Exact Path: Alternative Assessment (Virginia Growth Assessments)

Exact Path

Exact Path puts student data at your fingertips in an intuitive, actionable format that saves time, empowers you to reach every student, and allows you to explore the following areas:

- Performance on skills and domains
- Individual student strengths and weaknesses
- Progress toward end-of-year goals

Summary

Exact Path provides valid and reliable computer-adaptive assessments in math, reading, and language arts for grades 3-8 that can be administered up to five times per academic year to efficiently pinpoint where students are ready to start learning and to measure their growth between assessments. The assessments use a robust item pool to offer each student a unique testing experience that adjusts in real time based on student responses. The assessments deliver an overall placement score, plus a score for each domain, all reported in real time through the Student Summary Report which can be shared with families. Assessment results generate an individualized learning path based on students' unique domain levels. Learning paths take students to content appropriate for their instructional level, regardless of grade level. Edmentum offers a wide variety of resources and professional development opportunities to support teachers in elevating their instructional practices.

Administration

Educators can administer the Exact Path diagnostic assessment up to five times per year; however, the most common administration model is three times per year. Allowing for continuous and flexible administration, Edmentum recommends the diagnostic be administered in fall, winter, and spring to align to the testing windows used to calculate Exact Path's seasonal norms and typical growth.

Because the Exact Path diagnostic is a variable-length, computer-adaptive test, the number of items delivered and the testing time vary for each student. However, understanding test length—both in terms of typical number of minutes and number of items to complete a test event—can help educators plan blocks of test administration time. Assessment completion times per subject for grades 3-8 are typically 26 to 53 minutes, and students generally receive 30 to 45 questions.

Standards-Aligned Item Bank

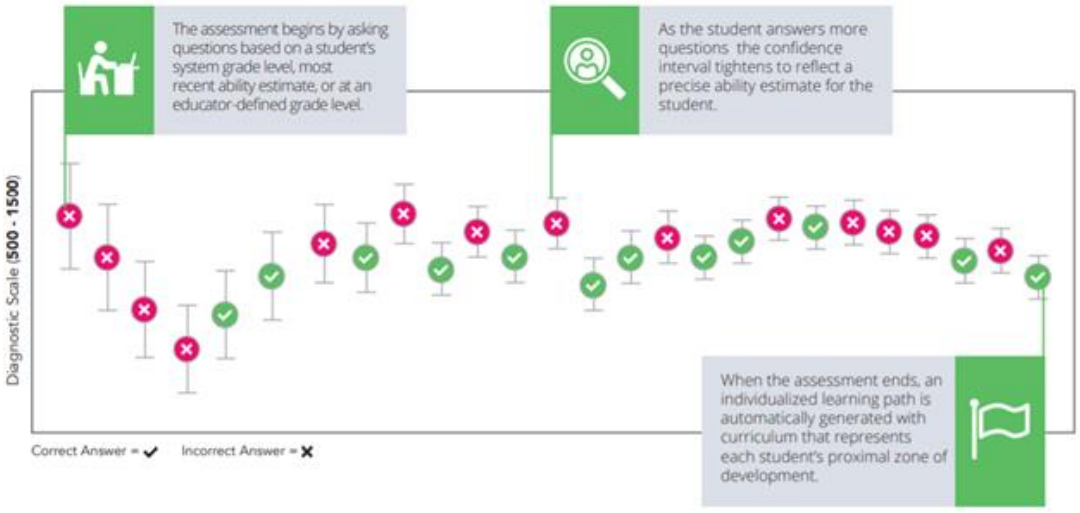
All item pools are aligned to the Exact Path learning path skill framework which was built based on an in-depth analysis of national standards and the standards of several key states. Edmentum continuously updates program content and refines the learning path skill framework to maintain a close connection to the evolving content standards of our partners. Content has been built from the ground up, based specifically on our state-aligned skill framework. Our curriculum experts review each state standard,

carefully identify the skills needed to address each objective, and match those skills to the appropriate Exact Path content. Once alignments are made, reports are generated to show how all standards match to Exact Path content. Alignment reports demonstrate that the Exact Path content is tightly aligned to the current implemented Virginia Standards of Learning (attached starting on pages 9 and 43).

The diagnostic assessment K–12 item banks for each subject contain between 2,300 and 4,000 items, all aligned to the Exact Path learning path skill framework. The depth of the item pools is used to ensure there is a very small probability that a student will see the same item twice if they take the diagnostic more than once. To maintain a superior item bank, new items are field tested to fill in skill gaps, address item exposure concerns, and refresh item content. Up to three field-test (FT) items are embedded within the diagnostic administration and do not count toward student scores. Administration of the field test items is seamless while students are taking the diagnostic.

Adaptability

The diagnostic is a computer adaptive assessment (CAT) that measures abilities for all students, whether they are on grade level, below, or above, and places them into individualized learning paths to receive differentiated instruction to support growth between testing windows. As a variable-length CAT, the test is terminated as soon as an acceptable level of precision (reliability) is reached subject to content specifications and other test constraints. The illustration below shows an example of the assessment in action:



The first item a student receives is selected based on the student's grade and the testing window or based on the student's prior diagnostic assessment score if one is available from the prior 365 calendar days. Following each item response, the algorithm calculates a temporary estimate of the student's ability, known as the interim ability estimate, based on all responses to that point in the test. The algorithm then selects the next item in order to provide the most information possible at that point on the scale of the interim ability estimate. Effectively, when a student gets an item correct, the student typically receives a more difficult item next. Similarly, when a student answers an item incorrectly, they typically receive an easier item next. After each item, the algorithm learns more about the student's ability level and the ability estimate becomes more precise.

In the example shown above, each pink or green circle represents an item, and the change in the height of the circles represents the student's changing interim ability estimate with each item response. As the test continues (i.e., the items continue to the far right), the interim ability estimate becomes more stable. The interim ability estimate after the student's final item response becomes the student's score on the diagnostic.

Additional information, including calculations and statistics, are provided in the full *Exact Path Technical Report*, which is available upon request.

Reliability and Validity

Edmentum and third parties have conducted numerous psychometric studies (available on our website) demonstrating how Exact Path's diagnostic assessment was designed and developed to ensure validity and reliability commensurate with its intended purposes, which include:

- Issuing a scale score that reliably reports the estimated ability level of learners at up to five times during the academic year (60–90 days between testing periods) and that can be used to measure academic growth
- Reporting on grade-level proficiency for students assessed within Exact Path recommended testing windows
- Creating an individualized profile of academic strengths and weaknesses by reporting an overall score and scores for each domain and skill
- Providing placement into a learning path representative of the development of math, language arts, and reading skills in kindergarten through grade 12

In addition, the diagnostic assessment may be used for program evaluation in which academic growth in an Exact Path subject area is an identified desired outcome.

Edmentum Exact Path received the highest ratings possible as an Academic Screening Tool from the National Center on Intensive Intervention (NCII) for reliability and validity for reading and mathematics in grades 3-8. Both split-half and marginal reliability estimates were 0.90 or higher for all grades in both subjects. Criterion validity correlations ranged from 0.71-0.83 across grades for both subjects. Full results can be reviewed at https://charts.intensiveintervention.org/ascreening.

Compare Tools | Reset Chart | Classification Accuracy | Technical Standards | Usability Features

All	Title	Area	Grade	Reliability	Validity	Sample Representativeness	Bias Analysis Conducted
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 3	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 4	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 5	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 6	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 7	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Mathematics	Grade 8	●	●	Regional without Cross-Validation	Yes

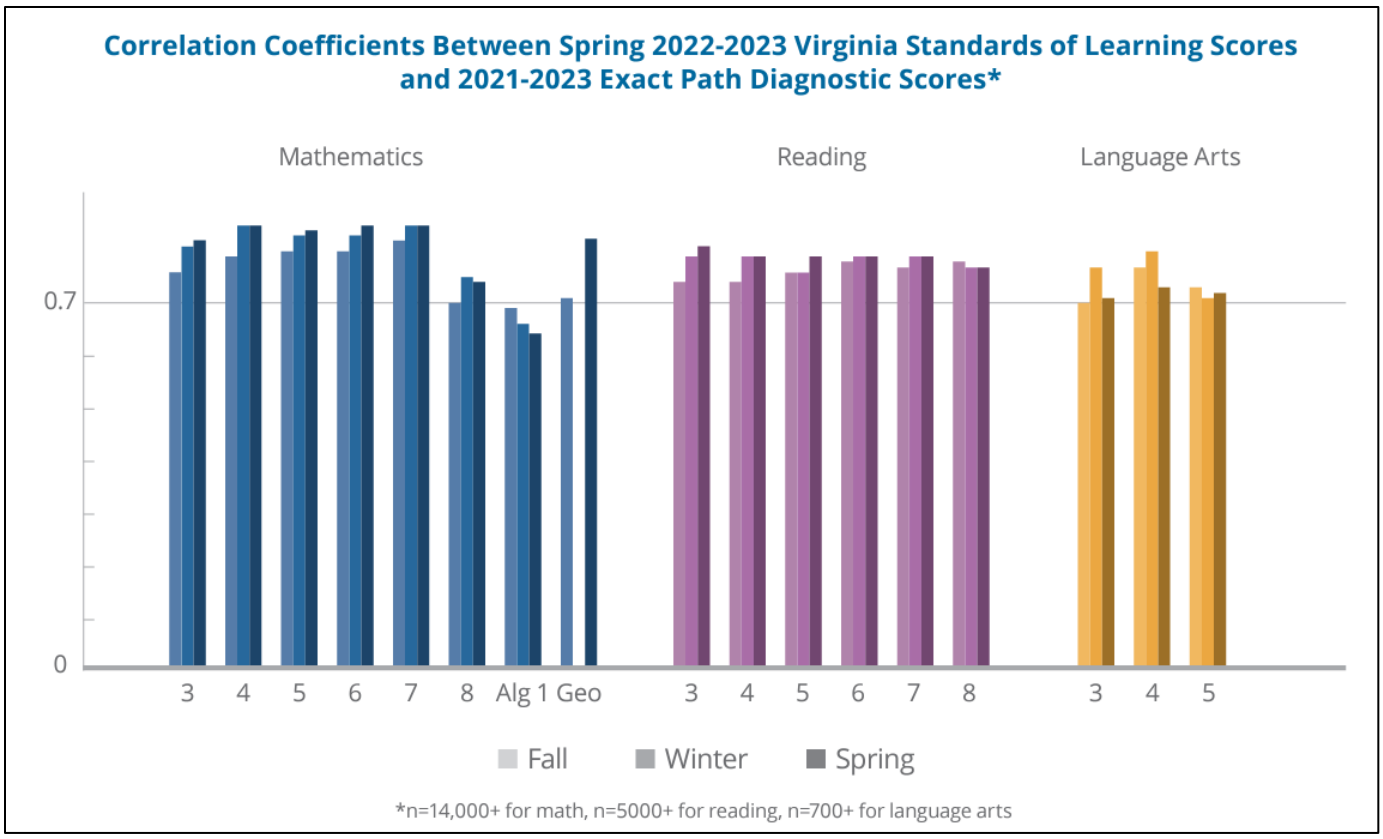
Exact Path Mathematics

Compare Tools | Reset Chart | Classification Accuracy | Technical Standards | Usability Features

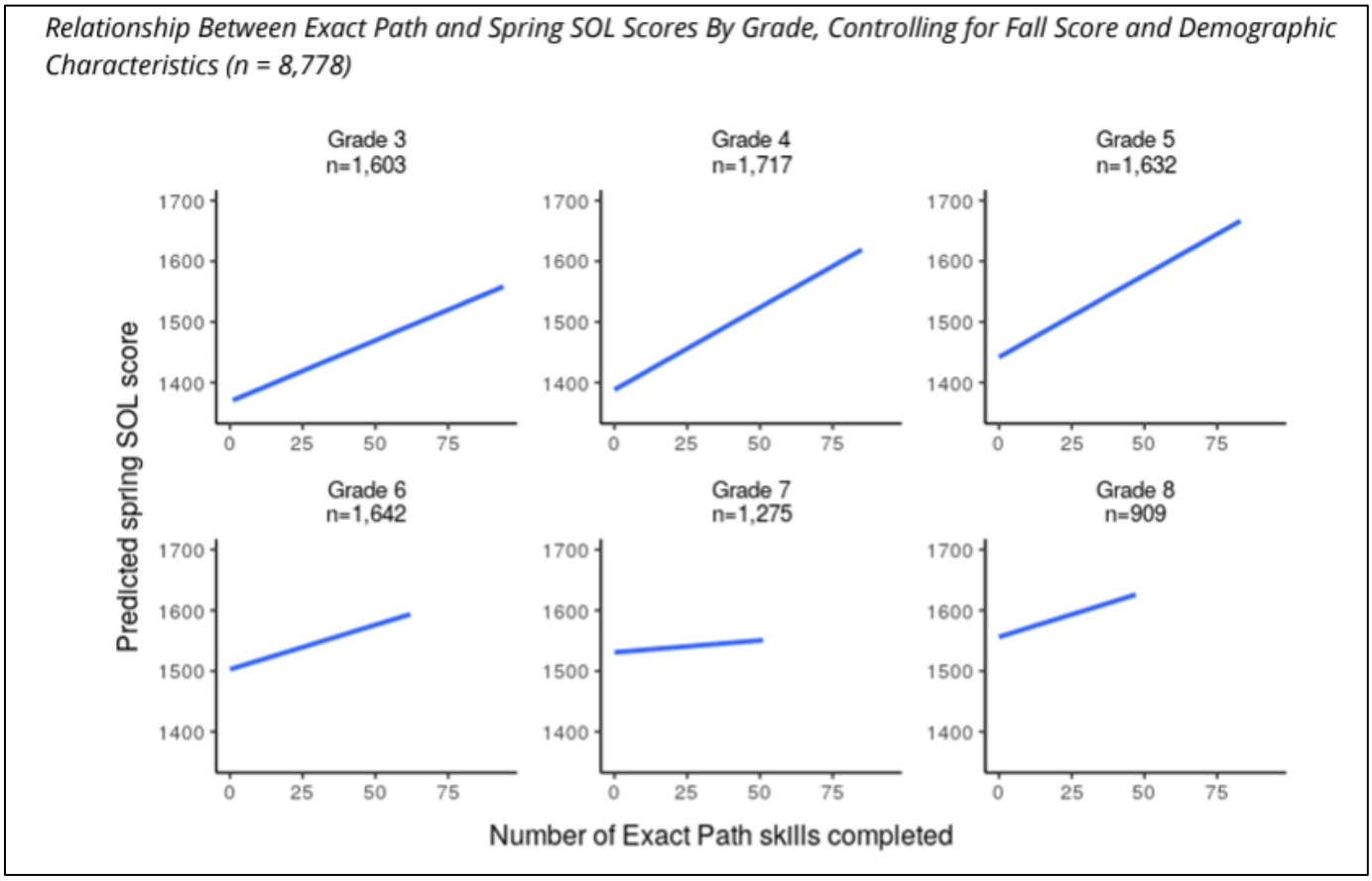
All	Title	Area	Grade	Reliability	Validity	Sample Representativeness	Bias Analysis Conducted
☐	Exact Path Diagnostic Assessment	Reading	Grade 3	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Reading	Grade 4	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Reading	Grade 5	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Reading	Grade 6	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Reading	Grade 7	●	●	Regional without Cross-Validation	Yes
☐	Exact Path Diagnostic Assessment	Reading	Grade 8	●	●	Regional without Cross-Validation	Yes

Exact Path Reading

Edmentum has also conducted additional Virginia-specific studies, including a linking study providing additional criterion validity evidence for Exact Path based on the Virginia Standards of Learning assessments, as well as an efficacy study showing how use of Exact Path is leading to improvements in student scores on the Virginia Standards of Learning Growth Assessments. Main findings from these studies are presented in the two figures below.



Exact Path Diagnostic Virginia-Specific Criterion Validity Evidence



Exact Path Virginia-Specific Efficacy Evidence

Reporting

Upon completion of Exact Path's diagnostic assessment, Exact Path automatically analyzes the results, generates reporting data, and builds each student's learning path. Student results and progress are reported in real-time. A comprehensive set of reports helps educators and parents understand their students' achievement, growth, and recommended learning paths. Diagnostic assessment score results include an overall scale score, a score for each domain, Lexile® and Quantile® measures, national percentile ranks, grade-level proficiency, and student growth upon each administration. For examples of all our assessment reports, please review our Assessment Reporting brochure at https://supportcdn.edmentum.com/docs/XP/ExactPath-Assessment-Reporting.pdf.

The Student Summary Report is generated immediately after assessment completion and provides an in-depth view into a student's Exact Path diagnostic experience, including student diagnostic scores and growth, time on each item in a diagnostic, the number of sessions taken to complete it, and domain level details. Student summary reports make helpful take-aways for parent-teacher conferences. Each student summary report displays student progress in a single subject.

Exact Path also enables educators to share the Student Summary Report with parents. Parent access to this report can be granted by the teacher using an Exact Path sharing feature. Parents can then access their learner's assessment results and recommended learning paths within their own secure portal. In addition, parents have 24/7 access to the Student Summary Report via the learner account. This feature can be turned on or off by the account administrator. This report can be printed.

Edmentum provides a variety of resources to help families become familiar with Exact Path, including a guide to help parents learn how to view their student's progress and understand the Student Summary Report available at https://cdn.app.edmentum.com/EdAssets/aa2767aabce44bbf80e372414bffa431. Family resources include:

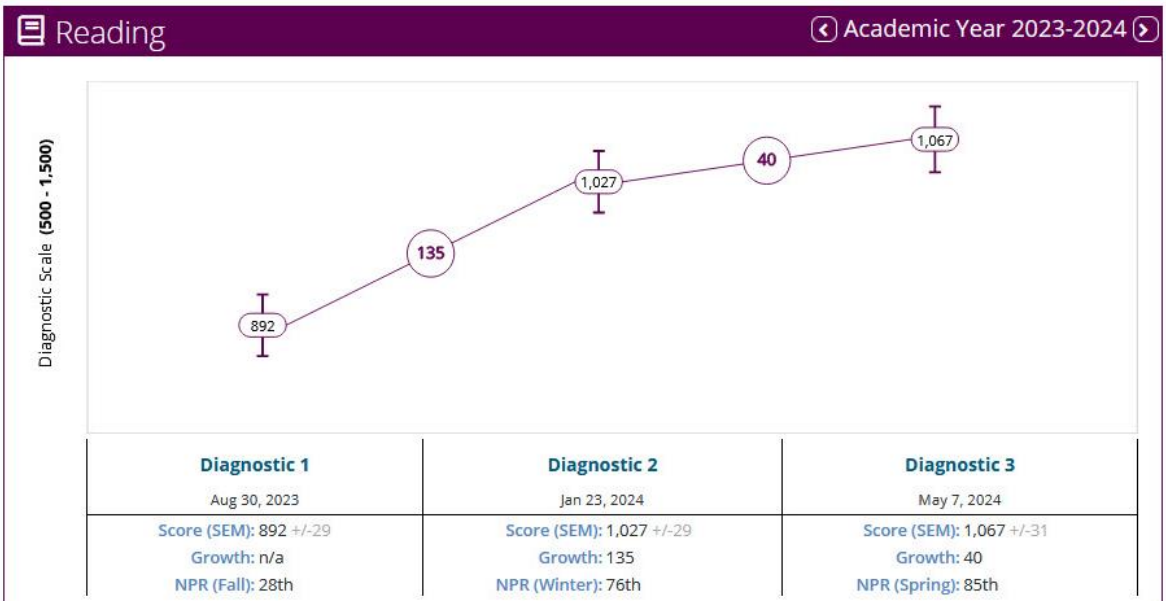
- Parent letters available in English and Spanish to introduce the program
- Introductory webinars in English and Spanish
- User guides and video walk-throughs for the K–2, 3–5, and 6–12 Exact Path interfaces to help students and parents/caregivers navigate the program
- Exact Path diagnostic guides for parents are available in English and Spanish to ensure students' families are set up to administer assessments successfully

Growth

Exact Path uses sophisticated developmental growth scales that map individual score values to a developmental progression of K–12 skills, allowing clear and nuanced assessment of skills as students progress throughout the year. Students enter school with a variety of experiences and academic skill levels. The Exact Path diagnostic's adaptive algorithm allows for precise measurement of skills for all early elementary students by customizing the items each student sees to their proficiency level. Within each domain are items measuring skills at a wide range of levels so that baseline performance can be established accurately in the fall and accurately measured throughout the school year and across academic years as reading proficiency increases.

Diagnostic scores are reported on a common (vertical) scale established across grades K–12. To represent growth for a student who takes multiple interim assessments throughout the school year, a gain-score model is currently used. That is, the difference between the student's overall scale scores obtained from two separate testing events:

- Fall semester growth window—from Diagnostic 1 to 2
- Spring semester growth window—from Diagnostic 2 to 3



Example of Diagnostic Class Averages from Diagnostics 1, 2, and 3, as well as Average Growth between Diagnostics 1 and 2, and 2 and 3

These different scores can be considered as the amount of growth the student has achieved (or the amount of knowledge they have "gained" between test taking events). Exact Path diagnostic assessment users can set academic growth goals at the beginning of the school year or term using scale score data to do the following:

1. Identify their growth goals.
2. Evaluate and adjust their goal following their first test administration, as needed.
3. Test again, after at least 60 instructional days (100 calendar days).
4. Track if they are on target towards their goals and to reach typical growth values.

Edmentum provides two growth metrics: growth (the change between two diagnostic scores) and typical growth (the growth score from a national sample of students using Exact Path). Growth scores and typical growth metrics are provided on student and aggregate score reports to facilitate tracking of progress. Edmentum provides typical growth data to offer a frame of reference for student scale score growth. With this information, educators and students can answer whether the growth they see on their test results is expected. Note: typical growth is not an indication of target growth or how much growth is best. Edmentum provides a Student Growth Guidance document as well as worksheets for schools and teachers to use for setting and evaluating growth goals.

In addition to the growth score, educators can also compare students' grade level proficiency and national percentile rank information across the school year. For example, the Grade Level Proficiency Distribution

report shows educators whether students are below, approaching, meeting, or exceeding grade level expectations for each testing window. For partners that administer the diagnostic assessment at least twice per year, Exact Path's year-over-year reporting feature allows administrators to easily track student performance in multiple schools, grades, and demographics across years. Offering big-picture trends and critical insights, year-over-year reporting informs program quality and investment toward accountability goals. Administrators can flexibly select and filter data to support unique reporting needs.

Educator Resources and Training

Edmentum offers multiple support resources for educators and parents. Exact Path users can easily access our searchable Learn and Support site, which makes key information in our product documentation easily accessible. Educators can quickly locate resources through our enhanced navigation and search that exists in both the Help Center and the Learn and Support site. For example, in the Help Center, an educator can enter a keyword into the search field and the tool automatically brings up a list of resources and guides. Within the Help Center, educators can locate a wide selection of resources, including videos, quick reference cards, walk through tutorials, administration manuals, user guides, and research papers.

In addition to online resources, Edmentum offers a wide variety of professional development opportunities. To help foster a continuous learning environment for Virginia educators, our Professional Services Team—in alliance with our subject matter coaches and professionals—will offer dedicated professional development focused on how to elevate teacher instructional practices. Through our professional development offering, Virginia educators can expect to walk away with:

- Increased confidence in the knowledge and ability to effectively implement results-oriented implementation models
- Practical classroom tools and methods designed to promote learner success and help educators leverage teacher instructional practices
- Training on effectively analyzing and interpreting student performance data to inform instructional next-steps

Edmentum tailors each workshop to the needs of our Virginia partners to ensure the proper learning objectives will be met through the full range of professional development services. For more information about our approach and available offerings, please review our Professional Services Catalog: https://www.edmentum.com/resources/brochures/professional-services-and-consulting-catalog.

Instructional Supports

Based on assessment results, Exact Path generates a unique learning path aligned to individual readiness by domain. Content is available above and below grade level so students can work toward mastery of skills in their zone of proximal development. Exact Path provides ongoing data to facilitate targeted support and help teachers track activities by a specific skill or standard. Students benefit from learning paths aligned to their specific competencies.

Studies available on Edmentum's Efficacy Research website demonstrate the effectiveness of the Exact Path program for improving student achievement with an Every Student Succeeds Act (ESSA) rating of Tier 2 "Moderate Evidence".

Exact Path Alignment: 2023 Mathematics Standards of Learning for Virginia Public Schools

Exact Path

Grade 3

VA Code	VA Standard	Exact Path ELA Skill
3.NS.1.a	Read and write six-digit whole numbers in standard form, expanded form, and word form.	Use place value understanding to read and write whole numbers in expanded form.
3.NS.1.b	Apply patterns within the base 10 system to determine and communicate, orally and in written form, the place and value of each digit in a six-digit whole number (e.g., in 165,724, the 5 represents 5 thousands and its value is 5,000).	Identify, explain, and extend number patterns.
3.NS.1.c	Compose, decompose, and represent numbers up to 9,999 in multiple ways, according to place value (e.g., 256 can be 1 hundred, 14 tens, 16 ones, but also 25 tens, 6 ones), with and without models.	Use place value understanding to compare two three-digit numbers, and record the comparison using <, >, or =.
3.NS.2.a	Compare two whole numbers, each 9,999 or less, using symbols (>, <, =, not equal to) and/or words (greater than, less than, equal to, not equal to), with and without models.	Use place-value understanding to compare two whole numbers up to 1,000,000. Record comparison using >, =, and < symbols.
3.NS.2.b	Order up to three whole numbers, each 9,999 or less, represented with and without models, from least to greatest and greatest to least.	Use place-value understanding to compare two whole numbers up to 1,000,000. Record comparison using >, =, and < symbols.
3.NS.3.a	Represent, name, and write a given fraction (proper or improper) or mixed number with denominators of 2, 3, 4, 5, 6, 8, and 10 using: region/area models (e.g., pie pieces, pattern blocks, geoboards); length models (e.g., paper fraction strips, fraction bars, rods, number lines); and set models (e.g., chips, counters, cubes).	Understand two fractions as equivalent because they are the same size. Recognize and generate equivalent fractions using area models.
		Understand two fractions as equivalent because they are located at the same point on a number line. Recognize and generate equivalent fractions using number lines.
3.NS.3.b	Identify a fraction represented by a model as the sum of unit fractions.	Use area models to show that the quantity of one whole partitioned into b equal parts forms the fraction 1/b. Understand that the fraction a/b is the quantity formed by a parts of size 1/b.
3.NS.3.c	Use a model of a fraction greater than one to count the fractional parts to name and write it as an improper fraction and as a mixed number (e.g., 1/4, 2/4, 3/4, 4/4, 5/4 = 1 1/4).	Add and subtract fractions, including mixed numbers, with like denominators. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
3.NS.3.d	Compose and decompose fractions (proper and improper) with denominators of 2, 3, 4, 5, 6, 8, and 10 in multiple ways (e.g., 7/4 = 4/4 + 3/4 or 4/6 = 3/6 + 1/6 = 2/6 + 2/6) with models.	Decompose fractions into sums of fractions with the same denominator. Represent decomposed fractions with visual models, and record decomposition by an equation.

VA Code	VA Standard	Exact Path ELA Skill
3.NS.3.e	Compare a fraction, less than or equal to one, to the benchmarks of 0, 1/2, and 1 using area/region models, length models, and without models.	Compare two fractions with the same numerator or same denominator by reasoning about their size. Record the comparison with <, >, or =.
3.NS.3.f	Compare two fractions (proper or improper) and/or mixed numbers with like numerators of 2, 3, 4, 5, 6, 8, and 10 (e.g., 2/3 > 2/8) using words (greater than, less than, equal to) and/or symbols (>, <, =), using area/region models, length models, and without models.	Compare two fractions with the same numerator or same denominator by reasoning about their size. Record the comparison with <, >, or =.
3.NS.3.g	Compare two fractions (proper or improper) and/or mixed numbers with like denominators of 2, 3, 4, 5, 6, 8, and 10 (e.g., 3/6 < 4/6) using words (greater than, less than, equal to) and/or symbols (>, <, =), using area/region models, length models, and without models.	Compare two fractions with the same numerator or same denominator by reasoning about their size. Record the comparison with <, >, or =.
3.NS.3.h	Represent equivalent fractions with denominators of 2, 3, 4, 5, 6, 8, or 10, using region/area models and length models.	Understand two fractions as equivalent because they are the same size. Recognize and generate equivalent fractions using area models.
3.NS.4.a	Determine the value of a collection of bills and coins whose total is $5.00 or less.	Use the four operations to solve word problems involving money.
3.NS.4.b	Construct a set of bills and coins to total a given amount of money whose value is $5.00 or less.	Use the four operations to solve word problems involving money.
3.NS.4.c	Compare the values of two sets of coins or two sets of bills and coins, up to $5.00, with words (greater than, less than, equal to) and/or symbols (>, <, =) using concrete or pictorial models.	Use the four operations to solve word problems involving money.
3.NS.4.d	Solve contextual problems to make change from $5.00 or less by using counting on or counting back strategies with concrete or pictorial models.	Use the four operations to solve word problems involving money.
3.CE.1.a	Determine and justify whether an estimate or an exact answer is appropriate when solving single-step and multistep contextual problems involving addition and subtraction, where addends and minuends do not exceed 1,000.	Use mental strategies and rounding to estimate solutions to two-step numerical problems and word problems.
3.CE.1.b	Apply strategies (e.g., rounding to the nearest 10 or 100, using compatible numbers, using other number relationships) to estimate a solution for single-step or multistep addition or subtraction problems, including those in context, where addends or minuends do not exceed 1,000.	Use mental strategies and rounding to estimate solutions to two-step numerical problems and word problems.
3.CE.1.c	Apply strategies (e.g., place value, properties of addition, other number relationships) and algorithms, including the standard algorithm, to determine the sum or difference of two whole numbers where addends and minuends do not exceed 1,000.	Use strategies including algorithms and the relationship between addition and subtraction to add and subtract within 1,000.

VA Code	VA Standard	Exact Path ELA Skill
3.CE.1.d	Identify and use the appropriate symbol to distinguish between expressions that are equal and expressions that are not equal (e.g., 256 – 13 = 220 + 23; 457 + 100 is not equal to 557 + 100).	Solve one- and two-step word problems. Represent with equations and unknowns.
3.CE.1.e	Represent, solve, and justify solutions to single-step and multistep contextual problems involving addition and subtraction with whole numbers where addends and minuends do not exceed 1,000.	Use strategies including algorithms and the relationship between addition and subtraction to add and subtract within 1,000.
3.CE.2.a	Represent multiplication and division of whole numbers through 10 × 10, including in a contextual situation, using a variety of approaches and models (e.g., repeated addition/subtraction, equal-sized groups/sharing, arrays, equal jumps on a number line, using multiples to skip count).	Interpret and express whole-number products and quotients in terms of a given context (limited to products of two whole numbers within 10 and related quotients).
3.CE.2.b	Use inverse relationships to write the related facts connected to a given model for multiplication and division of whole numbers through 10 × 10.	Understand division as an unknown-factor problem, and use the inverse relationship between multiplication and division to solve.
3.CE.2.c	Apply strategies (e.g., place value, the properties of multiplication and/or addition) when multiplying and dividing whole numbers.	Fluently multiply and divide within 100 using properties of multiplication and division, and the inverse relationship between multiplication and division.
		Use the commutative and associative properties to determine products of one-digit whole numbers.
3.CE.2.d	Demonstrate fluency with multiplication facts through 10 × 10 by applying reasoning strategies (e.g., doubling, add-a-group, subtract-a-group, near squares, and inverse relationships).	Fluently multiply and divide within 100 using properties of multiplication and division, and the inverse relationship between multiplication and division.
3.CE.2.e	Represent, solve, and justify solutions to single-step contextual problems that involve multiplication and division of whole numbers through 10 × 10.	Use drawings and equations to solve one-step word problems that involve multiplication and division within 100.
3.CE.2.f	Recall with automaticity the multiplication facts through 10 × 10 and the corresponding division facts.	Fluently multiply and divide within 100 using properties of multiplication and division, and the inverse relationship between multiplication and division.
3.MG.1.a	Justify whether an estimate or an exact measurement is needed for a contextual situation and choose an appropriate unit.	Estimate, measure, and compare lengths of objects using inches, feet, centimeters, or meters.
3.MG.1.b	Estimate and measure: length of an object to the nearest U.S. Customary unit (1/2 inch, inch, foot, yard) and metric unit (centimeter, meter); weight/mass of an object to the nearest U.S. Customary unit (pound) and metric unit (kilogram); and liquid volume to the nearest U.S. Customary unit (cup, pint, quart, gallon) and metric unit (liter).	Estimate, measure, and compare lengths of objects using inches, feet, centimeters, or meters.

VA Code	VA Standard	Exact Path ELA Skill
3.MG.1.c	Compare estimates of length, weight/mass, or liquid volume with the actual measurements.	Estimate, measure, and compare lengths of objects using inches, feet, centimeters, or meters.
3.MG.2.a	Solve problems, including those in context, involving area:	Establish a definition of a unit square and apply it to find the area of a rectangle by tiling. Relate finding area by tiling to finding area using multiplication.
	i. describe and give examples of area as a measurement in contextual situations; and	
	ii. estimate and determine the area of a given surface by counting the number of square units, describe the measurement (using the number and unit) and justify the measurement.	
3.MG.2.b	Solve problems, including those in context, involving perimeter:	Use a model to solve real-world and mathematical perimeter problems. Identify rectangles that have the same perimeter but different areas or the same area but different perimeters.
	i. describe and give examples of perimeter as a measurement in contextual situations;	
	ii. estimate and measure the distance around a polygon (with no more than six sides) to determine the perimeter and justify the measurement; and	
	iii. given the lengths of all sides of a polygon (with no more than six sides), determine its perimeter and justify the measurement.	
3.MG.3.a	Tell and write time to the nearest minute, using analog and digital clocks.	Use analog and digital clocks to tell time to the nearest minute.
3.MG.3.b	Match a written time (e.g., 4:38, 7:09, 12:51) to the time shown on analog and digital clocks to the nearest minute.	Use analog and digital clocks to tell time to the nearest minute.
3.MG.4.a	Describe a polygon as a closed plane figure composed of at least three line segments that do not cross.	Use vocabulary for attributes and categories of two- and three-dimensional shapes.
3.MG.4.b	Classify figures as polygons or not polygons and justify reasoning.	Use vocabulary for attributes and categories of two- and three-dimensional shapes.
3.MG.4.c	Identify and describe triangles, quadrilaterals, pentagons, hexagons, and octagons in various orientations, with and without contexts.	Use vocabulary for attributes and categories of two- and three-dimensional shapes.
3.MG.4.d	Identify and name examples of polygons (triangles, quadrilaterals, pentagons, hexagons, octagons) in the environment.	Use vocabulary for attributes and categories of two- and three-dimensional shapes.
3.MG.4.e	Classify and compare polygons (triangles, quadrilaterals, pentagons, hexagons, octagons).	Use vocabulary for attributes and categories of two- and three-dimensional shapes.
3.PS.1.c	Organize and represent a data set using pictographs that include an appropriate title, labeled axes, and key. Each pictograph symbol should represent 1, 2, 5 or 10 data points.	Represent data on a scaled bar graph, scaled picture graph, or line plot. Use addition and subtraction to answer one- and two-step problems about data represented in graphs.

VA Code	VA Standard	Exact Path ELA Skill
3.PS.1.d	Organize and represent a data set using bar graphs with a title and labeled axes, with and without the use of technology tools. Determine and use an appropriate scale (increments limited to multiples of 1, 2, 5 or 10).	Represent data on a scaled bar graph, scaled picture graph, or line plot. Use addition and subtraction to answer one- and two-step problems about data represented in graphs.
3.PS.1.e	Analyze data represented in pictographs and bar graphs, and communicate results orally and in writing: i) describe the categories of data and the data as a whole (e.g., data were collected on preferred ways to cook or prepare eggs - scrambled, fried, hard boiled, and egg salad); ii) identify parts of the data that have special characteristics, including categories with the greatest, the least, or the same (e.g., most students prefer scrambled eggs); iii) make inferences about data represented in pictographs and bar graphs; iv) use characteristics of the data to draw conclusions about the data and make predictions based on the data (e.g., it is unlikely that a third grader would like hard boiled eggs); and v) solve one- and two-step addition and subtraction problems using data from pictographs and bar graphs.	Represent data on a scaled bar graph, scaled picture graph, or line plot. Use addition and subtraction to answer one- and two-step problems about data represented in graphs.
3.PFA.1.a	Identify and describe increasing and decreasing patterns using various representations (e.g., objects, pictures, numbers, number lines).	Identify, explain, and extend number patterns.
3.PFA.1.b	Analyze an increasing or decreasing pattern and generalize the change to extend the pattern or identify missing terms using various representations.	Identify, explain, and extend number patterns.
3.PFA.1.c	Solve contextual problems that involve identifying, describing, and extending patterns.	Identify, explain, and extend number patterns.
3.PFA.1.d	Create increasing and decreasing patterns using objects, pictures, numbers, and number lines.	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
3.PFA.1.e	Investigate and explain the connection between two different representations of the same increasing or decreasing pattern.	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.

Grade 4

VA Code	VA Standard	Exact Path ELA Skill
4.NS.1.a	Read nine-digit whole numbers, presented in standard form, and represent the same number in written form.	Use place-value understanding to read and write whole numbers up to 1,000,000 using base-10 numerals and number names.
4.NS.1.b	Write nine-digit whole numbers in standard form when the numbers are presented orally or in written form.	Use place-value understanding to read and write whole numbers up to 1,000,000 using base-10 numerals and number names.
4.NS.1.c	Apply patterns within the base 10 system to determine and communicate, orally and in written form, the place and value of each digit in a nine-digit whole number (e.g., in 568,165,724, the 8 represents 8 millions and its value is 8,000,000).	Recognize that in a multi-digit number, the value of a digit in one place is 10 times the value of the digit in the place to its right. Multi-digit numbers are less than or equal to 1,000,000.
4.NS.2.a	Compare two whole numbers up to seven digits each, using words (greater than, less than, equal to, not equal to) and/or using symbols (>, <, =, not equal to).	Use place-value understanding to compare two whole numbers up to 1,000,000. Record comparison using >, =, and < symbols.
4.NS.2.b	Order up to four whole numbers up to seven digits each, from least to greatest or greatest to least.	Use place-value understanding to compare two whole numbers up to 1,000,000. Record comparison using >, =, and < symbols.
4.NS.3.a	Compare and order no more than four fractions (proper or improper), and/or mixed numbers, with like denominators by comparing the number of parts (numerators) using fractions with denominators of 12 or less (e.g., 1/5 < 3/5). Justify comparisons orally, in writing, or with a model.	Compare two fractions with the same numerator or same denominator by reasoning about their size. Record the comparison with <, >, or =.
4.NS.3.b	Compare and order no more than four fractions (proper or improper), and/or mixed numbers, with like numerators and unlike denominators by comparing the size of the parts using fractions with denominators of 12 or less (e.g., 3/8 < 3/5). Justify comparisons orally, in writing, or with a model.	Compare two fractions with the same numerator or same denominator by reasoning about their size. Record the comparison with <, >, or =.
4.NS.3.c	Use benchmarks (e.g., 0, 1/2, or 1) to compare and order no more than four fractions (proper or improper), and/or mixed numbers, with like and unlike denominators of 12 or less. Justify comparisons orally, in writing, or with a model.	Compare two fractions with different numerators and denominators using benchmarks, models, or by generating common denominators or numerators. Record comparisons with symbols >, =, or <. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
4.NS.3.d	Compare two fractions (proper or improper) and/or mixed numbers using fractions with denominators of 12 or less, using the symbols >, <, and = (e.g., 2/3 > 1/7). Justify comparisons orally, in writing, or with a model.	Compare two fractions with different numerators and denominators using benchmarks, models, or by generating common denominators or numerators. Record comparisons with symbols >, =, or <. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

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4.NS.3.e	Represent equivalent fractions with denominators of 12 or less, with and without models.	Recognize and generate equivalent fractions using visual models and numeric reasoning. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
4.NS.3.f	Compose and decompose fractions (proper and improper) and/or mixed numbers with denominators of 12 or less, in multiple ways, with and without models.	Decompose fractions into sums of fractions with the same denominator. Represent decomposed fractions with visual models, and record decomposition by an equation.
4.NS.3.g	Represent the division of two whole numbers as a fraction given a contextual situation and a model (e.g., 3/5 means the same as 3 divided by 5 or 3/5 represents the amount of muffin each of five children will receive when sharing three muffins equally).	Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers with fraction or mixed-number quotients.
4.NS.4.a	Investigate and describe the ten-to-one place value relationship for decimals through thousandths, using concrete models (e.g., place value mats/charts, decimal squares, base 10 blocks).	Use place-value understanding to read and write decimals to the thousandths place. The decimals may be expressed in standard form, word form, or expanded form (with no fractions included in expanded form).
4.NS.4.b	Represent and identify decimals expressed through thousandths, using concrete, pictorial, and numerical representations.	Use place-value understanding to read and write decimals to the thousandths place. The decimals may be expressed in standard form, word form, or expanded form (with no fractions included in expanded form).
4.NS.4.c	Read and write decimals expressed through thousandths, using concrete, pictorial, and numerical representations.	Use place-value understanding to read and write decimals to the thousandths place. The decimals may be expressed in standard form, word form, or expanded form (with no fractions included in expanded form).
4.NS.4.e	Compare using symbols (<, >, =) and/or words (greater than, less than, equal to) and order (least to greatest and greatest to least), a set of no more than four decimals expressed through thousandths, using multiple strategies (e.g., benchmarks, place value, number lines). Justify comparisons with a model, orally, and in writing.	Use place-value understanding to compare decimals written to the thousandths place, recording the comparison with a <, >, or = sign.
4.NS.5.a	Represent fractions (proper or improper) and/or mixed numbers as decimals through hundredths, using multiple representations, limited to halves, fourths, fifths, tenths, and hundredths.	Represent fractions with denominators 10 or 100 in decimal form.
4.NS.5.b	Identify and model equivalent relationships between fractions (proper or improper) and/or mixed numbers and decimals, using halves, fourths, fifths, tenths, and hundredths.	Represent fractions with denominators 10 or 100 in decimal form.
4.NS.5.c	Write the decimal and fraction equivalent for a given model (e.g., 1/4 = 0.25 or 0.25 = 1/4; 1.25 = 5/4 or 1 1/4; 1.02 = 102/100 or 1 2/100).	Represent fractions with denominators 10 or 100 in decimal form.

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4.CE.1.a	Determine and justify whether an estimate or an exact answer is appropriate when solving contextual problems involving addition and subtraction with whole numbers. Refine estimates by adjusting the final amount, using terms such as closer to, between, and a little more than.	Use mental strategies and rounding to estimate solutions to two-step numerical problems and word problems.
4.CE.1.b	Apply strategies (e.g., rounding to the nearest 100 or 1,000, using compatible numbers, other number relationships) to estimate a solution for single-step or multistep addition or subtraction problems with whole numbers, where addends or minuends do not exceed 10,000.	Use mental strategies and rounding to estimate solutions to two-step numerical problems and word problems.
4.CE.1.c	Apply strategies (e.g., place value, properties of addition, other number relationships) and algorithms, including the standard algorithm, to determine the sum or difference of two whole numbers, where addends and minuends do not exceed 10,000.	Use strategies including algorithms and the relationship between addition and subtraction to add and subtract within 1,000.
4.CE.1.d	Estimate, represent, solve, and justify solutions to single-step and multistep contextual problems involving addition and subtraction with whole numbers where addends and minuends do not exceed 1,000,000.	Use the standard algorithm to add and subtract whole numbers within 1,000,000.
4.CE.2.a	Determine and justify whether an estimate or an exact answer is appropriate when solving contextual problems involving multiplication and division of whole numbers. Refine estimates by adjusting the final amount, using terms such as closer to, between, and a little more than.	Use mental strategies and rounding to estimate solutions to two-step numerical problems and word problems.
4.CE.2.b	Recall with automaticity the multiplication facts through 12 × 12 and the corresponding division facts.	Use place-value understanding, properties of operations, and models to multiply two two-digit whole numbers.
4.CE.2.e	Determine all factor pairs for a whole number 1 to 100, using concrete, pictorial, and numerical representations.	Use algebraic reasoning to find all factor pairs of a whole number 1-100. Determine if a whole number 1-100 is a multiple of a one-digit number.
4.CE.2.g	Apply strategies (e.g., rounding, place value, properties of multiplication and/or addition) and algorithms, including the standard algorithm, to estimate and determine the product of two whole numbers when given:	Use place-value understanding, properties of operations, and models to multiply up to a four-digit whole number by a one-digit whole number.
	i. a two-digit factor and a one-digit factor;	
	ii. a three-digit factor and a one-digit factor; or	
	iii. a two-digit factor and a two-digit factor.	Use place-value understanding, properties of operations, and models to multiply two two-digit whole numbers.

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4.CE.2.h	Estimate, represent, solve, and justify solutions to single-step and multistep contextual problems that involve multiplication with whole numbers.	Use place-value understanding, properties of operations, and models to multiply up to a four-digit whole number by a one-digit whole number.
		Use place-value understanding, properties of operations, and models to multiply two two-digit whole numbers.
4.CE.2.i	Apply strategies (e.g., rounding, compatible numbers, place value) and algorithms, including the standard algorithm, to estimate and determine the quotient of two whole numbers, given a one-digit divisor and a two- or three-digit dividend, with and without remainders.	Use place-value understanding, properties of operations, and models to divide up to a four-digit dividend by a one-digit divisor without remainder.
4.CE.2.j	Estimate, represent, solve, and justify solutions to single-step contextual problems involving division with whole numbers.	Solve division word problems and interpret the remainders.
4.CE.2.k	Interpret the quotient and remainder when solving a contextual problem.	Solve division word problems and interpret the remainders.
4.CE.3.a	Estimate and determine the sum or difference of two fractions (proper or improper) and/or mixed numbers, having like denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12 (e.g., 3/8 + 3/8, 2 1/5 + 4/5, 7/4 – 5/4) and simplify the resulting fraction. Addition and subtraction with fractions may include regrouping.	Add and subtract fractions, including mixed numbers, with like denominators. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
4.CE.3.b	Estimate, represent, solve, and justify solutions to single-step contextual problems using addition and subtraction with fractions (proper or improper) and/or mixed numbers, having like denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fraction. Addition and subtraction with fractions may include regrouping.	Add and subtract fractions, including mixed numbers, with like denominators. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
4.CE.3.c	Solve single-step contextual problems involving multiplication of a whole number, limited to 12 or less, and a unit fraction (e.g., 6 × 1/3, 1/5 × 8, 2 × 1/10), with models.	Multiply a fraction by a whole number, and represent a non-unit fraction, including fractions greater than 1, as a product of a whole number and a unit fraction. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
4.CE.3.d	Apply the inverse property of multiplication in models (e.g., use a visual fraction model to represent 4/4 or 1 as the product of 4 × 1/4).	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
4.CE.4.a	Apply strategies (e.g., rounding to the nearest whole number, using compatible numbers) and algorithms, including the standard algorithm, to estimate and determine the sum or difference of two decimals through the thousandths, with and without models, in which:	Add and subtract decimals to the hundredths place using place-value understanding, properties of operations, and models.
	i. decimals do not exceed the thousandths; and	

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	ii. addends, subtrahends, and minuends are limited to four digits.	Use place-value understanding to round decimal numbers to a given place. Decimal numbers are limited to tenths, hundredths, and thousandths.
4.CE.4.b	Estimate, represent, solve, and justify solutions to single-step and multistep contextual problems using addition and subtraction of decimals through the thousandths.	Use place-value understanding to round decimal numbers to a given place. Decimal numbers are limited to tenths, hundredths, and thousandths.
4.MG.1.a	Determine an appropriate unit of measure to use when measuring:	Within one system of units, know the relative sizes of measurements units of length and express these measurements from a larger unit in terms of a smaller unit.
	i. length in both U.S. Customary (inch, foot, yard, mile) and metric units (millimeter, centimeter, meter);	
	ii. weight/mass in both U.S. Customary (ounce, pound) and metric units (gram, kilogram); and	
	iii. liquid volume in both U.S. Customary (cup, pint, quart, gallon) and metric units (milliliter, liter).	
4.MG.1.b	Estimate and measure:	Use a ruler to measure objects to nearest eighth of an inch, centimeter, or millimeter, including situations where the ruler does not begin measurement at zero.
	i. length of an object to the nearest U.S. Customary unit (1/2 inch, 1/4 inch, 1/8 inch, foot, yard) and nearest metric unit (millimeter, centimeter, or meter);	
	ii. weight/mass of an object to the nearest U.S. Customary unit (ounce, pound) and nearest metric unit (gram, kilogram); and	
	iii. liquid volume to the nearest U.S. Customary unit (cup, pint, quart, gallon) and nearest metric unit (milliliter, liter).	
4.MG.1.d	Given the equivalent measure of one unit, solve problems, including those in context, by determining the equivalent measures within the U.S. Customary system for:	Within one system of units, know the relative sizes of measurements units of length and express these measurements from a larger unit in terms of a smaller unit.
	i. length (inches and feet, feet and yards, inches and yards);	
	ii. weight/mass (ounces and pounds); and	
	iii. liquid volume (cups, pints, quarts, and gallons).	Convert among length, weight/mass, and liquid volume measurement units within a given system, and use conversions to solve multistep word problems.
4.MG.2.a	Solve single-step and multistep contextual problems involving elapsed time in hours and minutes, within a 12-hour period (within a.m., within p.m., and across a.m. and p.m.) when given:	Solve word problems involving intervals of time.
	i. the starting time and the ending time, determine the amount of time that has elapsed in hours and minutes;	

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	ii. the starting time and amount of elapsed time in hours and minutes, determine the ending time; or iii. the ending time and the amount of elapsed time in hours and minutes, determine the starting time.	
4.MG.3.a	Use concrete materials and pictorial models to develop a formula for the area and perimeter of a rectangle (including a square).	Establish a definition of a unit square and apply it to find the area of a rectangle by tiling. Relate finding area by tiling to finding area using multiplication.
4.MG.3.b	Determine the area and perimeter of a rectangle when given the measure of two adjacent sides (in whole number units), with and without models.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
4.MG.3.c	Determine the area and perimeter of a square when given the measure of one side (in whole number units), with and without models.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
4.MG.3.d	Use concrete materials and pictorial models to explore the relationship between area and perimeter of rectangles.	Use a model to solve real-world and mathematical perimeter problems. Identify rectangles that have the same perimeter but different areas or the same area but different perimeters.
4.MG.3.e	Identify and represent rectangles with the same perimeter and different areas or with the same area and different perimeters.	Use a model to solve real-world and mathematical perimeter problems. Identify rectangles that have the same perimeter but different areas or the same area but different perimeters.
4.MG.3.f	Solve contextual problems involving area and perimeter of rectangles and squares.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
4.MG.4.a	Identify and describe points, lines, line segments, rays, and angles, including endpoints and vertices.	Recognize and describe points, lines, line segments, and rays, and identify them in two-dimensional figures.
4.MG.4.b	Describe endpoints and vertices in relation to lines, line segments, rays, and angles.	Recognize and describe points, lines, line segments, and rays, and identify them in two-dimensional figures.
4.MG.4.c	Draw representations of points, line segments, rays, angles, and lines, using a ruler or straightedge.	Recognize and describe points, lines, line segments, and rays, and identify them in two-dimensional figures.
4.MG.4.d	Identify parallel, perpendicular, and intersecting lines and line segments in plane and solid figures, including those in context.	Classify two-dimensional shapes using parallel and/or perpendicular line segments and angles.
4.MG.5.a	Develop definitions for parallelograms, rectangles, squares, rhombi, and trapezoids through the exploration of properties and attributes.	Identify attributes of quadrilaterals, and understand that quadrilaterals in different categories can share attributes.
4.MG.5.b	Identify and describe points, line segments, angles, and vertices in quadrilaterals.	Classify two-dimensional shapes using parallel and/or perpendicular line segments and angles.

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4.MG.5.c	Identify and describe parallel, intersecting, perpendicular, and congruent sides in quadrilaterals.	Classify two-dimensional shapes using parallel and/or perpendicular line segments and angles.
4.MG.5.d	Compare, contrast, and classify quadrilaterals (parallelograms, rectangles, squares, rhombi, and/or trapezoids) based on the following properties and attributes:	Classify two-dimensional shapes using parallel and/or perpendicular line segments and angles.
	i. parallel sides;	
	ii. perpendicular sides;	
	iii. congruence of sides; and	
	iv. number of right angles.	
4.PFA.1.a	Identify, describe, extend, and create increasing and decreasing patterns using various representations (e.g., objects, pictures, numbers, number lines, input/output tables, and function machines).	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
4.PFA.1.b	Analyze an increasing or decreasing single-operation numerical pattern found in lists, input/output tables, or function machines and generalize the change to identify the rule, extend the pattern, or identify missing terms.	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
4.PFA.1.c	Given a rule, create increasing and decreasing patterns using numbers and input/output tables (including function machines).	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
4.PFA.1.d	Solve contextual problems that involve identifying, describing, and extending increasing and decreasing patterns using single-operation input and output rules.	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.

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5.NS.1.a	Use concrete and pictorial models to represent fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form.	Represent fractions with denominators 10 or 100 in decimal form.
5.NS.1.d	Compare (using symbols <, >, =) and order (least to greatest and greatest to least) a set of no more than four decimals and fractions (proper, improper) and/or mixed numbers using multiple strategies (e.g., benchmarks, place value, number lines). Justify solutions orally, in writing, or with a model.	Use place-value understanding to compare decimals written to the thousandths place, recording the comparison with a <, >, or = sign.
5.NS.2.a	Given a whole number up to 100, create a concrete or pictorial representation to demonstrate whether the number is prime or composite, and justify reasoning.	Understand the meaning of prime and composite, and determine whether a number is prime or composite for whole numbers to 100.

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5.NS.2.b	Classify, compare, and contrast whole numbers up to 100 using the characteristics prime and composite.	Understand the meaning of prime and composite, and determine whether a number is prime or composite for whole numbers to 100.
5.CE.1.b	Represent, solve, and justify solutions to single-step and multistep contextual problems by applying strategies (e.g., estimation, properties of addition and multiplication) and algorithms, including the standard algorithm, involving addition, subtraction, multiplication, and division of whole numbers, with and without remainders, in which:	Use place-value understanding, properties of operations, and models to multiply two two-digit whole numbers.
	i. sums, differences, and products do not exceed five digits;	
	ii. factors do not exceed two digits by three digits;	Use the standard algorithm to add and subtract whole numbers within 1,000,000.
	iii. divisors do not exceed two digits; or	Use place-value understanding, properties of operations, and models to multiply up to a four-digit whole number by a one-digit whole number.
	iv. dividends do not exceed four digits.	Use place-value understanding, properties of operations, and models to divide up to a four-digit dividend by a one-digit divisor without remainder.
5.CE.1.c	Interpret the quotient and remainder when solving a contextual problem.	Solve division word problems and interpret the remainders.
5.CE.2.a	Determine the least common multiple of two numbers to find the least common denominator for two fractions.	Add and subtract fractions, including mixed numbers, with unlike denominators by creating equivalent fractions using least common denominators.
5.CE.2.b	Estimate and determine the sum or difference of two fractions (proper or improper) and/or mixed numbers, having like and unlike denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12 (e.g., 5/8 + 1/4, 4/5 – 2/3, 3 3/4 + 2 5/12), and simplify the resulting fraction.	Add and subtract fractions, including mixed numbers, with unlike denominators by creating equivalent fractions using least common denominators.
5.CE.2.c	Estimate and solve single-step and multistep contextual problems involving addition and subtraction with fractions (proper or improper) and/or mixed numbers having like and unlike denominators, with and without models. Denominators should be limited to 2, 3, 4, 5, 6, 8, 10, and 12. Answers should be expressed in simplest form.	Add and subtract fractions, including mixed numbers, with unlike denominators by creating equivalent fractions using least common denominators.

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5.CE.2.d	Solve single-step contextual problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction (e.g., 9 × 2/3, 8 × 3/4), with models. The denominator will be a factor of the whole number and answers should be expressed in simplest form.	Multiply a fraction by a whole number, and represent a non-unit fraction, including fractions greater than 1, as a product of a whole number and a unit fraction. Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
5.CE.3.a	Apply estimation strategies (e.g., rounding to the nearest whole number, tenth or hundredth; compatible numbers, place value) to determine a reasonable solution for single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals, and single-step contextual problems involving division of decimals.	Use place-value understanding to round decimal numbers to a given place. Decimal numbers are limited to tenths, hundredths, and thousandths.
5.CE.3.b	Estimate and determine the product of two numbers using strategies and algorithms, including the standard algorithm, when given:	Multiply and divide decimal numbers to the hundredths place using understanding of place value, properties of operations, and models.
	i. a two-digit factor and a one-digit factor (e.g., 2.3 × 4; 0.08 × 0.9; .16 × 5);	
	ii. a three-digit factor and a one-digit factor (e.g., 0.156 × 4, 3.28 × 7, 8.09 × 0.2); and	
	iii. a two-digit factor and a two-digit factor (e.g., 0.85 × 3.7, 14 × 1.6, 9.2 × 3.5).	
5.CE.3.c	Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which:	Multiply and divide decimal numbers to the hundredths place using understanding of place value, properties of operations, and models.
	i. quotients do not exceed four digits with or without a decimal point;	
	ii. quotients may include whole numbers, tenths, hundredths, or thousandths;	
	iii. divisors are limited to a single digit whole number or a decimal expressed as tenths; and	
	iv. no more than one additional zero will need to be annexed.	
5.CE.3.d	Solve single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	Use the four operations to solve word problems involving whole numbers and decimals to hundredths.
5.CE.3.e	Solve single-step contextual problems involving division with decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	Use the four operations to solve word problems involving whole numbers and decimals to hundredths.
5.MG.1.a	Determine the most appropriate unit of measure to use in a contextual problem that involves metric units:	Within one system of units, know the relative sizes of measurements units of length and express these measurements from a larger unit in terms of a smaller unit.
	i. length (millimeters, centimeters, meters, and kilometers);	

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	ii. mass (grams and kilograms); and	
	iii. liquid volume (milliliters and liters).	Convert among length, weight/mass, and liquid volume measurement units within a given system, and use conversions to solve multistep word problems.
5.MG.1.b	Estimate and measure to solve contextual problems that involve metric units:	Use a ruler to measure objects to nearest eighth of an inch, centimeter, or millimeter, including situations where the ruler does not begin measurement at zero.
	i. length (millimeters, centimeters, and meters);	
	ii. mass (grams and kilograms); and	
	iii. liquid volume (milliliters and liters).	
5.MG.1.c	Given the equivalent metric measure of one unit, in a contextual problem, determine the equivalent measurement within the metric system:	Convert among length, weight/mass, and liquid volume measurement units within a given system, and use conversions to solve multistep word problems.
	i. length (millimeters, centimeters, meters, and kilometers);	
	ii. mass (grams and kilograms); and	
	iii. liquid volume (milliliters and liters).	
5.MG.2.a	Investigate and develop a formula for determining the area of a right triangle.	Use area formulas and decomposition to find the areas of triangles, quadrilaterals, and composite figures.
5.MG.2.b	Estimate and determine the area of a right triangle, with diagrams, when the base and the height are given in whole number units, in metric or U.S. Customary units, and record the solution with the appropriate unit of measure (e.g., 16 square inches).	Use area formulas and decomposition to find the areas of triangles, quadrilaterals, and composite figures.
5.MG.2.c	Describe volume as a measure of capacity and give examples of volume as a measurement in contextual situations.	Find the volumes of rectangular prisms with whole-number side lengths by packing them with unit cubes and using the formulas V = l x w x h and V = b x h.
5.MG.2.d	Investigate and develop a formula for determining the volume of rectangular prisms using concrete objects.	Find the volumes of rectangular prisms with whole-number side lengths by packing them with unit cubes and using the formulas V = l x w x h and V = b x h.
5.MG.2.e	Solve problems, including those in context, to estimate and determine the volume of a rectangular prism using concrete objects, diagrams, and formulas when the length, width, and height are given in whole number units. Record the solution with the appropriate unit of measure (e.g., 12 cubic inches).	Solve real-world problems involving calculating volumes of rectangular prisms. Calculate volumes of figures composed of two rectangular prisms by adding the volumes.
5.MG.2.g	Solve contextual problems that involve perimeter, area, and volume in standard units of measure.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
		Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

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5.MG.3.a	Classify angles as right, acute, obtuse, or straight and justify reasoning.	Recognize and describe acute, obtuse, and right angles, and identify them in two-dimensional figures.
5.MG.3.b	Classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles and justify reasoning.	Recognize and describe acute, obtuse, and right angles, and identify them in two-dimensional figures.
5.MG.3.e	Identify the appropriate tools (e.g., protractor, straightedge, angle ruler, available technology) to measure and draw angles.	Understand how angle measurements relate to a circle and measure angles to whole number degrees using a protractor. Add or subtract to calculate the measurement of a missing angle to form a complete circle.
5.MG.3.f	Measure right, acute, obtuse, and straight angles, using appropriate tools, and identify measures in degrees.	Understand how angle measurements relate to a circle and measure angles to whole number degrees using a protractor. Add or subtract to calculate the measurement of a missing angle to form a complete circle.
5.MG.3.h	Solve addition and subtraction contextual problems to determine unknown angle measures on a diagram.	Understand how angle measurements relate to a circle and measure angles to whole number degrees using a protractor. Add or subtract to calculate the measurement of a missing angle to form a complete circle.
5.PS.1.a	Formulate questions that require the collection or acquisition of data.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PS.1.c	Organize and represent a data set using a line plot (dot plot) with a title, labeled axes, and a key, with and without the use of technology tools. Line plots (dot plots) may contain whole numbers, fractions, or decimals.	Represent fractional data on a line plot. Use operations on fractions to solve problems involving data presented in a line plot.
5.PS.1.d	Organize and represent numerical data using a stem-and-leaf plot with a title and key, where the stems are listed in ascending order and the leaves are in ascending order, with or without commas between the leaves.	Use graphs to display and interpret numerical data.
5.PS.1.e	Analyze data represented in line plots (dot plots) and stem-and-leaf plots and communicate results orally and in writing:	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
	i. describe the characteristics of the data represented in a line plot (dot plot) and stem-and-leaf plot as a whole (e.g., the shape and spread of the data);	
	ii. make inferences about data represented in line plots (dot plots) and stem-and-leaf plots (e.g., based on a line plot (dot plot) of the number of books students in a bus line have in their backpack, every student will have from two to four books in their backpack);	

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	iii. identify parts of the data that have special characteristics and explain the meaning of the greatest, the least, or the same (e.g., the stem-and-leaf plot shows that the same number of students scored in the 90s as scored in the 70s);	
	iv. draw conclusions about the data and make predictions based on the data to answer questions; and	Use graphs to display and interpret numerical data.
	v. solve single-step and multistep addition and subtraction problems using data from line plots (dot plots) and stem-and-leaf plots.	Represent fractional data on a line plot. Use operations on fractions to solve problems involving data presented in a line plot.
5.PS.2.a	Describe mean as fair share.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PS.2.b	Describe and determine the mean of a set of data values representing data from a given context as a measure of center.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PS.2.c	Describe and determine the median of a set of data values representing data from a given context as a measure of center.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PS.2.d	Describe and determine the mode of a set of data values representing data from a given context as a measure of center.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PS.2.e	Describe and determine the range of a set of data values representing data from a given context as a measure of spread.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
5.PFA.1.a	Identify, describe, extend, and create increasing and decreasing patterns using various representations (e.g., objects, pictures, numbers, number lines, input/output tables, function machines).	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
5.PFA.1.b	Analyze an increasing or decreasing single-operation numerical pattern found in lists, input/output tables, and function machines, and generalize the change to identify the rule, extend the pattern, or identify missing terms. (Patterns will be limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.

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5.PFA.1.c	Solve contextual problems that involve identifying, describing, and extending increasing and decreasing patterns using single-operation input and output rules (limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	Generate number or shape patterns for a given rule. Extend and describe patterns by identifying the rule.
5.PFA.2.a	Describe the concept of a variable (presented as a box, letter, or other symbol) as a representation of an unknown quantity.	Write expressions with variables to symbolize problem situations.
5.PFA.2.b	Write an equation (with a single variable that represents an unknown quantity and one operation) from a contextual situation, using addition, subtraction, multiplication, or division.	Write and solve one-variable equations and inequalities that represent mathematical and real-world situations.
5.PFA.2.c	Use an expression with a variable to represent a given verbal expression involving one operation (e.g., “5 more than a number” can be represented by y + 5).	Write expressions with variables to symbolize problem situations.

Grade 6

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6.NS.1.a	Estimate and determine the percent represented by a given model (e.g., number line, picture, verbal description), including percents greater than 100% and less than 1%.	Solve percent problems.
6.NS.1.b	Represent and determine equivalencies among decimals (through the thousandths place) and percents incorporating the use of number lines, and concrete and pictorial models.	Use number lines to describe and compare rational numbers.
6.NS.1.c	Represent and determine equivalencies among fractions (proper or improper) and mixed numbers that have denominators that are 12 or less or factors of 100 and percents incorporating the use of number lines, and concrete and pictorial models.	Use number lines to describe and compare rational numbers.
6.NS.1.d	Represent and determine equivalencies among decimals, percents, fractions (proper or improper), and mixed numbers that have denominators that are 12 or less or factors of 100 incorporating the use of number lines, and concrete and pictorial models.	Use number lines to describe and compare rational numbers.

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6.NS.1.e	Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare and order no more than four positive rational numbers expressed as fractions (proper or improper), mixed numbers, decimals, and percents (decimals through thousandths, fractions with denominators of 12 or less or factors of 100) with and without models. Justify solutions orally, in writing or with a model. Ordering may be in ascending or descending order.	Use number lines to describe and compare rational numbers.
6.NS.2.a	Represent integers (e.g., number lines, concrete materials, pictorial models), including models derived from contextual situations, and identify an integer represented by a point on a number line.	Use number lines to describe and compare rational numbers.
6.NS.2.b	Compare and order integers using a number line.	Use number lines to describe and compare rational numbers.
6.NS.2.c	Compare integers, using mathematical symbols (<, >, =).	Describe, compare, and interpret negative and positive rational numbers.
6.NS.2.d	Identify and describe the absolute value of an integer as the distance from zero on the number line.	Interpret, describe, and compare absolute values of rational numbers.
6.NS.3.d	Recognize and represent powers of 10 with whole number exponents by examining patterns in place value.	Describe the relationship between adjacent places in numbers. Use patterns in zeros to multiply or divide a whole number or decimal number by a power of 10. Express powers of 10 using exponents.
6.CE.1.a	Demonstrate/model multiplication and division of fractions (proper or improper) and mixed numbers using multiple representations.	Multiply a fraction or whole number by a fraction using models, properties of multiplication, and understanding of multiplication.
		Use strategies to divide fractions in real-world and mathematical problems.
6.CE.1.b	Multiply and divide fractions (proper or improper) and mixed numbers that include denominators of 12 or less. Answers are expressed in simplest form.	Multiply a fraction or whole number by a fraction using models, properties of multiplication, and understanding of multiplication.
		Use strategies to divide fractions in real-world and mathematical problems.
6.CE.1.c	Investigate and explain the effect of multiplying or dividing a fraction, whole number, or mixed number by a number between zero and one.	Understand multiplication as scaling. Compare the product to one of its factors when multiplying a whole number or fraction by a fraction greater than 1, less than 1, or equal to 1.

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6.CE.1.d	Estimate, determine, and justify the solution to single-step and multistep problems in context that involve addition and subtraction with fractions (proper or improper) and mixed numbers, with and without regrouping, that include like and unlike denominators of 12 or less. Answers are expressed in simplest form.	Add and subtract fractions, including mixed numbers, with unlike denominators by creating equivalent fractions using least common denominators.
6.CE.1.e	Estimate, determine, and justify the solution to single-step and multistep problems in context that involve multiplication and division with fractions (proper or improper) and mixed numbers that include denominators of 12 or less. Answers are expressed in simplest form.	Multiply a fraction or whole number by a fraction using models, properties of multiplication, and understanding of multiplication.
		Use strategies to divide fractions in real-world and mathematical problems.
6.CE.2.a	Demonstrate/model addition, subtraction, multiplication, and division of integers using pictorial representations or concrete manipulatives.	Use properties of operations to add and subtract positive and negative rational numbers, and represent these operations on number lines. Understand real-world and mathematical additive inverses.
		Use properties of operations to multiply and divide positive and negative rational numbers in real-world and mathematical problems, and represent these operations on number lines.
6.CE.2.b	Add, subtract, multiply, and divide two integers.	Add, subtract, multiply, and divide positive and negative rational numbers.
6.CE.2.c	Simplify an expression that contains absolute value bars | | and an operation with two integers (e.g., –|5 – 8| or |–12|/8) and represent the result on a number line.	Interpret, describe, and compare absolute values of rational numbers.
6.CE.2.d	Estimate, determine, and justify the solution to one and two-step contextual problems, involving addition, subtraction, multiplication, and division with integers.	Add, subtract, multiply, and divide positive and negative rational numbers in real-world problems with and without models.
6.MG.1.a	Identify and describe chord, diameter, radius, circumference, and area of a circle.	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
6.MG.1.b	Investigate and describe the relationship between:	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
	i. diameter and radius;	
	ii. radius and circumference; and	
	iii. diameter and circumference.	
6.MG.1.c	Develop an approximation for pi (3.14) by gathering data and comparing the circumference to the diameter of various circles, using concrete manipulatives or technological models.	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
6.MG.1.d	Develop the formula for circumference using the relationship between diameter, radius, and pi.	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.

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6.MG.1.e	Solve problems, including those in context, involving circumference and area of a circle when given the length of the diameter or radius.	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
6.MG.2.a	Develop the formula for determining the area of parallelograms and triangles using pictorial representations and concrete manipulatives (e.g., two-dimensional diagrams, grid paper).	Use area formulas and decomposition to find the areas of triangles, quadrilaterals, and composite figures.
6.MG.2.b	Solve problems, including those in context, involving the perimeter and area of triangles and parallelograms.	Use area formulas and decomposition to find the areas of triangles, quadrilaterals, and composite figures.
6.MG.3.a	Identify and label the axes, origin, and quadrants of a coordinate plane.	Understand concepts related to the coordinate system. In the first quadrant of the coordinate plane, identify and graph ordered pairs and interpret coordinate values in the context of real world or mathematical situations.
6.MG.3.b	Identify and describe the location (quadrant or the axis) of a point given as an ordered pair. Ordered pairs will be limited to coordinates expressed as integers.	Understand concepts related to the coordinate system. In the first quadrant of the coordinate plane, identify and graph ordered pairs and interpret coordinate values in the context of real world or mathematical situations.
6.MG.3.c	Graph ordered pairs in the four quadrants and on the axes of a coordinate plane. Ordered pairs will be limited to coordinates expressed as integers.	Graph points on a coordinate plane, calculate the distance between two points on a horizontal or vertical line, and understand the locations of points that have been reflected across one or both axes.
6.MG.3.d	Identify ordered pairs represented by points in the four quadrants and on the axes of the coordinate plane. Ordered pairs will be limited to coordinates expressed as integers.	Graph points on a coordinate plane, calculate the distance between two points on a horizontal or vertical line, and understand the locations of points that have been reflected across one or both axes.
6.MG.3.e	Relate the coordinates of a point to the distance from each axis and relate the coordinates of a single point to another point on the same horizontal or vertical line. Ordered pairs will be limited to coordinates expressed as integers.	Graph points on a coordinate plane, calculate the distance between two points on a horizontal or vertical line, and understand the locations of points that have been reflected across one or both axes.
6.MG.3.f	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to determine the length of a side joining points with the same first coordinate or the same second coordinate. Ordered pairs will be limited to coordinates expressed as integers. Apply these techniques in the context of solving contextual and mathematical problems.	Use coordinate graphs to find side lengths and areas of polygons.
6.PS.1.a	Formulate questions that require the collection or acquisition of data with a focus on circle graphs.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.

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6.PS.1.b	Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments).	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
6.PS.1.c	Determine the factors that will ensure that the data collected is a sample that is representative of a larger population.	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
6.PS.1.d	Organize and represent data using circle graphs, with and without the use of technology tools. The number of data values should be limited to allow for comparisons that have denominators of 12 or less or those that are factors of 100 (e.g., in a class of 20 students, 7 choose apples as a favorite fruit, so the comparison is 7 out of 20, 7/20, or 35%).	Use graphs to display and interpret numerical data. Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
6.PS.1.e	Analyze data represented in a circle graph by making observations and drawing conclusions.	Use graphs to display and interpret numerical data.
6.PS.1.f	Compare data represented in a circle graph with the same data represented in other graphs, including but not limited to bar graphs, pictographs, and line plots (dot plots), and justify which graphical representation best represents the data.	Use graphs to display and interpret numerical data.
6.PS.2.a	Represent the mean of a set of data graphically as the balance point represented in a line plot (dot plot).	Use measures of central tendency and variability to compare datasets, and use these measures to make inferences about a population.
6.PS.2.b	Determine the effect on measures of center when a single value of a data set is added, removed, or changed.	Use measures of central tendency and variability to compare datasets, and use these measures to make inferences about a population.
6.PS.2.c	Observe patterns in data to identify outliers and determine their effect on mean, median, mode, or range.	Use measures of central tendency and variability to compare datasets, and use these measures to make inferences about a population.
6.PFA.1.a	Represent a relationship between two quantities using ratios.	Use ratios and ratio language to describe real-world quantities.
6.PFA.1.b	Represent a relationship in context that makes a comparison by using the notations a/b, a:b, and a to b.	Use ratios and ratio language to describe real-world quantities.
6.PFA.1.c	Represent different comparisons within the same quantity or between different quantities (e.g., part to part, part to whole, whole to whole).	Use ratios and ratio language to describe real-world quantities.
6.PFA.1.d	Create a relationship in words for a given ratio expressed symbolically.	Use ratios and ratio language to describe real-world quantities.

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6.PFA.1.e	Create a table of equivalent ratios to represent a proportional relationship between two quantities, when given a ratio.	Use ratios and proportions to solve real-world and mathematical problems.
6.PFA.1.f	Create a table of equivalent ratios to represent a proportional relationship between two quantities, when given a contextual situation.	Use ratios and proportions to solve real-world and mathematical problems.
6.PFA.2.a	Identify the unit rate of a proportional relationship represented by a table of values, a contextual situation, or a graph.	Use ratio reasoning to solve problems involving unit rates.
6.PFA.2.b	Determine a missing value in a ratio table that represents a proportional relationship between two quantities using a unit rate.	Solve problems with unit rates computed from verbal descriptions, graphs, tables, and equations, and understand graphs of proportional relationships.
6.PFA.2.c	Determine whether a proportional relationship exists between two quantities, when given a table of values, context, or graph.	Use proportional reasoning to decide whether two quantities are in a proportional relationship, and create equations and analyze graphs of proportional relationships.
6.PFA.2.d	When given a contextual situation representing a proportional relationship, find the unit rate and create a table of values or a graph.	Solve problems with unit rates computed from verbal descriptions, graphs, tables, and equations, and understand graphs of proportional relationships.
6.PFA.2.e	Make connections between and among multiple representations of the same proportional relationship using verbal descriptions, ratio tables, and graphs.	Use proportional reasoning to decide whether two quantities are in a proportional relationship, and create equations and analyze graphs of proportional relationships.
6.PFA.3.b	Represent and solve one-step linear equations in one variable, using a variety of concrete manipulatives and pictorial representations (e.g., colored chips, algebra tiles, weights on a balance scale).	Write and solve one-variable linear equations that represent real-world situations.
6.PFA.3.c	Apply properties of real numbers and properties of equality to solve a one-step equation in one variable. Coefficients are limited to integers and unit fractions. Numeric terms are limited to integers.	Write and solve one-variable equations and inequalities that represent mathematical and real-world situations.
6.PFA.3.d	Confirm solutions to one-step linear equations in one variable using a variety of concrete manipulatives and pictorial representations (e.g., colored chips, algebra tiles, weights on a balance scale).	Write and solve one-variable linear equations that represent real-world situations.
6.PFA.3.e	Write a one-step linear equation in one variable to represent a verbal situation, including those in context.	Write and solve one-variable linear equations that represent real-world situations.
6.PFA.3.f	Create a verbal situation in context given a one-step linear equation in one variable.	Write and solve one-variable linear equations that represent real-world situations.

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6.PFA.4.a	Given the graph of a linear inequality in one variable on a number line, represent the inequality in two equivalent ways (e.g., x < –5 or –5 > x) using symbols. Symbols include <, >, less than or equal to, greater than or equal to.	Write and solve one-variable equations and inequalities that represent mathematical and real-world situations.
6.PFA.4.b	Write a linear inequality in one variable to represent a given constraint or condition in context or given a graph on a number line.	Write and solve one-variable equations and inequalities that represent mathematical and real-world situations.
6.PFA.4.c	Given a linear inequality in one variable, create a corresponding contextual situation or create a number line graph.	Write and solve one-variable equations and inequalities that represent mathematical and real-world situations.
6.PFA.4.d	Use substitution or a number line graph to justify whether a given number in a specified set makes a linear inequality in one variable true.	Use substitution to solve one-variable equations and inequalities.
6.PFA.4.e	Identify a numerical value(s) that is part of the solution set of a given inequality in one variable.	Use substitution to solve one-variable equations and inequalities.

Grade 7

VA Code	VA Standard	Exact Path ELA Skill
7.NS.1.c	Convert between numbers greater than 0 written in scientific notation and decimals.	Convert between and use scientific notation and standard form to estimate and compare quantities, and perform operations on numbers written in scientific notation and standard form.
7.NS.1.d	Compare and order no more than four numbers greater than 0 written in scientific notation. Ordering may be in ascending or descending order.	Convert between and use scientific notation and standard form to estimate and compare quantities, and perform operations on numbers written in scientific notation and standard form.
7.NS.2.a	Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare (using symbols <, >, =) and order (a set of no more than four) rational numbers expressed as integers, fractions (proper or improper), mixed numbers, decimals, and percents. Fractions and mixed numbers may be positive or negative. Decimals may be positive or negative and are limited to the thousandths place. Ordering may be in ascending or descending order. Justify solutions orally, in writing or with a model.	Describe, compare, and interpret negative and positive rational numbers.
7.NS.3.a	Determine the positive square root of a perfect square from 0 to 400.	Find the solutions to simple one-variable quadratic and cubic equations, and evaluate perfect squares and perfect cubes.
7.NS.3.b	Describe the relationship between square roots and perfect squares.	Find the solutions to simple one-variable quadratic and cubic equations, and evaluate perfect squares and perfect cubes.

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7.CE.1.a	Estimate, solve, and justify solutions to contextual problems involving addition, subtraction, multiplication, and division with rational numbers expressed as integers, fractions (proper or improper), mixed numbers, and decimals. Fractions may be positive or negative. Decimals may be positive or negative and are limited to the thousandths place.	Use properties of operations to solve multi-step real-world problems with rational numbers.
7.CE.2.a	Given a proportional relationship between two quantities, create and use a ratio table to determine missing values.	Use tables, graphs and equations to represent, interpret and compare proportional relationships. Use similar triangles to find slope of a non-vertical line in the coordinate plane, and represent lines in the coordinate plane with equations in slope-intercept form.
7.CE.2.b	Write and solve a proportion that represents a proportional relationship between two quantities to find a missing value, including problems in context.	Use proportional reasoning to decide whether two quantities are in a proportional relationship, and create equations and analyze graphs of proportional relationships.
7.CE.2.c	Apply proportional reasoning to solve problems in context, including converting units of measurement, when given the conversion factor.	Use ratios and proportions to solve real-world and mathematical problems.
7.CE.2.d	Estimate and determine the percentage of a given whole number, including but not limited to the use of benchmark percentages.	Use proportional reasoning to solve real-world multi-step percent problems.
7.MG.1.a	Develop the formulas for determining the volume of right cylinders and solve problems, including those in contextual situations, using concrete objects, diagrams, and formulas.	Use formulas to find the volume of cones, cylinders and spheres in real-world and mathematical problems.
7.MG.1.b	Develop the formulas for determining the surface area of rectangular prisms and right cylinders and solve problems, including those in contextual situations, using concrete objects, two-dimensional diagrams, nets, and formulas.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
7.MG.1.c	Determine if a problem in context, involving a rectangular prism or right cylinder, represents the application of volume or surface area.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
7.MG.1.d	Describe how the volume of a rectangular prism is affected when one measured attribute is multiplied by a factor of 1/4, 1/3, 1/2, 2, 3, or 4, including those in contextual situations.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
7.MG.1.e	Describe how the surface area of a rectangular prism is affected when one measured attribute is multiplied by a factor of 1/2 or 2, including those in contextual situations.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.

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7.MG.2.h	Apply proportional reasoning to solve problems in context including scale drawings. Scale factors shall have denominators no greater than 12 and decimals no less than tenths.	Use proportional reasoning to solve problems involving scale drawings of geometric figures.
7.MG.4.a	Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been dilated. Scale factors are limited to 1/4, 1/2, 2, 3, or 4. The center of the dilation will be the origin.	Perform transformations of two-dimensional figures in the coordinate plane with translations, rotations, reflections, or dilations.
7.MG.4.b	Sketch the image of a dilation of a polygon limited to a scale factor of 1/4, 1/2, 2, 3, or 4. The center of the dilation will be the origin.	Perform transformations of two-dimensional figures in the coordinate plane with translations, rotations, reflections, or dilations.
7.MG.4.c	Identify and describe dilations in context including, but not limited to, scale drawings and graphic design.	Use proportional reasoning to solve problems involving scale drawings of geometric figures.
7.PS.1.a	Determine the theoretical probability of an event.	Use probability to describe the likelihood of an event. Calculate the theoretical or experimental probability of a simple or compound event, and use it to make predictions. Use tables, lists and tree diagrams to represent sample spaces.
7.PS.1.b	Given the results of a statistical investigation, determine the experimental probability of an event.	Use probability to describe the likelihood of an event. Calculate the theoretical or experimental probability of a simple or compound event, and use it to make predictions. Use tables, lists and tree diagrams to represent sample spaces.
7.PS.1.c	Describe changes in the experimental probability as the number of trials increases.	Use probability to describe the likelihood of an event. Calculate the theoretical or experimental probability of a simple or compound event, and use it to make predictions. Use tables, lists and tree diagrams to represent sample spaces.
7.PS.1.d	Investigate and describe the difference between the probability of an event found through experiment or simulation versus the theoretical probability of that same event.	Use probability to describe the likelihood of an event. Calculate the theoretical or experimental probability of a simple or compound event, and use it to make predictions. Use tables, lists and tree diagrams to represent sample spaces.
7.PS.2.a	Formulate questions that require the collection or acquisition of data with a focus on histograms.	Recognize statistical questions, and use measures of center and variability to describe the distribution of data gathered from a statistical question.
7.PS.2.b	Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments).	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.

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7.PS.2.c	Determine how sample size and randomness will ensure that the data collected is a sample that is representative of a larger population.	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
7.PS.2.d	Organize and represent numerical data using histograms with and without the use of technology.	Use graphs to display and interpret numerical data.
7.PS.2.e	Investigate and explain how using different intervals could impact the representation of the data in a histogram.	Use graphs to display and interpret numerical data.
7.PS.2.f	Compare data represented in histograms with the same data represented in other graphs, including but not limited to line plots (dot plots), circle graphs, and stem-and-leaf plots, and justify which graphical representation best represents the data.	Use graphs to display and interpret numerical data.
7.PS.2.g	Analyze data represented in histograms by making observations and drawing conclusions. Determine how histograms reveal patterns in data that cannot be easily seen by looking at the corresponding given data set.	Use graphs to display and interpret numerical data.
7.PFA.1.a	Determine the slope, m, as the rate of change in a proportional relationship between two quantities given a table of values, graph, or contextual situation and write an equation in the form y = mx to represent the direct variation relationship. Slope may include positive or negative values (slope will be limited to positive values in a contextual situation).	Use tables, graphs and equations to represent, interpret and compare proportional relationships. Use similar triangles to find slope of a non-vertical line in the coordinate plane, and represent lines in the coordinate plane with equations in slope-intercept form.
7.PFA.1.b	Identify and describe a line with a slope that is positive, negative, or zero (0), given a graph.	Use tables, graphs and equations to represent, interpret and compare proportional relationships. Use similar triangles to find slope of a non-vertical line in the coordinate plane, and represent lines in the coordinate plane with equations in slope-intercept form.
7.PFA.1.e	Make connections between and among representations of a proportional relationship between two quantities using problems in context, tables, equations, and graphs. Slope may include positive or negative values (slope will be limited to positive values in a contextual situation).	Use tables, graphs and equations to represent, interpret and compare proportional relationships. Use similar triangles to find slope of a non-vertical line in the coordinate plane, and represent lines in the coordinate plane with equations in slope-intercept form.

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7.PFA.2.a	Use the order of operations and apply the properties of real numbers to simplify numerical expressions. Exponents are limited to 1, 2, 3, or 4 and bases are limited to positive integers. Expressions should not include braces { } but may include brackets [ ] and absolute value bars | |. Square roots are limited to perfect squares.	Use order of operations to evaluate numeric and algebraic expressions, including expressions involving exponents.
7.PFA.2.b	Represent equivalent algebraic expressions in one variable using concrete manipulatives and pictorial representations (e.g., colored chips, algebra tiles).	Use order of operations to evaluate numeric and algebraic expressions, including expressions involving exponents.
7.PFA.2.c	Simplify and generate equivalent algebraic expressions in one variable by applying the order of operations and properties of real numbers. Expressions may require combining like terms to simplify. Expressions will include only linear and numeric terms. Coefficients and numeric terms may be positive or negative rational numbers.	Use properties of operations to identify and generate equivalent algebraic expressions.
7.PFA.2.d	Use the order of operations and apply the properties of real numbers to evaluate algebraic expressions for given replacement values of the variables. Exponents are limited to 1, 2, 3, or 4 and bases are limited to positive integers. Expressions should not include braces { } but may include brackets [ ] and absolute value bars | |. Square roots are limited to perfect squares. Limit the number of replacements to no more than three per expression. Replacement values may be positive or negative rational numbers.	Use order of operations to evaluate numeric and algebraic expressions, including expressions involving exponents.
7.PFA.3.a	Represent and solve two-step linear equations in one variable using a variety of concrete materials and pictorial representations.	Write and solve one-variable linear equations that represent real-world situations.
7.PFA.3.b	Apply properties of real numbers and properties of equality to solve two-step linear equations in one variable. Coefficients and numeric terms will be rational.	Write and solve one-variable linear equations that represent real-world situations.
7.PFA.3.c	Confirm algebraic solutions to linear equations in one variable.	Write and solve one-variable linear equations that represent real-world situations.
7.PFA.3.d	Write a two-step linear equation in one variable to represent a verbal situation, including those in context.	Write and solve one-variable linear equations that represent real-world situations.
7.PFA.3.f	Solve problems in context that require the solution of a two-step linear equation.	Write and solve one-variable linear equations that represent real-world situations.

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7.PFA.4.a	Apply properties of real numbers and the addition, subtraction, multiplication, and division properties of inequality to solve one- and two-step inequalities in one variable. Coefficients and numeric terms will be rational.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
7.PFA.4.c	Represent solutions to one- or two-step linear inequalities in one variable algebraically and graphically using a number line.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
7.PFA.4.d	Write one- or two-step linear inequalities in one variable to represent a verbal situation, including those in context.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
7.PFA.4.f	Solve problems in context that require the solution of a one- or two-step inequality.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
7.PFA.4.g	Identify a numerical value(s) that is part of the solution set of a given one- or two-step linear inequality in one variable.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.

Grade 8

VA Code	VA Standard	Exact Path ELA Skill
8.NS.1.a	Estimate and identify the two consecutive natural numbers between which the positive square root of a given number lies and justify which natural number is the better approximation. Numbers are limited to natural numbers from 1 to 400.	Use rational approximation to compare irrational numbers, and estimate the location of an irrational number on a number line.
8.NS.1.b	Use rational approximations (to the nearest hundredth) of irrational numbers to compare, order, and locate values on a number line. Radicals may include both positive and negative square roots of values from 0 to 400 yielding an irrational number.	Use rational approximation to compare irrational numbers, and estimate the location of an irrational number on a number line.
8.NS.1.c	Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare and order no more than five real numbers expressed as integers, fractions (proper or improper), decimals, mixed numbers, percents, numbers written in scientific notation, radicals, and pi. Radicals may include both positive and negative square roots of values from 0 to 400. Ordering may be in ascending or descending order. Justify solutions orally, in writing or with a model.	Use rational approximation to compare irrational numbers, and estimate the location of an irrational number on a number line.

VA Code	VA Standard	Exact Path ELA Skill
8.NS.2.a	Describe and illustrate the relationships among the subsets of the real number system by using representations (e.g., graphic organizers, number lines). Subsets include rational numbers, irrational numbers, integers, whole numbers, and natural numbers.	Identify rational and irrational numbers, find the decimal expansion of a fraction, and convert a decimal expansion to a fraction.
8.NS.2.b	Classify and explain why a given number is a member of a particular subset or subsets of the real number system.	Identify rational and irrational numbers, find the decimal expansion of a fraction, and convert a decimal expansion to a fraction.
8.NS.2.c	Describe each subset of the set of real numbers and include examples and non-examples.	Identify rational and irrational numbers, find the decimal expansion of a fraction, and convert a decimal expansion to a fraction.
8.CE.1.a	Estimate and solve contextual problems that require the computation of one discount or markup and the resulting sale price.	Use proportional reasoning to solve real-world multi-step percent problems.
8.CE.1.b	Estimate and solve contextual problems that require the computation of the sales tax, tip and resulting total.	Use proportional reasoning to solve real-world multi-step percent problems.
8.CE.1.c	Estimate and solve contextual problems that require the computation of the percent increase or decrease.	Use proportional reasoning to solve real-world multi-step percent problems.
8.MG.1.a	Identify and describe the relationship between pairs of angles that are vertical, adjacent, supplementary, and complementary.	Use knowledge of supplementary, complementary, vertical and adjacent angles to find unknown angle measures in a figure.
8.MG.1.b	Use the relationships among supplementary, complementary, vertical, and adjacent angles to solve problems, including those in context, involving the measure of unknown angles.	Use knowledge of supplementary, complementary, vertical and adjacent angles to find unknown angle measures in a figure.
8.MG.2.a	Determine the surface area of square-based pyramids by using concrete objects, nets, diagrams, and formulas.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
8.MG.2.b	Determine the volume of cones and square-based pyramids, using concrete objects, diagrams, and formulas.	Use formulas to find the volume of cones, cylinders and spheres in real-world and mathematical problems.
8.MG.2.c	Examine and explain the relationship between the volume of cones and cylinders, and the volume of rectangular prisms and square based pyramids.	Use formulas to find the volume of cones, cylinders and spheres in real-world and mathematical problems.
8.MG.2.d	Solve problems in context involving volume of cones and square-based pyramids and the surface area of square-based pyramids.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
		Use formulas to find the volume of cones, cylinders and spheres in real-world and mathematical problems.

VA Code	VA Standard	Exact Path ELA Skill
8.MG.3.a	Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been translated vertically, horizontally, or a combination of both.	Perform transformations of two-dimensional figures in the coordinate plane with translations, rotations, reflections, or dilations.
8.MG.3.b	Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been reflected over the x- or y-axis.	Perform transformations of two-dimensional figures in the coordinate plane with translations, rotations, reflections, or dilations.
8.MG.3.c	Given a preimage in the coordinate plane, identify the coordinates of the image of a polygon that has been translated and reflected over the x- or y-axis or reflected over the x- or y-axis and then translated.	Perform transformations of two-dimensional figures in the coordinate plane with translations, rotations, reflections, or dilations.
8.MG.4.a	Verify the Pythagorean Theorem using diagrams, concrete materials, and measurement.	Use the Pythagorean Theorem to find missing side lengths in right triangles in real-world and mathematical problems in two- and three-dimensions and to find the distance between two points in the coordinate plane.
8.MG.4.b	Determine whether a triangle is a right triangle given the measures of its three sides.	Use the Pythagorean Theorem to find missing side lengths in right triangles in real-world and mathematical problems in two- and three-dimensions and to find the distance between two points in the coordinate plane.
8.MG.4.c	Identify the parts of a right triangle (the hypotenuse and the legs) given figures in various orientations.	Describe and classify triangles with given conditions.
8.MG.4.d	Determine the measure of a side of a right triangle, given the measures of the other two sides.	Use the Pythagorean Theorem to find missing side lengths in right triangles in real-world and mathematical problems in two- and three-dimensions and to find the distance between two points in the coordinate plane.
8.MG.4.e	Apply the Pythagorean Theorem, and its converse, to solve problems involving right triangles in context.	Use the Pythagorean Theorem to find missing side lengths in right triangles in real-world and mathematical problems in two- and three-dimensions and to find the distance between two points in the coordinate plane.
8.MG.5.a	Subdivide a plane figure into triangles, rectangles, squares, trapezoids, parallelograms, circles, and semicircles. Determine the area of subdivisions and combine to determine the area of the composite plane figure.	Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.
8.MG.5.c	Apply perimeter, circumference, and area formulas to solve contextual problems involving composite plane figures.	Use formulas for area and circumference of a circle to solve real-world and mathematical problems.
		Use formulas for area, surface area and volume to solve real-world and mathematical problems in two- and three-dimensional composite figures.

VA Code	VA Standard	Exact Path ELA Skill
8.PS.2.b	Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments).	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
8.PS.2.c	Determine how statistical bias might affect whether the data collected from the sample is representative of the larger population.	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
8.PS.2.d	Organize and represent a numeric data set of no more than 20 items, using boxplots, with and without the use of technology.	Calculate, interpret, and compare measures of central tendency and spread for data sets. Represent and interpret data on box plots, histograms, and dot plots.
8.PS.2.e	Identify and describe the lower extreme (minimum), upper extreme (maximum), median, upper quartile, lower quartile, range, and interquartile range given a data set, represented by a boxplot.	Calculate, interpret, and compare measures of central tendency and spread for data sets. Represent and interpret data on box plots, histograms, and dot plots.
8.PS.2.g	Analyze data represented in a boxplot by making observations and drawing conclusions.	Calculate, interpret, and compare measures of central tendency and spread for data sets. Represent and interpret data on box plots, histograms, and dot plots.
8.PS.2.h	Compare and analyze two data sets represented in boxplots.	Calculate, interpret, and compare measures of central tendency and spread for data sets. Represent and interpret data on box plots, histograms, and dot plots.
8.PS.2.i	Given a contextual situation, justify which graphical representation (e.g., pictographs, bar graphs, line graphs, line plots/dot plots, stem-and-leaf plots, circle graphs, histograms, and boxplots) best represents the data.	Calculate, interpret, and compare measures of central tendency and spread for data sets. Represent and interpret data on box plots, histograms, and dot plots.
8.PS.3.b	Determine the data needed to answer a formulated question and collect the data (or acquire existing data) of no more than 20 items using various methods (e.g., observations, measurement, surveys, experiments).	Understand sampling methods in surveys and experiments, and make valid generalizations about a population using measures of center or variability of a sample.
8.PS.3.c	Organize and represent numeric bivariate data using scatterplots with and without the use of technology.	Construct scatter plots to represent bivariate data, and recognize and interpret patterns of association between two quantities.
8.PS.3.d	Make observations about a set of data points in a scatterplot as having a positive linear relationship, a negative linear relationship, or no relationship.	Construct scatter plots to represent bivariate data, and recognize and interpret patterns of association between two quantities.

VA Code	VA Standard	Exact Path ELA Skill
8.PS.3.e	Analyze and justify the relationship of the quantitative bivariate data represented in scatterplots.	Construct scatter plots to represent bivariate data, and recognize and interpret patterns of association between two quantities.
8.PS.3.f	Sketch the line of best fit for data represented in a scatterplot.	Use and interpret a line of best fit to describe the relationship between two quantities on a scatter plot.
8.PFA.1.a	Represent algebraic expressions using concrete manipulatives or pictorial representations (e.g., colored chips, algebra tiles), including expressions that apply the distributive property.	Use properties of operations to find equivalent forms of linear algebraic expressions with rational coefficients, and use equivalent forms to help interpret parts of an expression.
8.PFA.1.b	Simplify and generate equivalent algebraic expressions in one variable by applying the order of operations and properties of real numbers. Expressions may need to be expanded (using the distributive property) or require combining like terms to simplify. Expressions will include only linear and numeric terms. Coefficients and numeric terms may be rational.	Use properties of operations to find equivalent forms of linear algebraic expressions with rational coefficients, and use equivalent forms to help interpret parts of an expression.
8.PFA.2.a	Determine whether a relation, represented by a set of ordered pairs, a table, or a graph of discrete points is a function. Sets are limited to no more than 10 ordered pairs.	Determine if a set of ordered pairs, a table, a graph, or an equation is a relation and/or a function. Compare properties of functions represented in different ways.
8.PFA.2.b	Identify the domain and range of a function represented as a set of ordered pairs, a table, or a graph of discrete points.	Determine if a set of ordered pairs, a table, a graph, or an equation is a relation and/or a function. Compare properties of functions represented in different ways.
8.PFA.3.a	Determine how adding a constant (b) to the equation of a proportional relationship y = mx will translate the line on a graph.	Recognize the effects of transformations on linear and exponential functions using graphs, tables, coordinate pairs, and function rules.
8.PFA.3.b	Describe key characteristics of linear functions including slope (m), y-intercept (b), and independent and dependent variables.	Graph linear functions from slope-intercept or point-slope form, and identify slope and intercepts.
8.PFA.3.d	Create a table of values for a linear function given a graph, equation in the form of y = mx + b, or context.	Write linear equations in two variables to represent real-world situations, and interpret properties of the linear relationship that it models. Describe behaviors of graphed linear or non-linear functions.
8.PFA.3.e	Write an equation of a linear function in the form y = mx + b, given a graph, table, or a situation in context.	Write linear equations in two variables to represent real-world situations, and interpret properties of the linear relationship that it models. Describe behaviors of graphed linear or non-linear functions.
8.PFA.4.a	Represent and solve multistep linear equations in one variable with the variable on one or both sides of the equation (up to four steps) using a variety of concrete materials and pictorial representations.	Determine the number of solutions in a one-variable linear equation, and solve one-variable linear equations with rational number coefficients.

VA Code	VA Standard	Exact Path ELA Skill
8.PFA.4.b	Apply properties of real numbers and properties of equality to solve multistep linear equations in one variable (up to four steps). Coefficients and numeric terms will be rational. Equations may contain expressions that need to be expanded (using the distributive property) or require combining like terms to solve.	Determine the number of solutions in a one-variable linear equation, and solve one-variable linear equations with rational number coefficients.
8.PFA.4.c	Write a multistep linear equation in one variable to represent a verbal situation, including those in context.	Write and solve one-variable linear equations that represent real-world situations.
8.PFA.4.e	Solve problems in context that require the solution of a multistep linear equation.	Write and solve one-variable linear equations that represent real-world situations.
8.PFA.4.f	Interpret algebraic solutions in context to linear equations in one variable.	Determine the number of solutions in a one-variable linear equation, and solve one-variable linear equations with rational number coefficients.
8.PFA.4.g	Confirm algebraic solutions to linear equations in one variable.	Determine the number of solutions in a one-variable linear equation, and solve one-variable linear equations with rational number coefficients.
8.PFA.5.a	Apply properties of real numbers and properties of inequality to solve multistep linear inequalities (up to four steps) in one variable with the variable on one or both sides of the inequality. Coefficients and numeric terms will be rational. Inequalities may contain expressions that need to be expanded (using the distributive property) or require combining like terms to solve.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
8.PFA.5.b	Represent solutions to inequalities algebraically and graphically using a number line.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
8.PFA.5.c	Write multistep linear inequalities in one variable to represent a verbal situation, including those in context.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.
8.PFA.5.e	Solve problems in context that require the solution of a multistep linear inequality in one variable.	Write and solve one-variable linear inequalities that represent real-world situations, and graph solutions on a number line.

Exact Path Alignment: 2024 English Standards of Learning for Virginia Public Schools

Grade 3

VA Code	VA Standard	Exact Path ELA Skill
3.FFR.3.A	Decode and encode words with vowel teams and r-controlled vowels.	Decode words by applying knowledge of less common vowel teams. Read high frequency words little, said, over, been, our, were. (Demonstrates understanding of Phonics.)
3.FFR.3.B	Use knowledge of syllabication and syllable types to decode and encode words.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
3.FFR.3.C	Use knowledge of affixes (e.g., suffixes, prefixes) to decode and encode words.	Use knowledge of common affixes to decode multisyllabic words. (Demonstrates understanding of Phonics.)
3.FFR.3.D	Read grade-level high-frequency words, including decodable and irregular words, with automaticity and accuracy.	Read, pronounce, and spell irregular words. (Demonstrates understanding of Phonics.)
3.DSR.A	Read a variety of grade-level complex texts with accuracy, automaticity, appropriate rate, and meaningful expression in successive readings to support comprehension. Monitor while reading to confirm or self-correct word recognition and understanding, as necessary (Reading Fluency, K-12).	Increase reading fluency by properly preparing to read grade-level texts and rereading as necessary. (Demonstrates understanding of Fluency.)
3.DSR.B	Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the higher range of the grades 2-3 bands (See Quantitative and Qualitative Analysis charts for determining complexity in the Appendix) (Text Complexity, 2-12).	Read and comprehend grades 2-3 literary texts proficiently by the end of the year.
		Read and comprehend grades 2-3 informational texts proficiently by the end of the year.
3.DSR.C	When responding to texts through discussions and/or writing, draw several pieces of evidence from read-alouds and grade-level complex texts to support claims, conclusions, and inferences, including quoting or paraphrasing from texts accurately and tracing where relevant evidence is located (Textual Evidence, K-12).	Ask and answer questions to demonstrate understanding of a literary text, using textual evidence to support answers.
		Ask and answer questions to demonstrate understanding of an informational text, using textual evidence to support answers.

VA Code	VA Standard	Exact Path ELA Skill
3.RV.1.A	Develop general academic language and content specific vocabulary by listening to, reading, and discussing a variety of texts relevant to a grade three topic or subject area.	Determine the meaning of academic and domain-specific language.
3.RV.1.C	Determine the meaning of complex words using frequently occurring root words and inflectional affixes (e.g., -s, -ing, -ed).	Use knowledge of prefixes and suffixes to determine the meanings of words.
3.RV.1.D	Use the context of a sentence to apply knowledge of homophones.	Demonstrate effective use of sentence-level context to determine the meaning of words and phrases in a text.
		Demonstrate effective use of sentence-level context clues, dictionaries, and glossaries to define multiple meaning words and distinguish between homophones.
3.RV.1.G	Distinguish shades of meaning among verbs and adjectives.	Distinguish shades of meaning among closely related words.
3.RV.1.I	Use glossaries, beginning dictionaries, and thesauruses, both print and digital, to determine or clarify the meaning of words and phrases.	Demonstrate effective use of sentence-level context clues, dictionaries, and glossaries to define multiple meaning words and distinguish between homophones.
3.RL.1.A	Identify thematic topics of stories (e.g., friendship, survival, determination) and the lessons learned.	Determine the central message, lesson, or moral of a literary text, including fables, folktales, and myths, and explain how it is developed with key details.
3.RL.1.B	Identify the central conflict and resolution using events from the plot to summarize the text.	Recount stories including those from diverse cultures.
		Identify a character's problem and solution, and describe the sequence of events in a literary text.
3.RL.1.C	Describe a character's attributes, including their traits, motivations, or feelings and how they develop throughout the text.	Describe characters by their traits, motivations, and feelings, and explain how they contribute to the plot.
3.RL.2.A	Discuss how an author uses characters and settings to advance the plot.	Describe the setting in a literary text.
		Describe characters by their traits, motivations, and feelings, and explain how they contribute to the plot.
3.RL.3.A	Set a purpose for reading by looking at the illustrations and activating prior (experience) and background (content) knowledge.	Explain how an illustration adds to the meaning of a text.

VA Code	VA Standard	Exact Path ELA Skill
3.RL.3.C	Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters.	Compare and contrast the themes, plots, and settings in two or more stories that include the same or similar characters, written by the same author.
3.RI.1.A	Determine the main idea of multi-paragraph texts as well as specific paragraphs within them.	Determine the main idea and explain how key details support the main idea.
3.RI.1.B	Summarize texts using language that pertains to time, sequence, and cause and effect, referring to historical events, scientific ideas, or steps in technical procedures.	Summarize information in an informational text.
3.RI.1.C	Identify and explain how an author uses reasons and evidence to support specific points in texts.	Identify the connections between ideas and information in a text and describe how an author uses reasons to support points.
3.RI.2.A	Describe major structural differences between the organizational patterns of different informational texts (e.g., cause/effect, comparison/contrast, problem/solution, description, sequence, and chronological order) and how they support a reader's understanding of the text.	Describe the connections between sections of a text, including cause and effect and sequential.
3.RI.2.B	Use text features and search tools (e.g., sidebars, hyperlink) to locate and gain information efficiently.	Know and use various text features.
		Explain how illustrations, including maps, charts, and photographs, help clarify information in a text.
3.RI.2.C	Identify the author's purpose for writing, including what the author wants to answer, explain, or describe.	Identify the main purpose of a text.
3.RI.3.B	Compare and contrast the most important points and key details presented in two texts on the same topic.	Compare and contrast the most important ideas in two texts about the same topic.
3.RI.3.C	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures.
3.FFW.2.A	Use phoneme-grapheme correspondence to encode (spell) multisyllabic words.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
3.FFW.2.B	Use common affixes to encode (spell) words.	Use knowledge of common affixes to decode multisyllabic words. (Demonstrates understanding of Phonics.)

VA Code	VA Standard	Exact Path ELA Skill
3.FFW.2.C	Use phoneme/grapheme (sound/symbol) correspondences to encode (spell) grade-level high-frequency words with automaticity and accuracy.	Read, pronounce, and spell irregular words. (Demonstrates understanding of Phonics.)
3.W.2.A	Engage in writing as a process to compose a well-developed paragraph. This includes:	Effectively introduce a topic or situation at the beginning of a piece of writing, and provide an effective conclusion at the end, in a variety of writing genres.
	i. Writing a clear topic sentence focusing on a main idea.	
	ii. Developing, selecting, and organizing ideas relevant to topic, audience, purpose, and genre.	
	iii. Elaborating writing by including supporting details.	Effectively develop topics by supporting ideas with facts and details.
	iv. Using transition words to vary sentence structure.	Demonstrate effective use of linking words and phrases in a sentence.
	v. Providing a concluding statement.	Recognize and demonstrate effective use of task, purpose, and audience in writing.
3.W.3.A	With guidance and support from peers and adults, develop and strengthen writing as needed by revising for quality of ideas, organization, sentence fluency, and word choice.	Revise grade 3 appropriate paragraphs by changing sentences and words to strengthen writing.
3.W.3.B	With guidance and support from peers and adults, edit writing for format and conventions such as capitalization, usage, punctuation, and spelling. (See Language Usage for grade-level expectations).	Edit grade 3 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.
3.LU.1.A	Produce, expand, and rearrange simple and compound sentences when speaking and writing.	Produce simple, compound, and complex sentences.
3.LU.1.C	Form and use comparative and superlative adjectives when speaking and writing.	Demonstrate effective use of adjectives and adverbs, including superlatives, in a sentence.
3.LU.1.D	Form and use regular and irregular verbs when speaking and writing.	Demonstrate effective use of regular and irregular verb tense in a sentence.
3.LU.2.B	Use apostrophes to form contractions and frequently occurring possessions in writing.	Demonstrate effective use of possessives in a sentence.
3.LU.2.C	Capitalize holidays, names, and places.	Recognize the correct use of capitalization, including words in a title.
3.LU.2.D	Use learned spelling patterns when writing words, including high frequency words and grade level word analysis knowledge.	Read, pronounce, and spell irregular words. (Demonstrates understanding of Phonics.)
3.LU.2.E	Consult reference materials, including beginning dictionaries to check and correct spelling.	Demonstrate effective use of reference materials.

VA Code	VA Standard	Exact Path ELA Skill
3.R.1.A	Identify a topic and generate questions that explore the topic.	Plan for grade 3 appropriate writing by brainstorming ideas, choosing a topic, and outlining ideas.
3.R.1.B	Locate information in reference texts, electronic resources, provided sources, or through interviews and take brief notes on sources.	Recall information from experiences or gather information from a source to answer a question.
		Gather information from reliable sources to answer questions.
		Take relevant notes on a topic.

Grade 4

VA Code	VA Standard	Exact Path ELA Skill
4.FFR.3.A	Use knowledge of syllabication and syllable types to decode and encode words.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
4.FFR.3.B	Use knowledge of morphology (suffixes, prefixes, root/base) to decode words.	Use knowledge of common affixes to decode multisyllabic words. (Demonstrates understanding of Phonics.)
4.DSR.A	Read a variety of grade-level complex texts with accuracy, automaticity, appropriate rate, and meaningful expression in successive readings to support comprehension. Monitor while reading to confirm or self-correct word recognition and understanding, as necessary (Reading Fluency, K-12).	Read grade 4 appropriate texts, including prose and poetry, with sufficient accuracy and fluency to support comprehension. (Demonstrates understanding of Fluency.)
		Read and comprehend grade 4-5 Informational texts proficiently by the end of the year.
4.DSR.B	Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the lower range of the grades 4-5 band (See the Quantitative and Qualitative Analysis charts for determining complexity in the Appendix.) (Text Complexity, 2-12).	Read and comprehend 4-5 grade literary texts proficiently by the end of the year.
4.DSR.C	When responding to texts through discussion and/or writing, draw several pieces of evidence from grade-level complex texts to support claims, conclusions, and inferences, including quoting or paraphrasing from texts accurately and tracing where relevant evidence is located (Textual Evidence, K-12).	Refer to text evidence in Informational text to explain explicit and implicit information.
		Refer to text evidence in Informational text to draw inferences from information.
4.RV.1.A	Develop general academic language and content specific vocabulary by listening to, reading, and discussing a variety of texts relevant to a grade four topic or subject area.	Determine the meaning of academic and domain-specific language.

VA Code	VA Standard	Exact Path ELA Skill
4.RV.1.C	Determine the meaning of complex words using frequently occurring root words and inflectional affixes (e.g., -s, -ing, -ed).	Use root words and affixes as clues to define the meaning of a word.
4.RV.1.D	Use the context of a sentence to apply knowledge of homophones.	Demonstrate effective use of context clues, such as definitions, examples, or restatements, and reference materials to determine the meaning of words with multiple meanings.
4.RV.1.E	Apply knowledge of morphology, synonyms, and antonyms to determine the meaning of complex words.	Demonstrate understanding of words by relating synonyms and antonyms.
4.RV.1.G	Distinguish shades of meaning among verbs and adjectives.	Distinguish shades of meaning among closely related words.
4.RV.1.I	Use glossaries, beginning dictionaries, and thesauruses, both print and digital, to determine or clarify the meaning of words and phrases.	Demonstrate effective use of reference materials to clarify precise meanings of words and phrases, including dictionaries, thesauruses, and glossaries.
4.RL.1.A	Summarize the theme of stories, dramas, or poetry, including the thematic topic (e.g., courage, loyalty, family) and how characters respond to challenges.	Summarize a literary text.
		Determine the theme in a literary text, such as a story, drama, or poem. Compare and contrast similar themes between texts from different cultures.
4.RL.1.B	Describe the central conflict and explain the resolution using an understanding of text structure and events from the plot as evidence.	Describe the plot in a literary text, and compare and contrast events.
4.RL.1.C	Analyze characters in-depth, drawing on specific details from the text, including their words, actions, or a character's thoughts.	Describe a character using a character's thoughts, words, or actions.
4.RL.2.A	Determine how an author uses language (dialogue, sensory language, and dialect), characters, and settings to advance the plot.	Describe a character using a character's thoughts, words, or actions.
		Describe a setting in a literary text, such as a story or drama.
4.RL.2.B	Identify the characteristics of different genres of literary texts (e.g., drama, poems, stories) and refer to the structural elements of each.	Explain differences in structural elements between poems, drama, and prose.
4.RL.2.D	Differentiate between first-and third-person point of view.	Compare first- and third-person points of view from which different stories are narrated.
4.RL.3.B	Compare and contrast details in paired literary and informational nonfiction texts including their treatment of similar themes, topics, and patterns of events.	Compare and contrast themes and plot in literary texts.
4.RL.3.C	Explain the overall structure of stories, poems, and plays and how each successive part builds on earlier sections.	Explain differences in structural elements between poems, drama, and prose.
4.RI.1.A	Summarize the main idea of multi-paragraph texts and the specific paragraphs within them, explaining how key details support the main ideas.	Determine the main idea and supporting details of an informational text.
		Summarize information in an informational text.

VA Code	VA Standard	Exact Path ELA Skill
4.RI.1.B	Summarize events, procedures, ideas, or concepts in historical, scientific, or technical texts, including what happened and why.	Summarize information in an informational text.
4.RI.1.C	Distinguish between fact and opinion and explain how an author uses reasons and evidence to support opinions within texts.	Determine the reasons and evidence an author uses to support claims.
4.RI.2.A	Explain how authors select an organizational pattern (e.g., cause/effect, comparison/contrast, problem/solution) using transitional words and phrases to support their purpose and a reader's understanding of the text.	Describe the overall structure in a text or part of a text.
		Determine the cause and effect relationship in an informational text.
4.RI.2.B	Apply knowledge of text features and search tools in multiple print and digital sources to locate and categorize information efficiently and gain meaning.	Interpret graphic features to help with understanding of the text.
4.RI.3.B	Compare and contrast multiple accounts of the same event or topic and describe the differences in focus and the information provided.	Integrate information from two informational texts on the same topic.
4.RI.3.C	Describe the relationships between a series of historical events, scientific concepts, or steps in technical procedures using words that pertain to comparison, sequence, or cause and effect.	Explain events, procedures, ideas, or concepts based on specific information in a historical, scientific, or technical text.
4.FFW.2.A	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to spell accurately.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
4.FFW.2.B	Use phoneme/grapheme (sound/symbol) correspondences to decode (read) and encode (spell) grade-level high-frequency words with automaticity and accuracy.	Recognize grade-appropriate spelling patterns and demonstrate effective use of properly spelled words in a sentence.
4.W.2.A	Engage in writing as a process to compose well-developed paragraphs. This includes:	Recognize and demonstrate effective use of task, purpose, and audience in writing.
	i. Providing an introduction that includes a clear topic sentence that connects to the central idea.	Plan for grade 4 appropriate writing by brainstorming ideas, choosing a topic, and outlining ideas.
	ii. Developing, selecting, and organizing ideas relevant to the topic, purpose, and genre using precise language and topic-specific words and phrases, descriptive details, and sensory language.	Effectively introduce a topic or situation at the beginning of a piece of writing, and provide an effective conclusion at the end, in a variety of writing genres.
	iii. Using transition words and prepositional phrases to vary sentence structure and link sentences.	Demonstrate effective use of facts, details, and examples to provide reasons in order to develop a topic.
	iv. Providing a concluding statement or section.	Demonstrate effective use of a variety of transitional words and phrases.
		Recognize effective use of precise language and sensory details.

VA Code	VA Standard	Exact Path ELA Skill
4.W.3.A	With guidance and support from peers and adults, develop and strengthen writing as needed by revising for quality of ideas, organization, sentence fluency, and word choice.	Revise grade 4 appropriate paragraphs by changing sentences and words to make the paragraphs better.
4.W.3.B	Self- and peer-edit the writing for capitalization, spelling, punctuation, sentence structure, paragraphing, and Standard English (See Language Usage for grade level expectations).	Edit grade 4 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.
4.LU.1.A	Produce, expand, and rearrange simple and compound sentences, including prepositional phrases, when speaking and writing.	Produce simple, compound, and complex sentences.
4.LU.1.B	Use coordinating (e.g., and, but), subordinating (e.g., although, because) conjunctions to join words and phrases in a sentence.	Combine two sentences into one sentence using conjunctions.
4.LU.1.C	Use adjectives to compare and describe noun or noun phrases with specificity when speaking and writing.	Recognize, correct, and demonstrate effective usage of adjectives in a sentence.
4.LU.1.D	Use modal words (e.g., can, may, must) to convey various conditions when speaking and writing.	Recognize and demonstrate effective use of modal auxiliary verbs in a sentence.
4.LU.1.E	Use standard subject-verb agreement when speaking and writing.	Demonstrate effective use of a variety of verb tenses.
4.LU.1.F	Use standard noun-pronoun agreement when speaking and writing.	Demonstrate effective use of pronouns, especially relative pronouns, in a sentence.
4.LU.2.A	Use commas in series, dates, addresses, and letters in writing.	Demonstrate effective use of punctuation, including quotation marks and commas.
4.LU.2.B	Use commas and quotation marks to indicate dialogue in writing.	Demonstrate effective use of punctuation, including quotation marks and commas.
4.LU.2.D	Use conventional spelling for high-frequency and other studied words and grade level word analysis knowledge.	Recognize grade-appropriate spelling patterns and demonstrate effective use of properly spelled words in a sentence.
4.LU.2.E	Consult reference materials to check and correct spelling.	Demonstrate effective use of reference materials.
4.R.1.B	Identify search terms to locate information on the topic and gather relevant information from various print and digital sources.	Gather relevant information on different aspects of a topic using a variety of resources.
		Recall relevant information based on experience or gather information from a source to answer a question.
4.R.1.D	Develop notes that include important concept, summaries, and identification of information sources.	Take relevant notes on a topic.
4.R.1.F	Avoid plagiarism and give proper credit by providing citations whenever using another person's media, facts, ideas, graphics, music, and direct quotations.	Cite basic information about sources.

Grade 5

VA Code	VA Standard	Exact Path ELA Skill
5.FFR.3.A	Use knowledge of syllabication and syllable types to decode and encode words.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
5.FFR.3.B	Use knowledge of morphology (suffixes, prefixes, root/base) to decode words.	Use knowledge of common affixes to decode multisyllabic words. (Demonstrates understanding of Phonics.)
5.DSR.A	Read a variety of grade-level complex texts with accuracy, automaticity, appropriate rate, and meaningful expression in successive readings to support comprehension. Monitor while reading to confirm or self-correct word recognition and understanding, as necessary (Reading Fluency, K-12).	Read grade 5 appropriate texts, including prose and poetry, with sufficient accuracy and fluency to support comprehension. (Demonstrates understanding of Fluency.)
		Read and comprehend grade 4-5 Informational texts proficiently by the end of the year.
5.DSR.B	Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the higher range of the grades 4-5 band (See the Quantitative and Qualitative Analysis charts for determining complexity in the Appendix.) (Text Complexity, 2-12).	Read and comprehend grades 4-5 literary texts proficiently by the end of the year.
5.DSR.C	When responding to text through discussions and/or writing, draw several pieces of evidence from grade-level complex texts to support claims, conclusions, and inferences from texts, including quoting or paraphrasing accurately and tracing where relevant evidence is located (Textual Evidence, K-12).	Use text evidence in literary text to explain explicit and implicit information.
		Use text evidence to support implicit information.
		Use text evidence in informational text to explain explicit and implicit information.
		Use text evidence to support implicit information.
5.RV.1.A	Develop general academic language and content specific vocabulary by listening to, reading, and discussing a variety of grade-five texts and topics.	Determine the meaning of academic and domain-specific language.
5.RV.1.C	Determine the meaning of complex words using frequently occurring root words and inflectional affixes (e.g., -s, -ing, -ed).	Use root words and affixes as clues to determine the meaning of a word.
5.RV.1.D	Use the context of a sentence to apply knowledge of homophones.	Demonstrate effective use of context clues to determine the meaning of words or phrases.
5.RV.1.E	Apply knowledge of grade-level appropriate synonyms and antonyms to better understand each word.	Demonstrate understanding of words by relating synonyms and antonyms.
5.RV.1.I	Use strategies to infer word meanings.	Determine or clarify the meaning of unknown and multiple-meaning words using different strategies.
5.RV.1.J	Use glossaries, beginning dictionaries, and thesauruses, both print and digital, to determine or clarify the meaning of words and phrases.	Use reference materials to find the pronunciation of a word and clarify its precise meaning.

VA Code	VA Standard	Exact Path ELA Skill
5.RL.1.A	Summarize the story or play, including the overarching theme and lessons learned, and explain how they are developed or conveyed through specific details.	Summarize information in a literary text using key details.
		Determine a theme in a literary text, and explain how the theme is conveyed through a character's response to a challenge.
5.RL.1.B	Describe plots in stories as a sequence of events that develops the central conflict and resolution, including initiating events, climax, and resolution.	Describe the plot in a literary text, and compare and contrast events.
5.RL.1.C	Explain how events from the plot cause the character(s) to change or evolve and how the development of character(s) or settings impact the plot.	Explain how the setting affects the characters or plot, and compare and contrast settings within a literary text.
5.RL.2.A	Describe how an author develops a character through what characters say, think, do, and how other characters respond.	Describe characters using their interactions with others, and compare and contrast characters within a literary text.
5.RL.2.B	Analyze the author's use of language (e.g., synonyms, figurative language, sensory words, dialogue, dialect) and their impact on understanding characters, setting, and plot events.	Determine the meaning of figurative language, including similes and metaphors, in context.
5.RL.3.B	Compare and contrast the point of view from which different stories are narrated, including the difference between first-and third-person narratives.	Explain how a narrator's point of view influences how events are described.
5.RL.3.C	Compare and contrast details in paired literary and informational nonfiction texts including their treatment of similar themes, topics, and patterns of events.	Compare and contrast characters, setting, and plot in two literary texts with a similar theme or topic.
5.RI.1.A	Summarize the main ideas of texts and specific paragraphs within them, including how they are developed through the details.	Determine one or more main ideas in an informational text.
		Summarize information in an informational text based on key details.
		Determine the details and evidence that support a main idea or argument in a text.
5.RI.2.A	Describe the overall organization patterns of texts (e.g., cause/effect, comparison/contrast, problem/solution, description, sequence, and chronological) and how each successive part builds on earlier sections, using available transitional words and phrases.	Describe the overall structure in a text or part of a text, and compare and contrast the text structure in two or more texts.
		Determine the cause and effect relationship in an informational text.
5.RI.3.B	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	Compare and contrast multiple accounts of the same event or topic.
5.RI.3.C	Explain the relationships or interactions between two or more individuals, events, procedures, ideas, or concepts in a historical, scientific, or technical texts, including what happened and why based on specific information in the text.	Explain the connections between two or more events, procedures, ideas, or concepts in a historical, scientific, or technical text.

VA Code	VA Standard	Exact Path ELA Skill
5.FFW.2.A	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to spell accurately.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)
5.W.2.A	Engage in writing as a process to compose well-developed paragraphs. This includes:	Recognize and demonstrate effective use of task, purpose, and audience in writing.
	i. Introducing a clear topic sentence and logically organizing ideas and factual evidence to support the position in persuasive writing.	Demonstrate effective use of introductions and concluding statements in argumentative, informative/explanatory writing, and narrative writing.
	ii. Developing, selecting, and organizing ideas relevant to topic, purpose, and genre, using precise and descriptive language and tone-specific vocabulary to enhance the central idea, tone, and voice.	Demonstrate effective organization of ideas in argumentative, informative/explanatory, and narrative writing.
	iii. Using transition words and prepositional phrases for sentence variety and link one sentence and paragraph to another.	Demonstrate effective use of a variety of transitional words and phrases.
	iv. Providing a concluding statement or section.	Recognize and demonstrate effective use of precise language and descriptive details.
5.W.3.A	With guidance and support from peers and adults, develop and strengthen writing as needed by revising for quality of ideas, organization, sentence fluency, and precise word choice.	Revise grade 5 appropriate paragraphs by changing sentences and words to strengthen writing.
5.W.3.B	Self- and peer-edit the writing for capitalization, spelling, punctuation, sentence structures, paragraphing, and Standard English (See Language Usage for grade level expectations).	Edit grade 5 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.
5.LU.1.A	Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.	Expand, combine, and reduce sentences to make them more effective.
5.LU.1.B	Use adverbs to express time, frequency, degree, and level of certainty when speaking and writing.	Demonstrate effective use of adjectives and adverbs in a sentence.
5.LU.1.C	Use interjections, prepositional phrases, and coordinating and subordinating conjunctions in writing to join words and phrases in a sentence.	Demonstrate effective use of prepositions and prepositional phrases in a sentence.
		Demonstrate effective use of a conjunctions, including correlative conjunctions, in a sentence.
5.LU.2.A	Use commas correctly in compound sentences.	Demonstrate effective use of punctuation, including punctuation to separate items in a series and a comma after a direct address.
5.LU.2.B	Use colons to separate hours and minutes and to introduce a list.	Demonstrate effective use of punctuation, including punctuation to separate items in a series and a comma after a direct address.
5.LU.2.D	Use spelling patterns and generalizations (e.g., word families, syllable patterns, ending rules) when pronouncing and writing words.	Decode multisyllabic words by breaking them down into meaningful parts and decodable chunks. (Demonstrates understanding of Phonics.)

VA Code	VA Standard	Exact Path ELA Skill
5.LU.2.E	Consult reference materials to check and correct spelling.	Spell grade-appropriate words correctly, consulting references as needed.
5.R.1.B	Identify search terms to locate information and gather relevant information from various print and digital sources to address the research.	Gather relevant information on different aspects of a topic using a variety of resources.
		Use information from multiple sources to answer a question.
		Integrate information from several texts in order to understand a topic.
5.R.1.C	Organize and synthesize information from the print and digital resources, evaluating their relevance, reliability, and credibility.	Gather relevant information on different aspects of a topic using a variety of resources.
5.R.1.D	Develop notes that include important concepts, summaries, and identification of information sources.	Take relevant notes on a topic by paraphrasing the information.
5.R.1.F	Avoid plagiarism and give proper credit by providing citations whenever using another person's media, facts, ideas, graphics, music, and direct quotations.	Cite bibliographic information about sources.

Grade 6

VA Code	VA Standard	Exact Path ELA Skill
6.DSR.B	Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the lower range of the grade 6-8 band (See the Quantitative and Qualitative Analysis chart for determining complexity in the Appendix.) (Text Complexity, 2-12).	Read and comprehend literary texts in the grades 6-8 text complexity band proficiently.
		Read and comprehend informational texts in the grades 6-8 text complexity band proficiently.
6.DSR.C	When responding to text through discussion and/or writing, draw several pieces of evidence from grade-level complex texts to support claims, conclusions, and inferences, including quoting or paraphrasing from texts accurately and tracing where relevant evidence is located (Textual Evidence, K-12).	Cite text evidence in literary text to explain explicit and implicit information.
		Cite text evidence in literary text to explain explicit and implicit information, including inferences.
		Cite text evidence in informational text to explain explicit and implicit information.
		Cite text evidence in informational text to explain explicit and implicit information, including inferences.
6.RV.1.A	Develop and accurately use general academic language and content-specific vocabulary by listening to, reading, and discussing a variety of grade-six texts and topics.	Use context to determine technical meanings of words or phrases in an informational text.
6.RV.1.B	Use context and sentence structure to determine multiple meanings of words and clarify the meanings of unfamiliar words and phrases.	Demonstrate effective use of context clues, including entire sentences or paragraphs, to determine the meaning of words or phrases.

VA Code	VA Standard	Exact Path ELA Skill
6.RV.1.C	Apply knowledge of Greek and Latin roots and affixes to predict the meaning of unfamiliar words.	Use root words and affixes as clues to determine the meaning of a word.
6.RV.1.D	Use the relationship between particular words, including synonyms and antonyms to better understand each word.	Use relationships between words, such as antonyms and synonyms, to better understand each of the words.
6.RV.1.E	Explain the construction and meaning of figurative language, including simile, hyperbole, metaphor, and personification.	Interpret figurative language, such as personification, in context.
6.RV.1.F	Clarify the meaning of an unknown word or select the applicable definition of a word from a text by using word reference materials.	Use reference materials to find the pronunciation of a word, clarify its precise meaning, and clarify its part of speech.
6.RV.1.G	Use general and specialized word-reference materials, print and digital, to identify word origins, derivations, and pronunciations.	Use reference materials to find the pronunciation of a word, clarify its precise meaning, and clarify its part of speech.
6.RL.1.A	Summarize texts, including determining the central theme of stories, plays, or poems, and how they are conveyed through specific details.	Summarize information in a literary and informational text distinct from personal opinions or judgments.
		Determine the theme and how it is conveyed through particular details in a literary text.
6.RL.1.B	Describe plot developments in stories and dramas by examining the exposition, initiating event, central conflict, rising action, climax, falling action, and resolution.	Analyze and describe the plot in a literary text and examine how the characters influence the plot.
6.RL.1.D	Explain how static and dynamic characters impact the plot.	Analyze and describe a character using the character's thoughts, words, and actions, and their impact on the plot.
6.RL.2.A	Describe the poetic elements in prose and poetry (e.g., rhyme, rhythm, repetition, alliteration, and onomatopoeia) and their intended impact on the reader.	Analyze how the structure and sound devices, including rhyme and repetition, affect the meaning of a poem, story, or drama.
6.RL.2.B	Explain elements of author's style as purposeful choices (e.g., imagery, figurative language, and word choice) to develop tone.	Interpret figurative language in context.
		Analyze the impact of specific word choice on meaning and tone.
6.RL.2.C	Explain how an author develops the point of view (e.g., first-person, third person limited, third-person omniscient) of the narrator or speaker in a text and influences how events are described in stories, plays, or poems.	Explain how an author develops the point of view of the narrator or speaker in a literary text.
6.RL.3.A	Describe how the interactions between individuals, settings, events, and ideas within a text influence one another.	Describe and analyze a setting in a literary text.

VA Code	VA Standard	Exact Path ELA Skill
6.RL.3.B	Compare and contrast details in two or more paired literary fiction and nonfiction texts on the same topic or with similar themes, including how chapters, scenes, or stanzas work together to provide the overall structure of each text.	Compare and contrast literary texts in terms of their approaches to similar themes and topics.
6.RI.1.A	Summarize texts, including their main idea(s) and how they are developed with specific details.	Summarize information in an informational text distinct from personal opinions or judgments.
		Determine the central idea of an informational text and about how a particular event, individual, or idea is communicated throughout a text.
6.RI.1.C	Trace the argument and specific claims in texts, distinguishing claims that are supported by evidence and reasons, from claims that are not.	Evaluate arguments, claims, and supporting reasons in an informational text.
6.RI.3.A	Describe ideas within and between selections including how specific sentences, paragraphs, or sections contribute to the development of ideas.	Analyze how a part fits into a whole text structure in informational texts.
6.RI.3.B	Compare and contrast one author's presentation of ideas or events with another's, identifying where the texts agree or disagree.	Compare and contrast one author's presentation of events with that of another in an informational text.
6.W.2.A	Generate and organize ideas using the writing process (planning, drafting, revising, editing) to develop multi-paragraph texts. This includes:	Recognize and demonstrate effective use of task, purpose, and audience in writing.
	i. Composing a thesis statement that focuses the topic and introduces the piece clearly.	
	ii. Establishing a central idea incorporating evidence and maintaining an organized structure to fit the form and topic.	
	iii. Elaborating and supporting ideas, using relevant facts, definitions, details, quotations, and/or examples.	Demonstrate effective use of introductions and concluding statements in argumentative and informative/explanatory writing.
	iv. Using transitions to show relationships between ideas, signal a shift or change in the writer's thoughts, and make sentences clearer.	Demonstrate effective organization of ideas in argumentative and informative/explanatory writing.
	v. Selecting vocabulary and information to enhance the central idea, tone, and voice.	Support and develop topics in argumentative and informative/explanatory writing.
	vi. Expanding and embedding ideas to create sentence variety.	Demonstrate effective use of transitional words and phrases in argumentative, informative/explanatory, and narrative writing.
	vii. Providing a concluding statement or section.	Recognize effective use of precise language and sensory details.
6.W.3.A	Revise writing for clarity of content, word choice, sentence variety, and transition among paragraphs.	Revise grade 6 appropriate paragraphs by changing sentences and words to strengthen writing.

VA Code	VA Standard	Exact Path ELA Skill
6.W.3.B	Self- and peer-edit for capitalization, spelling, punctuation, sentence structure, paragraphing, and Standard English (See Language Usage for grade level expectations).	Edit grade 6 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.
6.LU.1.A	Construct simple, compound, and complex sentences to communicate ideas clearly and add variety to writing.	Vary sentence structure by combining multiple sentences into compound and complex sentences.
6.LU.1.B	Use pronoun-antecedent agreement, including indefinite and reflexive pronouns when speaking and writing.	Demonstrate effective use of subjective, objective, possessive, and intensive pronouns in a sentence.
6.LU.1.C	Use adverbs to modify verbs, adjectives, and other adverbs to express manner, place, time, frequency, degree, and level of certainty precisely when speaking and writing.	Demonstrate effective use of adjectives and adverbs in a sentence.
6.LU.1.E	Form and use often confusing verbs (e.g., lie/lay, sit/set, rise/raise) correctly in sentences.	Demonstrate a command of a variety of verb tenses.
6.LU.2.A	Construct complete sentences with appropriate punctuation, avoiding comma splices and run-ons in writing.	Demonstrate mastery of the conventions of punctuation, including commas, parentheses, and dashes, to set off nonrestrictive/parenthetical elements.
6.LU.2.B	Use and punctuate dialogue and direct quotations appropriately in writing.	Demonstrate mastery of the conventions of punctuation, including commas, parentheses, and dashes, to set off nonrestrictive/parenthetical elements.
6.LU.2.C	Recognize and consistently spell frequently used words accurately.	Demonstrate mastery of the conventions of standard English spelling.
6.R.1.B	Collect information from multiple sources, using search terms effectively.	Gather relevant information on a topic using a variety of resources and refocusing aspects of the topic if needed.
6.R.1.F	Give credit for information quoted or paraphrased using standard citations (e.g., author, article title, webpage, and publication date).	Quote or paraphrase the data and conclusions of others to avoid plagiarism.
		Cite basic bibliographic information for sources.

Grade 7

VA Code	VA Standard	Exact Path ELA Skill
7.DSR.B	Proficiently read and comprehend a variety of literary and informational texts that exhibit complexity at the mid-range of the grades 6-8 band. (See the Quantitative and Qualitative Analysis charts for determining complexity in the Appendix.) (Text Complexity, 2-12).	Cite text evidence in literary text to explain explicit and implicit information.
		Cite text evidence to support implicit information, and make inferences based on textual evidence.
		Cite text evidence in informational text to explain explicit and implicit information.

VA Code	VA Standard	Exact Path ELA Skill
		Cite text evidence to support implicit information, and make inferences based on textual evidence.
7.RV.1.A	Develop and accurately use general academic language and content-specific vocabulary by listening to, reading, and discussing a variety of grade-seven texts and topics.	Use context to determine technical meanings of words or phrases in an informational text.
7.RV.1.B	Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) to determine the meaning of words or phrases.	Demonstrate effective use of context clues to determine the meaning of words or phrases.
7.RV.1.C	Apply knowledge of Greek and Latin roots and affixes to predict the meaning of unfamiliar words.	Use root words and affixes as clues to determine the meaning of a word.
7.RV.1.D	Use the relationship between particular words, including synonyms, antonyms, and analogies to better understand each word.	Use relationships between words, such as analogies, antonyms, and synonyms, to better understand the meanings of words.
7.RV.1.E	Analyze the construction and meaning of figurative language, including simile, hyperbole, metaphor, and personification.	Interpret figurative language in context.
7.RV.1.F	Distinguish among the nuances in the meaning of connotations of words with similar denotations.	Distinguish among the connotations of words with similar denotations
7.RV.1.G	Use general and specialized word-reference materials, print and digital, to identify word origins and derivations, pronunciations, precise meanings, and their parts of speech.	Use reference materials to find the pronunciation of a word, clarify its precise meaning, and clarify its part of speech.
7.RL.1.A	Describe stated or implied themes of texts and analyze their development throughout the texts using specific details.	Determine the theme or recurring theme, and analyze how it is developed in a literary text, including cultural literature.
7.RL.1.B	Analyze how the central conflict and key elements (e.g., exposition, initiating event, rising action, climax, falling action, and resolution) impact plot development.	Analyze a plot, and explain how it interacts with other elements in the story, such as characters and setting.
7.RL.1.C	Explain how static and dynamic characters and the roles of protagonist and antagonist influence plot events.	Analyze a character, and explain how the character interacts with other elements in the story, such as plot or setting.
7.RL.2.A	Analyze how elements of authors' styles (e.g., word choice, dialogue, form, voice, rhyme, rhythm, and/or sound devices) contribute to meaning in various forms of prose and poetry.	Analyze the impact of specific word choice on meaning and tone.
7.RL.2.B	Analyze how the elements of an author's style (e.g., word choice, sentence structure, dialogue, figurative language, imagery) are used to influence and develop tone.	Interpret figurative language in context.
		Analyze the impact of specific word choice on meaning and tone.

VA Code	VA Standard	Exact Path ELA Skill
7.RL.2.C	Explain how an author develops the points of view of different characters in a text (e.g., first-person, third person limited, third-person omniscient) and how they affect the reader's interpretation of a text.	Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.
7.RL.3.A	Explain how particular elements of stories or dramas interact including how settings shape and influence characters and plot.	Analyze a character, and explain how the character interacts with other elements in the story, such as plot or setting.
		Analyze a setting, and explain how it interacts with other elements in the story, such as characters and plot.
7.RL.3.B	Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.	Compare and contrast texts, including fictional and historical accounts of the same topic, to analyze their approaches to similar themes and topics.
7.RI.1.A	Create a main idea statement and provide an accurate summary of how key events or ideas develop through the text.	Determine the central idea of an informational text, and analyze how it is developed over the course of the text.
		Summarize information in an informational text distinct from personal opinions or judgments.
7.RI.1.B	Analyze how the author unfolds a perspective or series of ideas or events in historical, scientific, or technical texts, including the order in which the points are made and how they are introduced and developed.	Determine an author's point of view or purpose in a text.
7.RI.1.C	Trace the argument and specific claims in texts and assess whether all the evidence presented is relevant and whether irrelevant evidence was introduced.	Evaluate arguments, claims, and supporting reasons and evidence in an informational text.
7.RI.2.B	Analyze how an author's word choice, organizational pattern, and language structure impact the author's purpose and support the reader's comprehension.	Analyze the impact of specific word choice on meaning and tone.
7.RI.3.A	Analyze ideas within and between selections including how specific sentences, paragraphs, or sections contribute to the development and meaning of ideas.	Analyze the overall structure of a text, and explain how a section contributes to the entire structure.
7.RI.3.B	Compare and contrast how two or more authors writing about the same topic shape their presentations or viewpoints of key information by emphasizing different facts, opinions, and reasoning.	Compare and contrast two or more authors' interpretations and development of ideas on similar topics.
7.W.2.A	Generate and organize ideas using the writing process (planning, drafting, revising, editing) to develop multi-paragraph texts. This includes:	Recognize and demonstrate effective use of task, purpose, and audience in writing.

VA Code	VA Standard	Exact Path ELA Skill
	i. Composing a thesis statement that states a position or explains the purpose.	
	ii. Establishing a central idea that aligns with the thesis and maintains an organized structure to fit form and topic.	
	iii. Defending conclusions or positions with reasons and precise, relevant evidence (e.g., facts, definitions, details, quotations, and examples).	Demonstrate effective use of introductions and concluding statements in argumentative and informative/explanatory writing.
	iv. Using transitions within and between paragraphs to signal shifts in writing and clarify the relationships among ideas and concepts.	Demonstrate effective organization of ideas in argumentative and informative/explanatory writing.
	v. Developing voice and tone by using language that provides vivid and precise vocabulary to enhance the meaning of the writing.	Support and develop topics in argumentative and informative/explanatory writing.
	vi. Expanding and embedding ideas to create sentence variety.	Demonstrate effective use of transitional words and phrases in argumentative, informative/explanatory, and narrative writing.
	vii. Providing a concluding statement or section.	Recognize effective use of precise language and sensory details.
7.W.3.A	Revise writing for clarity of content, word choice, sentence variety, and transition among paragraphs.	Revise grade 7 appropriate paragraphs by changing sentences and words to strengthen writing.
7.W.3.B	Self- and peer-edit writing for capitalization, spelling, punctuation, sentence structure, paragraphing, and Standard English (See Language Usage for grade level expectations).	Edit grade 7 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.
7.LU.1.A	Construct simple, compound, complex, and compound-complex sentences to communicate ideas clearly and add variety to writing.	Vary sentence structure by combining multiple sentences into compound, complex, and compound-complex sentences.
7.LU.1.B	Recognize and use pronoun-antecedent agreement, including indefinite, reflexive, and relative pronouns, when speaking and writing.	Demonstrate effective use of pronouns in a sentence, including command of pronoun-antecedent agreement.
7.LU.1.C	Use specific adjectives and adverbs to enhance speech and writing.	Demonstrate effective use of adjectives and adverbs in a sentence, including the comparative and superlative forms.
7.LU.1.D	Arrange phrases and clauses within a sentence and apply appropriate subject-verb agreement to improve meaning, reader/listener interest, and style in writing.	Demonstrate a command of a variety of verb tenses and subject-verb agreement.
7.LU.2.A	Construct complete sentence with appropriate punctuation, avoiding comma splices and run-ons in writing.	Demonstrate mastery of the conventions of punctuation, including commas, parentheses, and dashes.
7.LU.2.B	Use and punctuate dialogue and direct quotations appropriately in writing.	Demonstrate mastery of the conventions of punctuation, including commas, parentheses, and dashes.

VA Code	VA Standard	Exact Path ELA Skill
7.LU.2.C	Recognize and consistently spell frequently used words accurately.	Demonstrate mastery of the conventions of standard English spelling
7.R.1.B	Collect, organize, and synthesize information from multiple sources using various notetaking formats.	Gather relevant information on a topic using a variety of resources and refocusing aspects of the topic if needed.
7.R.1.F	Give credit for information quoted or paraphrased, using standard citations (e.g., author, article title and webpage, and publication date).	Quote or paraphrase the data and conclusions of others to avoid plagiarism.
		Cite basic bibliographic information for sources.

Grade 8

VA Code	VA Standard	Exact Path ELA Skill
8.DSR.C	When responding to text through discussion and/or writing, draw several pieces of evidence from grade-level complex texts to support claims, conclusions, and inferences, including quoting or paraphrasing from texts accurately and tracing where relevant evidence is located (Textual Evidence, K-12).	Cite text evidence in literary text to explain explicit and implicit information.
		Cite text evidence to support implicit information, and make inferences based on textual evidence.
		Cite text evidence in informational text to explain explicit and implicit information.
		Cite text evidence to support implicit information, and make inferences based on textual evidence.
8.RV.1.A	Develop and accurately use general and academic language and content-specific vocabulary by listening to, reading, and discussing a variety of grade-eight texts and topics.	Use context to determine technical meanings of words or phrases in an informational text.
8.RV.1.B	Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) to determine the meaning of words or phrases.	Demonstrate effective use of context clues to determine the meaning of words or phrases.
8.RV.1.C	Apply knowledge of Greek and Latin roots and affixes to determine the meaning of unfamiliar words.	Use root words and affixes as clues to determine the meaning of a word.
8.RV.1.D	Use the relationship between particular words, including synonyms, antonyms, and analogies to better understand each word.	Use relationships between words, such as analogies, antonyms, and synonyms, to better understand the meanings of words.
8.RV.1.E	Analyze the construction and meaning of an author's use of symbols, analogy, and figurative language such as simile, metaphor, personification, hyperbole, and idiom.	Interpret figurative language in context, including verbal irony, puns, and analogies.
8.RV.1.F	Discriminate between the meanings of connotative words and their denotative meanings.	Distinguish between the connotations of words with similar denotations.

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8.RV.1.G	Use general and specialized word-reference materials, print and digital, to determine pronunciation, etymology, derivations, and parts of speech.	Use reference materials to find the pronunciation of a word and to clarify its precise meaning.
8.RL.1.A	Analyze and explain the development of theme(s) over the course of texts and their relationship to the characters, settings, plots, and overall messages.	Determine the theme or recurring theme and analyze how it is developed in a literary text, including cultural literature.
8.RL.1.B	Explain how different plot patterns (e.g., comedy, drama, tragedy) and subplots create meaning and examine their influence on characters, theme, pacing, and point of view.	Analyze a plot and explain how it is impacted by other elements in the story, including characters and setting.
8.RL.1.C	Justify the decisions and actions of dynamic versus static characters using dialogue or specific events from the text.	Analyze a character, and explain how the dialogue contributes to the plot or helps develop a character.
8.RL.2.B	Analyze how the elements of an author's style (e.g., dialogue, sentence structure and word choices) are used to influence and develop tone and voice.	Analyze the impact of specific word choice on meaning, tone, and mood.
8.RL.2.C	Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	Identify point of view and analyze how an author uses it to create suspense and other effects.
8.RL.2.D	Analyze how an author's use of literary devices including foreshadowing, flashback, symbolism, and irony are used to build mystery, suspense, or surprise.	Analyze how authors use irony to create effects such as suspense and humor.
8.RL.3.C	Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories; literary nonfiction and informational) in terms of their approaches to similar themes and topics.	Compare and contrast themes, characters, and events in two texts with a similar topic, including a modern and traditional text.
8.RI.1.A	Create a main idea statement and provide an accurate summary, clarifying the relationships among the key details and ideas or events.	Determine the central idea of an informational text, and analyze how it is developed over the course of the text.
		Summarize information in an informational text distinct from personal opinions or judgments.
8.RI.1.C	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning and evidence are relevant and sufficient to support the claims.	Evaluate arguments, claims, and supporting evidence in an informational text, and identify evidence that is irrelevant.
8.RI.2.C	Analyze how an author establishes and conveys a perspective or purpose in a text and acknowledges and responds to conflicting evidence or viewpoints.	Determine an author's point of view or purpose in a text, and analyze how an author responds to conflicting evidence.

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8.RI.3.A	Analyze ideas within and between selections including how specific sentences, paragraphs, sections, and text features contribute to the development and refinement of the ideas presented.	Analyze the structure of a text or parts of a text, and explain how a section contributes to the entire structure.
8.RI.3.B	Compare and contrast how two or more authors present conflicting information on the same topic by assessing where the texts disagree in reasoning and evidence.	Analyze two texts that provide conflicting information on the same topic, and identify where the texts disagree on matters of fact or interpretation.
8.W.2.A	Generate and organize ideas using the writing process (planning, drafting, revising, editing) to develop multi-paragraph texts. This includes:	Recognize and demonstrate effective use of task, purpose, and audience in writing.
	i. Composing a thesis statement that states a position or explains the purpose.	
	ii. Establishing a central idea that aligns with the thesis and maintaining an organized structure and formal style to fit form and topic, providing elaboration and unity throughout the writing and maintaining a consistent point of view.	
	iii. Stating and defending conclusions or positions with reasons and precise, relevant evidence and complete explanation of how evidence and details support a position addressing counterclaims when appropriate.	
	iv. Using appropriate and varied transitions to signal shifts in writing to clarify the relationships among ideas and concepts.	Demonstrate effective use of introductions and concluding statements in argumentative and informative/explanatory writing.
	v. Developing voice and tone by using language that provides vivid and precise vocabulary to enhance the meaning of the writing.	Support and develop topics in argumentative and informative/explanatory writing.
	vi. Expanding and embedding ideas to create sentence variety.	Demonstrate effective use of transitional words and phrases in informative, explanatory, argumentative, and narrative writing.
	vii. Providing a concluding statement or section.	Recognize effective use of precise language and sensory details.
8.W.3.A	Revise writing for clarity of content, word choice, sentence variety, and transition among paragraphs.	Revise grade 8 appropriate paragraphs by changing sentences and words and using active voice to strengthen writing.
8.W.3.B	Self- and peer-edit writing for capitalization, spelling, punctuation, sentence structure, paragraphing, and Standard English (See Language Usage for grade level expectations).	Edit grade 8 appropriate paragraphs and sentences by recognizing a variety of spelling, capitalization, punctuation, and usage errors.

VA Code	VA Standard	Exact Path ELA Skill
8.LU.1.A	Construct simple, compound, complex, and compound-complex sentences to communicate ideas clearly and add variety to writing.	Vary sentence structure by combining multiple sentences into compound, complex, and compound-complex sentences.
8.LU.1.B	Recognize and use pronoun-antecedent agreement, including indefinite, reflexive, and relative pronouns, when speaking and writing.	Distinguish between subjective and objective pronouns in a sentence.
8.LU.1.C	Use specific adjectives and adverbs to enhance speech and writing.	Demonstrate effective use of adjectives and adverbs in a sentence, including the comparative and superlative forms.
8.LU.1.E	Maintain consistent verb tense across paragraphs in writing.	Demonstrate an understanding of subject-verb agreement and a command of a variety of verb tenses using regular and irregular verbs.
8.LU.2.A	Construct complete sentences with appropriate punctuation, avoiding comma splices and run-ons in writing.	Demonstrate mastery of the conventions of punctuation, including commas, ellipses, and dashes to indicate a pause or break.
8.LU.2.B	Use and punctuate dialogue and direct quotations appropriately in writing.	Demonstrate mastery of the conventions of punctuation, including commas, ellipses, and dashes to indicate a pause or break.
8.LU.2.C	Recognize and consistently spell frequently used words accurately.	Demonstrate mastery of the conventions of standard English spelling
8.R.1.B	Collect, organize, and synthesize information from multiple sources using various notetaking formats.	Gather relevant information on a topic using a variety of resources and refocus aspects of the topic if needed.
8.R.1.D	Quote, summarize, and paraphrase research findings from primary and secondary sources, avoiding plagiarism by using own words and following ethical and legal guidelines.	Quote or paraphrase the data and conclusions of others to avoid plagiarism.
8.R.1.E	Organize and share findings in formal and informal oral or written formats.	Demonstrate effective organization of ideas in argumentative and informative/explanatory writing.
8.R.1.F	Cite primary and secondary sources using the Modern Language Association (MLA) or American Psychological Association (APA) style.	Cite basic bibliographic information for sources.