

SOL EOC Tutorials for Virginia are designed specifically for the Virginia Standards of Learning to prepare students for the Standards of Learning tests (SOL). EOC Categories are at the heart of SOL EOC Tutorial structure – bringing category-based learning to the student experience, and category-based performance and progress tracking to the teacher experience.

Math Tutorials offer targeted instruction, practice and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. They automatically identify and address learning gaps down to elementary-level content, using adaptive remediation to bring students to grade-level no matter where they start. Students engage with the content in an interactive, feedback-rich environment as they progress through standards-aligned modules. By constantly honing the ability to apply their knowledge in abstract and real world scenarios, students build the depth of knowledge and higher order skills required to demonstrate their mastery when put to the test.

In each module, the Learn It and Try It make complex ideas accessible to students through focused content, modeled logic and process, multi-modal representations, and personalized feedback as students reason through increasingly challenging problems. The Review It offers a high impact summary of key concepts and relates those concepts to students' lives. The Test It assesses students' mastery of the module's concepts, providing granular performance data to students and teachers after each attempt. To help students focus on the content most relevant to them, unit-level pretests and posttests can quickly identify where students are strong and where they're still learning.

Test-Taking Strategies for EOC Tutorials allow students to practice and apply learning approaches that will hone their test-taking skills and focus them for success on the day of their EOC test.

1. RATIOS AND PROPORTIONAL RELATIONSHIPS

• RATIOS

- **NS.6.1** *The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $/b$, a to b , and $a:b$.*
- **PFA.6.12.b** *determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table;*
- **PFA.6.12.d** *make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs.*

• IDENTIFYING PROPORTIONAL RELATIONSHIPS

- **PFA.6.12.c** *determine whether a proportional relationship exists between two quantities; and*
- **NS.6.1** *The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $/b$, a to b , and $a:b$.*

• ANALYZING PROPORTIONAL RELATIONSHIPS

- **PFA.6.12.b** *determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table;*
- **PFA.6.12.d** *make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs.*
- **PFA.6.12.a** *represent a proportional relationship between two quantities, including those arising from practical situations;*
- **NS.6.1** *The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $/b$, a to b , and $a:b$.*

2. SOLVING PROBLEMS WITH PROPORTIONS

• REPRESENTING PROPORTIONAL RELATIONSHIPS

- **PFA.6.12.a** *represent a proportional relationship between two quantities, including those arising from practical situations;*
- **PFA.6.12.c** *determine whether a proportional relationship exists between two quantities; and*

- **PFA.6.12.d** make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs.
- **NS.6.1** The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $\frac{a}{b}$, a to b , and $a:b$.

- **USING PROPORTIONS TO SOLVE PROBLEMS**

- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **PFA.6.12.a** represent a proportional relationship between two quantities, including those arising from practical situations;
- **PFA.6.13** The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.

3. OPERATIONS WITH FRACTIONS AND PERCENTS

- **SOLVING PERCENT PROBLEMS**

- **NS.6.1** The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $\frac{a}{b}$, a to b , and $a:b$.
- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and

- **DIVIDING FRACTIONS**

- **CE.6.5.a** multiply and divide fractions and mixed numbers;
- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and

- **SOLVING PROBLEMS BY DIVIDING FRACTIONS**

- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **CE.6.5.a** multiply and divide fractions and mixed numbers;

4. DECIMAL OPERATIONS

- **DECIMAL OPERATIONS**

- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **CE.6.5.c** solve multistep practical problems involving addition, subtraction, multiplication, and division of decimals.

- **EXPRESSING RATIONAL NUMBERS IN DECIMAL FORM**

- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and
- **CE.6.5.c** solve multistep practical problems involving addition, subtraction, multiplication, and division of decimals.
- **NS.6.2.b** compare and order positive rational numbers.

5. SIGNED NUMBERS

- **SIGNED NUMBERS**

- **NS.6.3.a** identify and represent integers;
- **NS.6.3.c** identify and describe absolute value of integers.
- **NS.6.3.b** compare and order integers; and

- **INEQUALITIES AND COMPARISON**

- **NS.6.2.b** compare and order positive rational numbers.
- **NS.6.3.b** compare and order integers; and
- **NS.6.3.a** identify and represent integers;

- **ABSOLUTE VALUE**

- **NS.6.3.c** identify and describe absolute value of integers.
- **NS.6.3.b** compare and order integers; and

6. ADDING AND SUBTRACTING RATIONAL NUMBERS

- **ADDING RATIONAL NUMBERS**

- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **NS.6.3.c** identify and describe absolute value of integers.

- **SUBTRACTING RATIONAL NUMBERS**

- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **NS.6.3.c** identify and describe absolute value of integers.
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and

7. MULTIPLICATION AND DIVISION OF RATIONAL NUMBERS

- **MULTIPLYING RATIONAL NUMBERS**

- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **CE.6.6.b** solve practical problems involving operations with integers; and
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **CE.6.5.a** multiply and divide fractions and mixed numbers;

- **DIVIDING RATIONAL NUMBERS**

- **CE.6.5.a** multiply and divide fractions and mixed numbers;
- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.b** solve practical problems involving operations with integers; and
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **CE.6.6.c** simplify numerical expressions involving integers.

8. USING PROPERTIES WITH RATIONAL NUMBERS

- **USING PROPERTIES TO ADD AND SUBTRACT RATIONAL NUMBERS**

- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and

- **USING PROPERTIES TO MULTIPLY AND DIVIDE RATIONAL NUMBERS**

- **CE.6.6.a** add, subtract, multiply, and divide integers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **CE.6.6.b** solve practical problems involving operations with integers; and

9. WORKING WITH RATIONAL NUMBERS

● USING OPERATIONS ON RATIONAL NUMBERS TO SOLVE PROBLEMS

- **CE.6.5.a** multiply and divide fractions and mixed numbers;
- **CE.6.6.c** simplify numerical expressions involving integers.
- **CE.6.5.b** solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and
- **CE.6.6.b** solve practical problems involving operations with integers; and
- **NS.6.2.a** represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and

● EXPONENTS

- **CE.6.6.c** simplify numerical expressions involving integers.
- **NS.6.4** The student will recognize and represent patterns with whole number exponents and perfect squares.

● EVALUATING EXPRESSIONS

- **CE.6.6.c** simplify numerical expressions involving integers.
- **NS.6.4** The student will recognize and represent patterns with whole number exponents and perfect squares.

10. THE COORDINATE PLANE

● PLOTTING POINTS IN THE COORDINATE PLANE

- **MG.6.8.a** identify the components of the coordinate plane; and
- **MG.6.8.b** identify the coordinates of a point and graph ordered pairs in a coordinate plane.

● QUADRANTS AND AXES

- **MG.6.8.a** identify the components of the coordinate plane; and
- **MG.6.8.b** identify the coordinates of a point and graph ordered pairs in a coordinate plane.

11. SOLVING EQUATIONS AND INEQUALITIES

● SOLVING ADDITION EQUATIONS

- **PFA.6.13** The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.

● SOLVING MULTIPLICATION EQUATIONS

- **PFA.6.13** The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.

● SOLVING INEQUALITIES

- **PFA.6.14.b** solve one-step linear inequalities in one variable, involving addition or subtraction, and graph the solution on a number line.
- **PFA.6.14.a** represent a practical situation with a linear inequality in one variable; and

● SOLUTIONS OF EQUATIONS AND INEQUALITIES

- **PFA.6.13** *The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.*
- **PFA.6.14.b** *solve one-step linear inequalities in one variable, involving addition or subtraction, and graph the solution on a number line.*

12. GEOMETRY AND TRANSFORMATIONS

- **CIRCLES**

- **MG.6.7.b** *solve problems, including practical problems, involving circumference and area of a circle; and*
- **MG.6.7.a** *derive π (π);*

- **AREA**

- **MG.6.7.c** *solve problems, including practical problems, involving area and perimeter of triangles and rectangles.*

- **BASICS OF TRANSFORMATIONS**

- **MG.6.9** *The student will determine congruence of segments, angles, and polygons.*

- **T TRANSFORMATIONS AND CONGRUENCE**

- **MG.6.9** *The student will determine congruence of segments, angles, and polygons.*

13. MEASURES OF CENTER

- **MEASURES OF CENTER AND VARIABILITY**

- **PS.6.11.a** *represent the mean of a data set graphically as the balance point; and*

14. TEST-TAKING STRATEGIES

- **STUDY HABITS**

- **BEING PREPARED AND GETTING STARTED**

- **WORDING IN TEST QUESTIONS**

- **WORDING IN ANSWER CHOICES**

- **QUESTIONS WITH PASSAGES AND VISUAL DATA**

- **ESSAY AND SHORT ANSWER QUESTIONS**

- **WORD PROBLEMS**