyes; the content continues in the grades that follow to include investigations of invisibly small phenomena to the unimaginably large and distant. As students investigate the atmosphere, hydrosphere, geosphere, and biosphere, they gain understanding of the differing sources of energy, matter cycles, multiple systems' interconnections, and feedbacks which cause Earth to change over time.

Life Science Content

The Life Science Standard is a content standard which spans kindergarten through high school and focuses on patterns, processes, and relationships of living organisms. The standard includes four core ideas: From Molecules to Organisms: Structures and Processes; Ecosystems: Interactions, Energy, and Dynamics; Heredity: Inheritance and Variation of Traits across Generations; and Biological Evolution: Unity and Diversity. These four core ideas, which represent basic life science fields of investigation—structures and processes in organisms, ecology, heredity, and evolution—have a long history and solid foundation based on the research evidence established by many scientists working across multiple fields. Beginning in kindergarten, curious learners explore Animals, Plants, and Their Environment as they learn of the Interdependent Relationships in Ecosystems. In the grades which follow, the inquiry continues as the standards encompass these topics: Structure, Function, and Information Processing; Inheritance and Variation of Traits: Life Cycles and Traits; Matter and Energy in Organisms and Ecosystems; and Growth, Development, and Reproduction of Organisms. Investigations include single molecules, organisms, ecosystems, and the entire biosphere that is all life on Earth. Students examine processes that occur on time scales from the blink of an eye to those that happen over billions of years. As they make observations, construct hypotheses, perform experiments, evaluate evidence, build models, and use technology to explore how life works, they prepare to answer questions about themselves and the world around them.

Physical Science Content

The Physical Science Standard is a content standard which spans kindergarten through high school as two subjects, physics and chemistry, are presented in a coherent approach which addresses four core ideas: Matter and Its Interactions; Motion and Stability, Forces and Interactions; Energy; and Waves and Their Applications in Technologies for Information Transfer. Beginning in kindergarten, students explore pushes and pulls as an introduction to the Forces and Interactions Topic. The inquiry continues through each programmatic level and includes the following topics: Light and Sound, Structure and Properties of Matter, Forces and Interactions, Energy, Waves and Information, Matter and Energy in Organisms and Ecosystems, Waves and Electromagnetic Radiation, and Chemical Reactions. An understanding of these topics allows students to answer two fundamental questions- "What is everything made of?' and "Why do things happen?" Students apply these core ideas to explain and predict a wide variety of phenomena, such as the evaporation of water, the transmission of sound, the digital storage and transmission of information, the tarnishing of metals, and photosynthesis, to name just a few. Because such explanations and predictions rely on a basic understanding of matter and energy, students' abilities to conceive the interactions of matter and energy are central to their science education.

Chemistry Content

The Chemistry Standard is a content standard which focuses on the core concepts: Structure and Properties of Matter and Chemical Reactions. Opportunities are provided for studying in-depth phenomena central not only to the physical sciences, but to life science and earth and space science, as well. The standard includes the chemistry concepts found in the Physical Science Standard, but not those emphasizing Forces and Interactions, Energy, and Waves and Electromagnetic Radiation. Instead the standard goes into greater depth in the study of matter, its composition, and its changes by including concepts such as the periodic table and modern theories of bonding, the effects of temperature, concentration, and vapor pressure on solubility, types of chemical reactions, stoichiometry, molarity, and gas laws. The standard blends the core ideas with scientific and engineering practices and crosscutting concepts to support students in developing useable knowledge to explain ideas across the science disciplines. There is an emphasis on several scientific practices which include developing and using models, planning and conducting investigations, analyzing and interpreting data, using mathematical and computational thinking and constructing explanations.

Physics Content

The Physics Standard is a content standard which focuses on the core concepts: Forces and Interactions, Energy, and Waves and Electromagnetic Radiation. Opportunities are provided for studying in-depth phenomena central not only to the physical sciences, but to life science and earth and space science, as well. The standard includes the physics concepts found in the Physical Science Standard, but not those emphasizing Structure and Properties of Matter and Chemical Reactions. Instead the standard goes into greater depth in the studies of elastic and inelastic collisions, buoyancy and fluid dynamics, projectile motion, vectors, circuits and currents, and optics. The standard blends the core ideas with scientific and engineering practices and crosscutting concepts to support students in developing useable knowledge to explain ideas across the science disciplines. There is an emphasis on several scientific practices which include developing and using models, planning and conducting investigations, analyzing and interpreting data, using mathematical and computational thinking and constructing explanations.

Environmental Content

The Environmental Standard is a content standard which focuses on chemical, physical, biological, and geological processes and the interdependent relationships in the natural world. Concepts from the major science disciplines—Life Science, Physical Science, and Earth and Space Science—are integrated into six environmental topics which include: Biogeochemical cycles, Energy Conservation, Ecosystems, Oceans and Climate, Water Management, Land Use. There is an emphasis on several scientific practices that include developing and using models; planning and conducting investigations; analyzing and interpreting data; constructing explanations; engaging in arguments from evidence; obtaining, evaluating, and communicating information; and synthesizing concepts across various science disciplines. The standard provides opportunities for students to develop an understanding of systems of a complex world and the interdependence of organisms as well as an appreciation of the ecosystem in which they live. As students develop an awareness of the environment and its associated problems, they acquire knowledge and skills of how to work individually and collectively toward solutions of current problems and the prevention of new ones.

Forensic Science Content

The Forensic Science Standard is a content standard which applies the knowledge and technology of science to criminal and civil law. Concepts from the three major disciplines--Life Science, Physical Science, and Earth and Space Science--are reinforced and made relevant and pertinent to students as they acquire techniques and skills and learn the limitations of the modern crime laboratories. There is an emphasis on several scientific practices which include planning and carrying out investigations; analyzing and interpreting data; obtaining, evaluating and communicating information; and using mathematics and computations. Students must address the attention to detail and protocol that are necessary for providing impartial scientific evidence that may be used in courts of law to support the prosecution or defense in criminal and civil investigations. These skills and attitudes transfer readily to other areas of science.

Human Anatomy and Physiology Content

Human Anatomy and Physiology is a content standard which addresses the structures and functions of the human body. While concepts from the Life Science discipline are the major focus of study, concepts from the Physical Sciences are incorporated to explain processes and mechanisms of the human body. The interdisciplinary nature of the sciences is revealed through the interdependency of body systems. There is an emphasis on several scientific practices which include asking questions, developing and using models, constructing explanations, and obtaining and communicating information. Engineering Design Standards are integrated throughout instruction as students define problems and design solutions related to the course objectives. The standard encompasses gross and microscopic an atom, basic biochemistry and physiological concepts which are foundational to medical fields of study and useful as students make health related decisions.

Engineering, Technology, and Applications of Science

Engineering, Technology, and Applications of Science Standards (ETS) are included in science instruction, kindergarten through high school, and provide opportunities for students to utilize science and appreciate the distinctions and relationships between engineering, technology, and applications of science. The ETS are in programmatic levels- Kindergarten through Second Grade, Third through Fifth Grade, Middle School, and High School. As Engineering, Technology, and the Application of Science objectives are integrated with content from the three major strands of science- life science, physical science, and earth and space science- students develop understandings of how scientific knowledge is acquired, scientific explanations are developed, and science is applied in the world around us. The interactive cycle of design offers potential in applying science knowledge and engaging in engineering practices. Students gain experiences and understandings about the following: 1.) using technology to modify the natural world to fulfill human needs or desires; 2.) using an engineering approach to design objects, use processes, or construct systems to meet human needs and wants; and 3.) applying scientific knowledge for a specific purpose, whether to do more science, design a product, process, or medical treatment, develop a new technology, or to predict the impacts of human actions.

Literacy

Literacy Standards span middle and high school and address skills which are critical to building knowledge in science. The standards work in tandem with the specific content standard demands outlined in the West Virginia Next Generation Science Standards and Objectives. Reading in science requires an appreciation of the norms and conventions of the sciences which includes a working knowledge of domain-specific words, phrases, and symbols; an understanding of the nature of evidence used to support claims; an attention to precision and detail; and the capacity to make and assess intricate arguments, synthesize complex information often presented qualitatively and quantitatively in tables and graphs, and follow detailed procedures and accounts of events and concepts. Students also need to be able to gain knowledge from elaborate diagrams and data that convey information and illustrate scientific concepts. Likewise, writing and presenting information orally are key means for students to assert and defend claims in science, demonstrate what they know about a concept, and convey what they have experienced, imagined, thought, and learned. The skills and understandings students are expected to demonstrate in both reading and writing have a wide applicability outside the classroom and workplace and serve students as they address public and private responsibilities and interests.

Science - Grade 3

The Third Grade Science objectives build upon problem-solving and experimentation moving into a more in-depth study of science. Through a progressive rigorous, integrated approach, the inquiry-based program of study blends science and 21st century skills and provides students opportunities to demonstrate scientific literacy in the fields of life science, physical science, and earth and space sciences. By engaging in active inquiries, investigations and hands-on activities throughout the instructional day, students focus on the major themes of science: systems, changes, and models in order to develop conceptual understanding and research skills as described in the objectives. Third Grade Science highlights science-related careers. The study of geology and astronomy expands in Third Grade Science. Collecting and testing materials, recording data, and developing concepts relating to physics and chemistry expand the student's investigative abilities leading to logical conclusions. The content focus develops early problem-solving skills through observing, experimenting and concluding. Engineering, Technology, and the Application of Science objectives are integrated throughout instruction as students define problems and design solutions related to the course objectives. Students use safe and proper techniques for handling, manipulating, and caring for science materials and treating living organisms humanely. Third Grade Science intentionally supports developmental and academic growth.

All West Virginia teachers are responsible for classroom instruction that integrates content literacy and *21st Century Learning Skills and Technology Tools*.

Grade 3	**Science**
Standard	**General Science Content**
Topic	**Forces and Interactions**
Objectives	**Students will**
S.3.GS.1	plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
S.3.GS.2	make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
S.3.GS.3	ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
S.3.GS.4	define a simple design problem that can be solved by applying scientific ideas about magnets.*
Topic	**Interdependent Relationships in Ecosystems**
Objectives	**Students will**
S.3.GS.5	construct an argument that some animals form groups that help members survive.
S.3.GS.6	analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
S.3.GS.7	construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
S.3.GS.8	make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.*
Topic	**Inheritance and Variation of Traits: Life Cycles and Traits**
Objectives	**Students will**
S.3.GS.9	develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
S.3.GS.10	analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
S.3.GS.11	use evidence to support the explanation that traits can be influenced by the environment.
S.3.GS.12	use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Topic	**Weather and Climate**
Objectives	**Students will**
S.3.GS.13	represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
S.3.GS.14	obtain and combine information to describe climates in different regions of the world.
S.3.GS.15	make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.*

Grade 3-5	**Science**
Standard	**Engineering, Technology, and Applications of Science**
Topic	**Engineering Design**
Objectives	**Students will**
S.3-5.ETS.1	define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
S.3-5.ETS.2	generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
S.3-5.ETS.3	plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

West Virginia College- and Career-Readiness Standards for Social Studies

Introduction

West Virginia's College- and Career-Readiness Standards have been developed with the goal of preparing students for a wide range of high-quality, post-secondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The West Virginia College- and Career-Readiness Standards establish a set of knowledge and skills that all individuals need to transition into higher education or the workplace, as both realms share many expectations. All students throughout their educational experience should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

West Virginia's College- and Career-Readiness Standards for Social Studies promote proficiency in civics, economics, geography, and history. Students will develop problem solving and critical thinking skills independently and collaboratively as they engage in informed inquiry in social studies. College- and career-readiness is supported in social studies as students acquire and further develop their abilities to be critical consumers of what they read or hear and informed sources when they write or speak.

The overarching goal was to build a rigorous, relevant, challenging and developmentally appropriate social studies curriculum that prepares students for college- and career-readiness. West Virginia educators played a key role in shaping the content standards to align with the best practices in the field of social studies education. The contributions of these professionals were critical in creating a policy that is meaningful to classroom teachers and appears in a format that can easily be used and understood.

Explanation of Terms

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

Numbering of Standards
The numbering for each standard is composed of three parts, each part separated by a period:

- the content area code (e.g., SS for Social Studies),
- the grade level or high school content area, and
- the standard.

Illustration: SS.3.1 refers to Social Studies, grade 3, standard 1. SS.W.20 refers to high school World Studies standard 20.

Abbreviations:
W – World Studies
US – United States Studies
USC – United States Studies – Comprehensive
CS – Contemporary Studies
C – Civics
E – Economics
G – Geography
S – Sociology
P – Psychology

The following four areas of social studies form all the courses in grades K-8 and the majority of the high school courses that are not content specific (e.g. geography and economics):

Civics

Civics addresses both citizenship and political systems. Citizenship education prepares students to be informed, active and effective citizens who accept their responsibilities, understand their privileges and rights and participate actively in society and government. To be successful participants in society, students must understand how to build social capital (a network of social relationships) that encourages reciprocity and trust, two characteristics of civic virtue and good citizenship. Students must be able to research issues, form reasoned opinions, support their positions and engage in the political process. Students exercise tolerance and empathy, respect the rights of others, and share a concern for the common good while acting responsibly with the interests of the larger community in mind. Students must learn and practice intellectual and participatory skills essential for an involved citizenry. To develop these skills, the curriculum must extend beyond the school to include experiences in the workplace and service in the community. While studying political systems, students develop global awareness and study the foundations of various world governments and the strategies they employ to achieve their goals. With respect to the United States, students learn the underlying principles of representative democracy, the

constitutional separation of powers and the rule of law. Students learn the origins and meaning of the principles, ideals and core democratic values expressed in the foundational documents of the United States. Students recognize the need for authority, government and the rights and responsibilities of citizens.

Economics

Economics analyzes the production, allocation, distribution and use of resources. The economic principles include an understanding of scarcity and choice, productivity, markets and prices, supply and demand, competition, role of government, international trade factors and consumer decisions in a global economy. Understanding economic principles, whole economies and the interactions between different types of economies helps students comprehend the exchange of information, capital and products across the globe. Learners investigate economic principles and their application to historical situations. Learners will work cooperatively and individually to analyze how basic economic principles affect their daily lives. Students become financially responsible by examining the consequences of and practicing personal financial decision-making.

Geography

Geography encompasses physical and human systems and the interactions between them on local and global scales. People interact with the natural world in culturally distinct ways to produce unique places, which change over time. New technologies and perspectives of geography provide students with an understanding of the world, and the ability to evaluate information in spatial terms. The geography standards stress the world in which we live and the role of the U.S. in the global community. Students use geographic perspectives and technology to interpret culture, environment and the connection between them. Students collaborate with one another and work individually using geographic skills and tools to ask geographic questions based on the five themes of geography (location, place, human-environmental interaction, movement and regions). They acquire the necessary information, organize and analyze the information and respond to those geographic questions. Students examine the varying ways in which people interact with their environments and appreciate the diversity and similarities of cultures and places created by those interactions.

History

History organizes events and phenomena in terms of when they occurred and examines where, how and why they took place. Students study how individuals and societies have changed and interacted over time. They organize events through chronologies and evaluate cause-and-effect relationships among them. Students analyze how individuals, groups and nations have shaped cultural heritages. They gather historical data, examine, analyze and interpret this data, and present their results in a clear, critical manner. Students study origins and evolutions of culture hearths, settlements, civilizations, states, nations, nation-states, governments and economic developments. Through history, students understand the identity and origins of their families, communities, state and nation. Through history, students recognize the influence of world events on the development of the United States and they evaluate the influence of the United States on the world. Understanding the past helps students prepare for today and the events of the future.

College- and Career-Readiness Indicators for Social Studies

The grades K-12 standards on the following pages define what students should know, understand, and be able to do by the end of each grade band. They correspond to the College- and Career-Readiness Indicators for Social Studies by grade band (K-2, 3-5, 6-8, and 9-12). The College- and Career-Readiness Indicators and grade-specific standards are necessary complements – the former providing broad standards, the latter providing additional specificity – that together define the skills and understandings that all students must demonstrate.

Integration of Literacy in Social Studies

Literacy strategies and skills are applied as students acquire information and communicate their learning and understanding of social studies. Integration of literacy in social studies is critical for student success. It is essential that literacy strategy and skill instruction be purposefully and appropriately planned and embedded within social studies instruction.

Social Studies Indicators Grades 3-5

All West Virginia teachers are responsible for classroom instruction that integrates content standards, foundational skills, literacy, learning skills and technology tools. Students in grades three through five will advance through a developmentally-appropriate progression of standards. The following chart represents the components of social studies that will be developed in grades 3-5.

3-5 Social Studies Indicators	
› Develop questions through investigations. › Apply disciplinary concepts and tools. › Evaluate sources and use evidence. › Communicate conclusions and take informed action.	
Civics	**Economics**
› Distinguish the responsibilities and powers of government officials at various levels and branches of government and in different times and places. › Examine the origins and purposes of rules, laws, and key U.S. constitutional provisions. › Explain the origins, functions, and structure of different systems of government, including those created by the U.S. and state constitutions. › Describe ways in which people benefit from working together, including government, workplaces, voluntary organizations, and families. › Identify core civic virtues and democratic principles that guide government, society, and communities. › Explain how rules and laws change society and how people change rules and laws.	› Compare the benefits and costs of individual choice. › Describe the role of financial institutions in an economy. › Identify examples of the variety of resources (human capital, physical capital, and natural resources) that are used to produce goods and services. › Explain how profits influence sellers in markets. › Describe ways people can increase productivity by using improved capital goods and improving their human capital. › Explain how trade leads to increasing economic interdependence among nations. › Explain the effects of increasing economic interdependence on different groups within participating nations.

Geography	History
› Construct maps, graphs, and other representations of both familiar and unfamiliar places. › Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions and their environmental characteristics. › Explain how culture influences the way people modify and adapt to their environments. › Describe how environmental and cultural characteristics influence population distribution in specific places or regions. › Explain how environmental and cultural characteristics (e.g. natural resources) affect the distribution and movement of people, goods, and ideas. › Explain why environmental characteristics vary among different world regions.	› Create and use a chronological sequence of related events to compare developments that happened at the same time. › Compare life in a specific historical time period to life today. › Explain why individuals and groups during the same historical period differed in their perspectives. › Use information about a historical sources, including the maker, date, place or origin, intended audience, and purpose to judge the extent to which the sources are useful for studying a particular topic. › Explain probable causes and effects of events and developments. › Use evidence to develop a claim about the past. › Summarize the central claim in a secondary work of history.

Third Grade Standards

Third Grade Social Studies presents a study of the broader community and introduces the state, nation and world. There is an emphasis on geography, mapping skills, and interpreting charts and graphs. Students explain changes due to technology, human interaction with the environment and the movement of people in the context of Native American settlement and world exploration. Students practice citizenship and democratic values in the community and study the necessity of government, as well as the various levels of government in both West Virginia and the nation. Students will conduct research, formulate responses and present their findings on these topics. The basic economic concepts of scarcity, supply and demand, marketing, and budgeting within the context of the community will be introduced.

Civics	
SS.3.1	Identify and explain the following commonly-held American democratic values, principles and beliefs: › diversity › rule of law › family values › community service › justice › liberty
SS.3.2	Determine the need for government and compare and contrast the following forms: tribal, monarchy, and democracy.
SS.3.3	Investigate significant cultural contributions of various groups creating our multicultural society.
SS.3.4	Examine historical conflicts and their resolutions (e.g., The Boston Tea Party, conflict between Native Americans and explorers).
SS.3.5	Examine how rights and responsibilities of citizens are reflected in patriotic symbols, songs and holidays of the United States (e.g., the meaning of our flag's colors, the Pledge of Allegiance and the meaning of the words, the National Anthem, Veteran's Day and Memorial Day).
SS.3.6	Participate in a local service project to discover the importance of working together and how participation leads to improvement in the lives of individuals, as well as communities.

Economics	
SS.3.7	Study bank services including checking accounts, savings accounts, and borrowing, and create a mock budget.
SS.3.8	Construct and interpret graphs that illustrate the basic concept of the exchange of goods and services as related to supply and demand and show the impact of scarcity of resources.
SS.3.9	Sequence the path of a product from the raw material to the final product.
SS.3.10	Use charts, maps and other data sources to correlate occupations with the economy and the available resources of a region (e.g., West Virginia has coal mining; Pennsylvania has steel mills; etc.).
SS.3.11	Explore West Virginia's SMART 529 program and other college saving plans.
Geography	
SS.3.12	Use geographic information systems to compare and contrast various types of maps (e.g., climate, resource, physical, political, road, etc.).
SS.3.13	Distinguish between a continent, country, state and capital.
SS.3.14	Label maps to demonstrate knowledge of map skills (e.g., label cardinal directions, intermediate directions, borders, continents, oceans, Equator, Tropic of Cancer, Tropic of Capricorn, North Pole, South Pole and Prime Meridian).
SS.3.15	Using a grid system, locate specific points on a map and explain the use of lines of latitude and longitude.
SS.3.16	Explain the reason time zones were developed, identify the time zones of North America and calculate the variance in time from one zone to another.
SS.3.17	Use a map scale to determine the distance between two given points.
SS.3.18	Recognize, define and illustrate world geographic features (e.g., peninsulas, islands, mountains, canyons, plateaus, mesas, harbors, gulfs, rivers, deserts, forests, valleys and plains).
SS.3.19	Compare and contrast regions of the United States in regard to plant and animal life, landforms, climate and human interactions with the environment.
SS.3.20	Create a legend to identify the path of major explorers and chart those journeys on a world map (e.g., Marco Polo, Christopher Columbus, John Cabot, Hernando Cortes and Sir Walter Raleigh).

History	
SS.3.21	Examine the settlement of North America by Native Americans. › Illustrate the spread of the Native American population into the various regions of North America. › Determine settlement patterns based on natural resources. › Explain how Native American groups adapted to geographic factors of a given region. › Compare and contrast the cultures of the different Native American groups (e.g., source of food, clothing, shelter and products used). › Make historical inferences by analyzing artifacts and illustrations. › Analyze the Native American interactions with others (e.g., other Native American groups, explorers and settlers).
SS.3.22	Determine the causes and effects of European exploration. › Chronologically organize major explorers and determine the reasons for their journeys (e.g., Marco Polo, Amerigo Vespucci, Christopher Columbus, John Cabot, Hernando Cortes, Balboa, Ponce de Leon, Sir Walter Raleigh, etc.). › Investigate the motives for exploration by the various European nations (e.g., England, Spain, France, Portugal, etc.). › Determine the information the explorers gained from their journeys. › Explain the impact of the explorers' travels on Native Americans and the world.

WV History	
SS.3.23	Locate counties, county seats and bordering states on a West Virginia map.
SS.3.24	Identify the four physical geographic regions of West Virginia, the major communities and the natural resources found within each region.
SS.3.25	Investigate the nine tourist regions of West Virginia.

West Virginia College- and Career-Readiness Standards for Student Success

Introduction

West Virginia's College- and Career-Readiness Standards (hereinafter WVCCR) have been developed with the goal of preparing students for a wide range of high-quality post-secondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The WVCCR establish a set of knowledge and skills that all individuals need to transition into higher education or into the workplace, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

West Virginia educators provided input to the development of the West Virginia College- and Career-Readiness Dispositions and Standards for Student Success (WVCCRDSSS). They played a key role in shaping the content standards to ensure the WVCCRDSSS complement the core subjects being taught in West Virginia schools and have been identify by research and multiple entities including workforce and post-secondary leaders, WVBE, and school staff as essential for the success of every student.

Per WVBE Policy 2510, the WVCCRDSSS describe the attitudes, knowledge, skills, and dispositions all students shall develop in relation to personal and social development; academic and learning development; career and life planning; and global citizenship. The WVCCRDSSS are critical to the holistic development of all students and require integration into all aspects of each student's educational experience utilizing a variety of delivery modalities. The WVCCRDSSS are foundational standards for all students, and serve as primary standards for middle and high school teacher led, student advisory systems in West Virginia schools.

Explanation of Terms

Dispositions
The following social and emotional dispositions will be the guide for county boards of education. The categories are defined as follows:

1. Individual dispositions – are observable actions that students can demonstrate independently without interaction.
2. Initiative interaction – are observable actions that require students to purposefully start social engagement.
3. Responsive interaction – are observable actions that requires students to engage in reaction to social encounters.
4. Work skills interactions (grades 9-12) – are observable actions that require students to demonstrate social skills and dispositions that are expected in the workplace.

Standards are broad statements that define the knowledge, skills, and dispositions that all students shall demonstrate in a content area in each programmatic level in grades K-12.

Numbering of Standards

The numbering of standards is composed of five parts, each part separated by a period:

- the content area code (DSS – Dispositions Student Success)
- the programmatic level (K-2 – Kindergarten through Grade Two; 3-5 – Grades 3-5; 6-8 – Grades 6-8; and 9-12 – Grades 9-12)
- the standard.

Illustration: DSS.6-8.14 refers to the Student Success standard for Grades 6-8, standard number 14.

Dispositions and Standards for Student Success Kindergarten – Grade 5

The Early Learning Programming (Grades K-5) focus on students' social and emotional development to lay the foundation for all learning. Progressive physical, cognitive, and academic development depends on a student's ability to intentionally engage in learning activities through a variety of modalities. Essential to this process is the student's ability to self-regulate and persist in activities when challenged with new experiences. Active learning is achieved through a student's ability to solve problems within the context of positive relationships, communicate their needs effectively and evaluate themselves. Effective teaching strategies help students develop strong self-regulation, which in turn prepares students to succeed in school.

3-5 Dispositions

In a developmentally appropriate fashion:

- increase interpersonal and social skills.
- refine learning, study, and work habits.
- consider career and life goals.
- adopt practices that support global citizenship.

Individual Dispositions	Initiative-Interaction	Responsive Interaction
› Complete work on time › Internalize class routines › Maintain healthy habits › Respect others' physical person and space › Express confidence and positive self-esteem › Maintain appropriate focus › Respect the property of others › Assist in development of classroom rules/norms › Make wise behavior choices	› Participate appropriately during classroom discussion › Express emotions in socially acceptable ways › Ask peers or adults for assistance as needed › Engage in appropriate conversations with peers and adults › Treat others with respect and courtesy › Use verbal, written, and electronic communication appropriately › Engage respectfully with persons of different individual, social, and cultural norms › Consider consequences before taking action › Set personal and academic goals.	› Participate in group activities › Help peers when asked › Respect the ideas of others › Interact appropriately with peers and adults › Express empathy and sympathy › Follow directions › Accept responsibility for behaviors › Participate in school-wide and community service projects › Choose appropriate responses when confronted with various options

Third Grade-Fifth Grade Standards

Through a developmentally appropriate, integrated approach, students in the later elementary years will continue to engage in experiences that promote positive social and communication skills. They will develop awareness of how words, actions, and behaviors affect others, learn to be responsible for their actions both socially and academically, and increase their understanding of the world around them through cultural interaction, exposure to career and professional opportunities, and the investigation of local, national, and international events.

Personal and Social Development

Respect Yourself and Others	
DSS.3-5.1	Understand Self and Others › Demonstrate an awareness as to how their words impact others. › Develop positive relationships with peers, other children and adults.
DSS.3-5.2	Maintain Positive Relationships › Show respectful and caring behavior toward others. › Use appropriate communication skills to initiate and join activities and complete varied learning tasks.
DSS.3-5.3	Exhibit Respectful Behavior › Use and accept negotiation and compromise to resolve conflicts.
Goal Setting and Attainment	
DSS.3-5.4	Decision Making and Personal Responsibility › Set goals, develop a plan, and follow it through to completion.
Safety and Survival Skills	
DSS.3-5.5	Protect Emotional and Physical Safety › Express needs, wants, and feelings appropriately. › Describe how situations such as teasing, bullying, harassment, breaking rules, threats, intimidation, and damaging other's property impact emotional safety. › Exhibit respect for physical boundaries, rights, and personal privacy in relation to personal safety. › Demonstrate knowledge of emergency contact information (e.g., emergency [police, fire, medical, 911], and family phone numbers, addresses, contact names).

Academic and Learning Development

Self-Directed Learning

DSS.3-5.6	Develop Academic Motivation › Use personal skills, interest, and accomplishments to support learning. › Independently and collaboratively approach tasks and activities with flexibility and creativity. › Use abilities and accomplishments to maximize learning opportunities.
DSS.3-5.7	Develop Learning Skills › Work collaboratively to solve problems, complete tasks, and/or investigate topics of interest. › Explore a variety of learning opportunities within the classroom and home environment. › Maintain concentration over a reasonable amount of time despite distractions and interruptions. › Independently complete routines and learning tasks.
DSS.3-5.8	Achieve School Success › Accept guidance and direction from a variety of peers and adults. › Develop increased ability to make choices from identified options.

Post-Secondary Preparation

DSS.3-5.9	Prepare for Post-Secondary Success › Develop an appreciation for and articulate the benefits of learning. › Interact with varied community members.
DSS.3-5.10	Plan to Achieve Goals › Demonstrate an understanding of the steps used in developing a plan. › Make short-term and long-term plans, as appropriate. › Persist in activities to achieve goals. › Investigate the importance of early academic planning to prepare for post-secondary success and reaching career goals.

Career Development and Life Planning

Career Exploration and Planning

DSS.3-5.11	Develop Career Awareness › Interact with a variety of community members. › Investigate career paths.
DSS.3-5.12	Develop Career and Life Plan › Interact with local and national professional and/or experts to extend personal knowledge to a variety of careers.
DSS.3-5.13	Careers and Life Success › Use expected workplace dispositions, skills, and behaviors in the school and community (e.g., attendance, punctuality, communication, relationships, attitudes, perseverance, collaboration, critical thinking, and leadership).

Global Citizenship

Intercultural Perspectives	
DSS.3-5.14	Acquire a Diverse and Knowledgeable World View › Investigate and respect aspects of various communities and discuss how these contribute to each individual's perspective of local, state, and world events. › Identify themselves as members of varied groups within the local, state, national, and international community.
DSS.3-5.15	Interact Respectfully with Diverse Cultures › Interact respectfully with all individuals regardless of gender, race, disability, culture, language, and family structure.
Democratic Principles	
DSS.3-5.16	Promote Social Justice › Follow rules and routines and use materials purposefully and respectfully.
DSS.3-5.17	Assume Responsible Leadership › Assume leadership roles in collaborative tasks within the classroom and school community.
DSS.3-5.18	Practice Financial Responsibility › Evaluate financial choices based on needs and wants. Create a budget with income from incidental funds to save for goals.

West Virginia College- and Career-Readiness Standards for Technology and Computer Science

Introduction

West Virginia's College- and Career-Readiness Standards (WVCCRS) have been developed with the goal of preparing students for a wide range of high-quality post-secondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The WVCCRS establish a set of knowledge and skills that all individuals need to transition into higher education or into the workplace, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

WVCCRS for Technology and Computer Science promote proficiency in foundational technology skills, digital literacy, digital citizenship, and computer science. College- and career-readiness is supported in Technology and Computer Science as students acquire and develop their abilities to engage and thrive in a connected, digital world. The standards are designed in grade bands (e.g. K-2, 3-5, 6-8, and 9-12), with a goal of cultivating these skills throughout a student's academic career and challenge them to enhance learning with technology and challenge them to be agents of their own learning.

The overarching goal is to build a rigorous, relevant, challenging, and developmentally appropriate technology and computer science curriculum that prepares students for college- and career-readiness. West Virginia educators play a key role in shaping the content standards to align with the best practices in the field of technology and computer science education. The contributions of these professionals are critical in creating a policy that is meaningful to classroom teachers and appears in a format that can easily be used and understood.

Explanation of Terms

Technology Clusters are the broad components that make up a content area; e.g., Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, and Computational Thinker, Creative Communicator and Global Collaborator.

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

Numbering of the Standards

The numbering for each standard is composed of three parts, each part separated by a period:

- the content area code (e.g., T for Technology),
- the grade band, and
- the standard.

Illustration:

- T.K-2.1 refers to Technology, Empowered Learner, grades K-2, standard 1.

Technology Clusters for Grades K-12

Cluster 1: Empowered Learner - Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

Cluster 2: Digital Citizen – Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical.

Cluster 3: Knowledge Constructor - Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.

Cluster 4: Innovative Designer – Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions.

Cluster 5: Computational Thinker – Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Cluster 6: Creative Communicator – Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Cluster 7: Global Collaborator – Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

College- and Career-Readiness Indicators for Technology

All West Virginia K-12 teachers are responsible for classroom instruction that integrates the West Virginia College- and Career-Readiness Standards for Technology foundational skills, literacy, learning skills and technology tools.

Technology 3-5

All West Virginia teachers are responsible for classroom instruction that integrates content standards, foundational skills, literacy, learning skills, and technology tools. Students in grades three through five will advance through an integrated, developmentally appropriate progression of standards. By the end of the 5th grade, students should demonstrate competency in all Technology 3-5 standards. The following chart represents the components of technology integration that will be developed in grades 3-5.

3-5 Technology Indicators
› Use a variety of age-appropriate technologies to assist with the learning process.
› Deepen learning across a variety of content areas through the use of age-appropriate technologies.
› Integrate technology responsibly.

Grades 3-5 Standards

In the later elementary grades, students spend more time interacting with technology. As they develop their critical thinking skills across the curriculum, they begin to use those technologies that support their learning. Students enhance their communication and research skills via the Internet and become familiar with programs that allow them to create original works as well as to record, analyze and graph various kinds of data. Students deepen their understanding of safe technology use and the importance of maintaining privacy—both their own and others'.

Empowered Learner	
T.3-5.1	Explore a variety of age-appropriate technologies that can assist with the learning process.
T.3-5.2	Explore multiple ways to share ideas and organize information about themselves and the things around them using appropriate digital resources (pictures, portfolio, etc.)
T.3-5.3	Evaluate digital sources for accuracy, perspective, credibility, and relevance.
T.3-5.4	Learn proper keyboarding techniques.
Digital Citizen	
T.3-5.5	Demonstrate responsible use of technology (e.g., seek guidance and appropriate support when selecting digital content, understand how to be safe online, follow safety rules when using media, etc.).
T.3-5.6	Practice using safe, legal, and ethical behavior when using technology and interacting online.
T.3-5.7	Collaborate with peers, teams, and individuals within their communities and home through the use of age-appropriate technology.
T.3-5.8	Demonstrate an understanding of the role an online identity plays in the digital world and learn the permanence of decisions made when interacting online.
T.3-5.9	Demonstrate appropriate methods of sharing personal data online and how to keep personal data private.
T.3-5.10	Demonstrate responsible use of technology by respecting intellectual property with both print and digital media when using and sharing the work of others.
Knowledge Constructor	
T.3-5.11	Create original work through the use of age-appropriate technology and digital resources and tools.
T.3-5.12	Demonstrate creativity and learning through technology (e.g., digital storytelling, portfolio creation, digital media displays, etc.).

Innovative Designer	
T.3-5.13	With support and guidance, select appropriate technology tools to solve problems and communicate information.
T.3-5.14	With support and guidance, create a product using a step-by-step process through the use of age-appropriate digital and non-digital resources.
T.3-5.15	Use appropriate technology to transfer learning to a variety of tools or learning environments.
Computational Thinker	
T.3-5.16	Research information on topics of interest through the use of age-appropriate technology and digital resources provided by the classroom teacher.
T.3-5.17	With support and guidance, deepen learning across content areas through the use of age-appropriate technology and digital resources.
T.3-5.18	Graph data using a spreadsheet. Analyze and produce a report that explains the analysis of data.
Creative Communicator	
T.3-5.19	Communicate with others through the use of electronic mail (email) or other digital resources.
T.3-5.20	Utilize embedded digital tools for feedback.
Global Collaborator	
T.3-5.21	Connect with others and explore and different points of view on various topics through the use of age-appropriate technology resources.
T.3-5.22	Explore multiple ways to share ideas and information about themselves and the world around them, considering the expected audience.

West Virginia College- and Career-Readiness Standards for Wellness Education

Introduction

WVCCRS have been developed with the goal of preparing students for a wide range of high-quality postsecondary opportunities. Specifically, college- and career-readiness refers to the knowledge, skills and dispositions needed to be successful in higher education and/or training that lead to gainful employment. The WVCCRS establish a set of knowledge and skills that all individuals need to transition into higher education or the workplace, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway, and a plan to attain their goals.

WVCCRS for Wellness Education promote wellness concepts that build the foundation for health literacy and an appreciation for lifelong physical fitness. Students will learn to adopt healthy behaviors. This is a life-long process of enhancing the components of health education (physical, intellectual, emotional, social, spiritual and environmental), physical education (movement forms, motor skill development and fitness) and physical activity, an important factor in brain development and learning. The WVCCRS for Wellness Education identify what students should know, understand, and be able to do in practicing skills and behaviors that apply to healthy lifestyles. College- and career-readiness is supported in wellness education as students acquire and further develop self-responsibility, motivation, and excellence in learning as well as life-long commitment to wellness.

Committees of educators from across the state convened to revise the standards. The overarching goal was to build rigorous, relevant and challenging wellness education programming that would prepare students for college- and career-readiness. West Virginia educators and representatives from higher education institutions played a key role in shaping the standards to align with research and best practice in the field of wellness education. The contribution of these professionals was critical in creating a policy that is meaningful to classroom teachers and appears in a format that can easily be used and understood.

Explanation of Terms

Domains are the broad components that make up a content area; e.g., health education and physical education make up wellness education.

- **Health Education** - The goal of health education is to provide students with the knowledge and skills needed to lead healthy lifestyles; this is often referred to as health literacy. Health literacy is an important measure of the effectiveness of health education and is critical to ensuring that students have the ability to be healthy throughout their lives. Health-literate people are able to address their own health needs along with the needs of others. They are able to obtain and apply knowledge and skills to enhance their own health and the health of others now and in the future as their needs change throughout their lives.
- **Physical Education** - Physical education provides students with planned, sequential, K-12 standards-based instruction designed to develop motor skills, knowledge and behaviors for active living, physical fitness, sportsmanship, self-efficacy, and emotional intelligence.

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

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

Wellness Education – Kindergarten – Grade 5

All West Virginia teachers are responsible for classroom instruction that integrates content standards, learning skills, and technology. Students in grades K-5 are introduced to wellness concepts that build the foundation for health literacy and an appreciation for lifelong physical fitness. It is critical that children learn to adopt healthy behaviors at an early age, so they can develop sound habits before being faced with health concerns later in life. This is a life-long process of enhancing the components of health education (physical, intellectual, emotional, social, spiritual, and environmental), physical education (movement forms, motor skill development and fitness) and physical activity, an important factor in early brain development and learning. The K-5 wellness content standards identify what students should know, understand and be able to do in practicing skills and behaviors that apply to healthy lifestyles. The goal of these standards is to promote self-responsibility, motivation and excellence in learning as well as life-long commitment to wellness. The following chart represents the components of health and physical education that will be developed throughout grades K-5:

Health Education	**Physical Education**
Wellness Promotion and Disease Prevention	**Development of Movement Forms/Motor Skills**
› acquire basic wellness concepts and functional wellness knowledge	› develop foundational movement forms and motor skills › establish a foundation to facilitate continued motor skill acquisition
Wellness Information and Services	**Physical Fitness**
› identify valid wellness information and health promoting products and services › apply analysis and comparison of health resources to develop health literacy	› develop knowledge of fitness principles, › accept responsibility for personal fitness › understand fundamentals of how to lead an active, healthy lifestyle › develop higher levels of basic fitness and physical competence › endeavor to improve components cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition
Wellness Behaviors	**Responsible, Personal, and Social Behaviors**
› understand that wellness enhancing behaviors can contribute to a positive quality of life › understand many disease and injuries can be prevented by reducing harmful and risk-taking behaviors › accept personal responsibility for health › identify and practice healthy behaviors	› understand that personal fitness is impacted by a variety of positive and negative influences within society › identify and understand the diverse internal and external factors that influence wellness practices and behaviors

West Virginia Code and Policy Requirements

- In accordance with WV Code §18-2-7(a) in grades K-5, not less than 30 minutes of physical education, including physical exercise and age appropriate physical activities, for not less than three days a week shall be provided. Schools that do not currently have the number of certified physical education teachers or required physical setting may develop alternate programs to enable current staff and physical settings to be used to meet this requirement. Alternate programs shall be submitted to the WVDE for approval.
- In accordance with Policy 2510 at least 50 percent of class time for physical education will be spent in moderate to vigorous-intensity physical activity.
- In accordance with WV Code §18-2-7(a), the FitnessGram® shall be administered to all students in grades four through eight and the required high school course.

FitnessGram® - Begins in Grade 4

The FitnessGram® test battery assesses health-related fitness components: aerobic capacity, muscular strength and endurance, flexibility and body composition. FitnessGram® tests all students regardless of age, gender, or ability. Students are encouraged to be self-aware of health-related fitness and take responsibility by setting personal fitness goals. When students focus on the process of doing their personal best, a more positive lifelong impact is achieved. The FitnessGram® is composed of the following six fitness areas, with test options provided for most areas:

Aerobic Capacity
- PACER (Progressive Aerobic Cardiovascular Endurance Run)
- One-Mile Run

Upper Body Strength and Endurance*
- Push-Up
- Modified Pull-Up
- Flexed Arm Hang

Abdominal Strength and Endurance
- Curl-Up

Flexibility
- Trunk Lift
- Back-Saver Sit and Reach
- Shoulder Stretch

Body Composition
- Body Mass Index
- Bioelectric Impedance Analyzer

Wellness Education – Grade 3

All West Virginia teachers are responsible for classroom instruction that integrates content standards, learning skills, and technology. Third grade health education standards will explore the effects of health habits on wellness through decision making and problem-solving techniques. Hands-on health activities provide experiences that are easily integrated with other third grade subject matter. Third grade physical education standards stress the application of motor skills, movement forms, and physical fitness which will lead to enjoyment in more complex skills and activities. Social skills and lifetime wellness principles promote continued participation in regular physical activity.

Health Education

Cluster	**Wellness Promotion and Disease Prevention**
WE.3.1	Identify the major organs of the body systems.
WE.3.2	Explain the importance of preventing the spread of germs, bacteria, and diseases.
WE.3.3	Demonstrate good dental hygiene and discuss potential consequences of poor oral health.
WE.3.4	Identify the food groups and recognize food provides energy and nutrients for growth and development.

Cluster	**Wellness Information and Services**
WE.3.5	Define and demonstrate basic first aid procedures.
WE.3.6	Distinguish between situations that warrant contacting emergency services and situations that do not.

Cluster	**Wellness Behaviors**
WE.3.7	Explain the importance of using appropriate protective gear for self and others (e.g., helmets, goggles, sunscreen, seatbelts and other safety protocols in various modes of transportation including seat positioning).
WE.3.8	Discuss and practice personal responsibility for hygiene.
WE.3.9	Demonstrate decision-making skills to avoid unhealthy risk-taking behaviors (e.g., swimming alone, talking with strangers, taking medicines without adult supervision).
WE.3.10	Model and practice ways to reduce stress (e.g., deep breathing, mindfulness).
WE.3.11	Discuss appropriate and inappropriate uses of over the counter (OTC) and prescription medication.
WE.3.12	Compare food choices based on nutritional value, recommended portion, and serving size.
WE.3.13	Demonstrate appropriate refusal skills (e.g., clear “no” statement, walk away, repeat refusal).

WE.3.14	Assess factors that contribute to achieving and maintaining a healthy body (e.g., food choices, physical activity).
WE.3.15	Understand how overall health is affected by different levels of passive technology use (e.g., minimal, moderate, or excessive screen time, video games).

Physical Education

Cluster	**Development of Motor Skills/Movement Form**
WE.3.16	Throw an object in an underhand and overhand method.
WE.3.17	Catch a moving object.
WE.3.18	Dribble a ball with hands from a stationary and a moving position.
WE.3.19	Direct an object to a target (e.g., kick, roll, throw, and strike).
WE.3.20	Jump to an established rhythm continuously.
WE.3.21	Perform simple sequences in time to music.
WE.3.22	Continuously strike an object (e.g., balloon with hand, ball with foot).
WE.3.23	Demonstrate strategies for chasing, fleeing, and evading.

Cluster	**Physical Fitness**
WE.3.24	Practice proper form when performing the following muscular strength and endurance exercises (e.g., curl up, sit up, plank, push up).
WE.3.25	Practice proper form when developing flexibility (e.g., trunk lift, sit and reach, shoulder stretch).
WE.3.26	Practice proper pacing technique when running for various periods of time or distance (e.g., sprint, jog, mile-run).
WE.3.27	Demonstrate a procedure for monitoring heart rate.
WE.3.28	Distinguish between physical activities that are moderate-to-vigorous in intensity.
WE.3.29	Identify personally enjoyable physical activities.
WE.3.30	Explain the benefits of different kinds of fitness (e.g., cardiovascular endurance, muscular strength and endurance, flexibility, and body composition) and demonstrate exercises/activities for each.
WE.3.31	Explore the components of the F.I.T.T. Principle: Frequency, Intensity, Time, and Type.

Cluster	**Responsible Personal and Social Behaviors**
WE.3.33	Work cooperatively, productively, and safely with a partner or small group.
WE.3.33	Use specific feedback to improve performance.
WE.3.34	Explain the importance of rules and etiquette in physical activities.

For more information, please visit: *https://wvde.us/early-and-elementary-learning/*

For technical assistance, please contact Dr. Monica DellaMea: *mdellamea@k12.wv.us*

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