# ABSS Introductory Math Scope & Sequence

***Important Documents & Resources***

| **ABSS** | **NCDPI** |
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| • ABSS CFA's in Schoolnet | • NC Literacy Instructional Standards & Mathematics 9-12 (NEW) |
| • Student Data Tracker for Intro. Math Standards | • #GoOpenNC Resources (found in the NCEd Cloud) |
| • ABSS High School Mathematics Differentiated Core | • NC2ML Collaborative Resources for High School |
| • ABSS Secondary District Provided Resources | • EdReady/CCRG Teacher Experience |
| • ABSS Secondary Math News | • EdReady/CCRG Student Experience |
| • ABSS Delta Math Help Sheet | |

*Note: If teachers would like to use the paper/pencil workbooks for VMath, we have several of those student workbooks. Just email Erica if you would like some of the workbooks.

<table>
<tr><th>Concept</th><th>Standards</th></tr>
<tr><td colspan="2">Administer Pre-Assessment via Schoolnet Online<br>Test ID: 5091075<br>Student Online Passcode: INTROMATH<br>ABSS CFA's in Schoolnet</td></tr>
<tr><td colspan="2">Week 1 Activities</td></tr>
<tr><td colspan="2"><table>
<tr>
<td><u>Day 1</u><ul><li>About Me</li><li>What is means to be College and Career Ready</li></ul></td>
<td><u>Day 2</u><ul><li>Overview of the course</li><li>Pre-Assessment</li></ul></td>
<td><u>Day 3</u><ul><li>SchoolNet Pre-Assessment</li><li>Portrait of a Graduate</li><li>What is a Mathematician?</li></ul></td>
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</table></td></tr>
<tr><td colspan="2">Unit 1 Foundations<br>SchoolNet Pre-Test: 5092929</td></tr>
<tr><td rowspan="2">Properties of Multiplication</td><td>NC.7.NS.2b Apply and extend previous understandings of multiplication and division.<br>b. Apply properties of operations as strategies, including the standard algorithms, to multiply and divide rational numbers and describe the product and quotient in real-world contexts.</td></tr>
<tr><td>NC.7.EE.4 Use variables to represent quantities to solve real-world or mathematical problems.<br>a. Construct equations to solve problems by reasoning about the quantities.<ul><li>Fluently solve multistep equations with the variable on one side, including those generated by word problems.</li><li>Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</li><li>Interpret the solution in context.</li></ul></td></tr>
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| **Adding & Subtracting Fractions & Mixed Numbers** | NC.7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers, using the properties of operations, and describing real-world contexts using sums and differences. |
| **Multiplying Fractions & Mixed Numbers** | NC.7.NS.2 Apply and extend previous understandings of multiplication and division.<br>a. Understand that a rational number is any number that can be written as a quotient of integers with a non-zero divisor. |
| **Dividing Fractions & Whole Numbers by Fractions** | NC.6.NS.1 Use visual models and common denominators to:<br>● Interpret and compute quotients of fractions.<br>● Solve real-world and mathematical problems involving division of fractions. |
| **Rational Numbers** | NC.6.NS.5 Understand and use rational numbers to:<br>● Describe quantities having opposite directions or values.<br>● Represent quantities in real-world contexts, explaining the meaning of 0 in each situation.<br>● Understand the absolute value of a rational number as its distance from 0 on the number line to:<br>○ Interpret absolute value as magnitude for a positive or negative quantity in a real-world context.<br>○ Distinguish comparisons of absolute value from statements about order |
| | NC.6.NS.6a Understand rational numbers as points on the number line and as ordered pairs on a coordinate plane.<br>a. On a number line:<br>o Recognize opposite signs of numbers as indicating locations on opposite sides of 0 and that the opposite of the opposite of a number is the number itself.<br>o Find and position rational numbers on a horizontal or vertical number line. |
| **Adding & Subtracting Positive & Negative Fractions** | NC.6.NS.7 Understand ordering of rational numbers.<br>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.<br>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. |
| | NC.7.EE.1 Apply properties of operations as strategies to:<br>● Add, subtract, and expand linear expressions with rational coefficients.<br>● Factor linear expression with an integer GCF. |

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| **Solving One Step Equations** | NC.7.EE.2 Understand that equivalent expressions can reveal real-world and mathematical relationships. Interpret the meaning of the parts of each expression in context. |
| | 7.EE.4a Construct equations to solve problems by reasoning about the quantities.<br>● Fluently solve multistep equations with the variable on one side, including those generated by word problems.<br>● Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.<br>● Interpret the solution in context. |
| **Unit 1 SchoolNet Post-Test: 5092931** | |
| **Unit 2 Real Numbers**<br>**SchoolNet Pre-Test: 5092934** | |
| **Order of Operations** | NC.6.EE.2 Write, read, and evaluate algebraic expressions.<br>● Write expressions that record operations with numbers and with letters standing for numbers.<br>● Identify parts of an expression using mathematical terms and view one or more of those parts as a single entity.<br>● Evaluate expressions at specific values of their variables using expressions that arise from formulas used in real-world problems |
| **Integer Exponents** | NC.8.EE.1 Develop and apply the properties of integer exponents to generate equivalent numerical expressions. |
| **Irrational Numbers** | NC.8.NS.1 Understand that every number has a decimal expansion. Building upon the definition of a rational number, know that an irrational number is defined as a non-repeating, non-terminating decimal. |
| **Square Roots** | 8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers and locate them approximately on a number line. Estimate the value of expressions involving:<br>● Square roots and cube roots to the tenths.<br>● $\pi$ to the hundredths. |

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| | NC.8.EE.2 Use square root and cube root symbols to:<br>● Represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where $p$ is a positive rational number.<br>● Evaluate square roots of perfect squares and cube roots of perfect cubes for positive numbers less than or equal to 400. |
| **Scientific Notation** | NC.8.EE.3 Use numbers expressed in scientific notation to estimate very large or very small quantities and to express how many times as much one quantity is than another quantity. |
| | NC.8.EE.4 Use numbers expressed in scientific notation to estimate very large or very small quantities and to express how many times as much one quantity is than another quantity. |
| **Unit 2 SchoolNet Post-Test: 5092940** | |
| **Unit 3 Geometry**<br>**Unit 3 & 4 SchoolNet Pre-Test: 5092945** | |
| **Volume** | NC.8.G.9 Understand how the formulas for the volumes of cones, cylinders, and spheres are related and use the relationship to solve real-world and mathematical problems. |
| **Pythagorean Theorem** | NC.8.G.6 Explain the Pythagorean Theorem and its converse. |
| | NC.8.G.7 Apply the Pythagorean Theorem and its converse to solve real-world and mathematical problems. |
| | NC.8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. |
| **Unit 4 Ratios & Rates** | |
| **Ratios** | NC.6.RP.1 Understand the concept of a ratio and use ratio language to:<br>● Describe a ratio as a multiplicative relationship between two quantities.<br>● Model a ratio relationship using a variety of representations. |
| **Unit Rate** | NC.6.RP.2 Understand that ratios can be expressed as equivalent unit ratios by finding and interpreting both unit ratios in context. |

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| **Ratio and Rate** | NC.6.RP.3 Use ratio reasoning with equivalent whole-number ratios to solve real-world and mathematical problems by:<br>● Creating and using a table to compare ratios.<br>● Finding missing values in the tables.<br>● Using a unit ratio.<br>● Converting and manipulating measurements using given ratios.<br>● Plotting the pairs of values on the coordinate plane. |
| **Rate of Change** | NC.8.F.1 Understand that a function is a rule that assigns to each input exactly one output.<br>● Recognize functions when graphed as the set of ordered pairs consisting of an input and exactly one corresponding output.<br>● Recognize functions given a graph, equation, table of values or a set of ordered pairs. |
| **Unit 3 & 4 SchoolNet Post-Test: 5092958** | |
| **Administer Final Exam Test ID: 5091077**<br>**Student Online Passcode: INTROFINAL** | |