



HENRY COUNTY SCHOOLS

**SEVENTH GRADE
PLANNING GUIDE**

OFFICE OF MATHEMATICS

2017 - 2018

Seventh Grade Spaced Instructional Review Planning Sheet

Henry County Schools - Office of Mathematics

2017 - 2018

Block of Time (6 weeks)	Big Ideas Covered (or specific skills)	Problematic Areas	Problematic Areas Targeted for SIR	Date & Instructional Time Allotted 55-60 min. classes allot 10-15 minutes 90 min. classes allot 30 minutes
7/31/2017 to 9/11/2017	<ul style="list-style-type: none"> • Operations with integers • Real-world application of integers. • Identifying rational and irrational numbers. • Continued operations with fractions and decimals. 	<ul style="list-style-type: none"> • Integer operations • Real World Application of Absolute Value • Continued operations with fractions 	<ul style="list-style-type: none"> • Add/Subtraction of integers • Multiplication/Division of integers • Understanding absolute value - below sea level can be applied as the distance from zero 	Date: 9/11/2017
9/12/2017 to 10/30/2017	<ul style="list-style-type: none"> • Classify and using properties to expand expressions. • Write equivalent numerical expressions. • Write expressions and equations using more than 	<ul style="list-style-type: none"> • Classifying Properties • Rewriting equivalent numerical expressions, writing them in more than one format. 	<ul style="list-style-type: none"> • ID Properties • Write equivalent expressions. 	Date: 10/30/2017

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Notes: Use assessment data from Teacher assessments (formal & informal), Progress Monitoring data sources, State Assessments, and other sources of information (teacher's experience). Table abbreviated for space considerations.

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	<ul style="list-style-type: none"> one format. Use variables to represent quantities in real-world problems. 			
10/31/2017 to 12/11/2017	<ul style="list-style-type: none"> Expand knowledge and understanding of rate and unit rate. Analyze proportional relationships through graphs, tables, equations, and diagrams. Represent math using graphs, tables, pictures, symbols, and words. 	<ul style="list-style-type: none"> Rate & Unit Rate (including fractions) Rate analysis via graphs, tables, equations, and diagrams 	<ul style="list-style-type: none"> Unit rates with fractions Multiple proportional representation: graph, equations, symbols, words 	Date: 12/11/2017
12/12/2017 to 1/29/2018	<ul style="list-style-type: none"> Draw geometric figures using rulers and protractors with emphasis on triangles. Cross sections Write and solve equations involving angle relationships. Solve problems that require determining the 	<ul style="list-style-type: none"> Volume & Surface area of 3D figures Area/Circumference of Circles Classifying triangles, angles Angles (complementary/supplementary) and writing and solving equations to find 	<ul style="list-style-type: none"> Application of formulas (volume/surface area/area) Construct & determine if the angles are sides given are possible triangles. Using algebra to determine unknown angles. 	Date 1/29/2018

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	<p>surface area and volume.</p> <ul style="list-style-type: none"> • Area and circumference of circles. 	<p>the unknown angle in a figure.</p>		
<p>1/30/2018 - 3/5/2018</p>	<ul style="list-style-type: none"> • Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. • Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. • Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences 	<ul style="list-style-type: none"> • Analyzing patterns and seeing relationships • Represent and interpret data, using addition and subtraction, multiplication and division • Measures of center (mean, median, mode) and measures of variation (range, quartiles, interquartile range) can be used to analyze data. 	<ul style="list-style-type: none"> • Represent and interpret data • Measures of center (mean, median, mode, range) quartiles (interquartile range) 	<p>Date 3/5/2018</p>

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	about two populations.			
3/6/2018-3/26/2018	<ul style="list-style-type: none"> The probability of a given event can be represented as a fraction between 0 and 1. Sometimes the outcome of one event does not affect the outcome of another event. (This is when the outcomes are called independent.) Simulations can be used to collect data and estimate probabilities for real situations that are sufficiently complex that the theoretical probabilities are not obvious. 	<ul style="list-style-type: none"> Probability of a chance event is between 0 and 1. Developing probability models and using it to find probabilities of events. Finding probabilities of compound events using organized lists, tables, tree diagrams, and simulation. 	<ul style="list-style-type: none"> Using fractions, decimals and percents to represent the chance of an event occurring on a number line. Using data from models. Creating tree diagrams, tables and organized lists. 	Date 3/26/2018

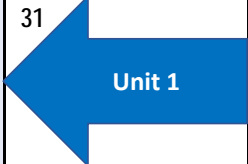
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JULY 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24 PRE-PLANNING	25 PRE-PLANNING	26 PRE-PLANNING	27 PRE-PLANNING	28 PRE-PLANNING	29	
30	31 	Notes:				SLOT DAY: 1 hour class: 15 min 90 min class: 30 min	
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AUGUST 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		Unit 1: Operations with Rational Numbers				
6	7	8	9	10	11	12
	Unit 1: Operations with Rational Numbers					
13	14	15	16	17	18	19
	Unit 1: Operations with Rational Numbers					
20	21	22	23	24	25	26
	Unit 1: Operations with Rational Numbers					
27	28	29	30	31		
	Unit 1: Operations with Rational Numbers					
		<p>Notes:</p> <p style="text-align: right;">SLOT DAY: 1 hour class: 15 min 90 min class: 30 min</p>				
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SEPTEMBER 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
					1 Unit 1	2	
3	4 LABOR DAY	Unit 1: Operations with Rational Numbers				8	9
10	11 SLOT	Unit 2: Expressions and Equations				15	16
17	18 FALL BREAK	19 FALL BREAK	20 FALL BREAK	21 FALL BREAK	22 FALL BREAK	23	
24	25	26	27	28	29	30	
	Unit 2: Expressions and Equations						
		Notes:		SLOT DAY: 1 hour class: 15 min 90 min class: 30 min			
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OCTOBER 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
	Unit 2: Expressions and Equations					
8	9	10	11	12	13	14
	Unit 2: Expressions and Equations					
15	16 PD DAY	17	18	19	20	21
	Unit 2: Expressions and Equations					
22	23	24	25	26	27	28
	Unit 2: Expressions and Equations 					
29	30	31				
	SLOT Unit 3 					
		Notes:			SLOT DAY: 1 hour class: 15 min 90 min class: 30 min	
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NOVEMBER 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
			Unit 3: Ratios and Proportional Relationships			
5	6 PD DAY	7 PD DAY	8	9	10	11
			Unit 3: Ratios and Proportional Relationships			
12	13	14	15	16	17	18
	Unit 3: Ratio and Proportional Relationships					
19	20 THANKSGIVING BREAK	21 THANKSGIVING BREAK	22 THANKSGIVING BREAK	23 THANKSGIVING BREAK	24 THANKSGIVING BREAK	25
26	27	28	29	30		
	Unit 3: Ratios and Proportional Relationships					
		Notes:			SLOT DAY: 1 hour class: 15 min 90 min class: 30 min	
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DECEMBER 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Unit 3: Ratios	2
3	4	5	6	7	8	9
Unit 3: Ratios and Proportional Relationships 						
10	11	12	13	14	15	16
SLOT  Unit 4: Geometry						
17	18	19	20	21	22	23
Unit 4: Geometry						
24	25 SEMESTER BREAK	26 SEMESTER BREAK	27 SEMESTER BREAK	28 SEMESTER BREAK	29 SEMESTER BREAK	30
31		Notes:			SLOT DAY: 1 hour class: 15 min 90 min class: 30 min	

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JANUARY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 SEMESTER BREAK	2 SEMESTER BREAK	3 SEMESTER BREAK	4 SEMESTER BREAK	5 SEMESTER BREAK	6
7	8 PD DAY	Unit 4: Geometry				13
14	15 MLK DAY	Unit 4: Geometry				20
21	Unit 4: Geometry					27
28	29 SLOT	Unit 5: Inferences				
		Notes:		SLOT DAY: 1 hour class: 15 min 90 min class: 30 min		
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FEBRUARY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				Unit 5: Inferences		
4	5	6	7	8	9	10
	Unit 5: Inferences					
11	12	13	14	15	16	17
	Unit 5: Inferences					
18	19	20	21	22	23	24
	WINTER BREAK	WINTER BREAK	WINTER BREAK	WINTER BREAK	WINTER BREAK	
25	26	27	28			
	PD DAY	Unit 5: Inferences				
		Notes:		SLOT DAY:		
				1 hour class: 15 min 90 min class: 30 min		
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MARCH 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				Unit 5: Inferences		
4	5	6	7	8	9	10
	Unit 6: Probability					
11	12	13	14	15	16	17
	PD DAY	Unit 6: Probability				
18	19	20	21	22	23	24
	Unit 6: Probability					
25	26	27	28	29	30	31
	Unit 6: Probability					
		Notes:			SLOT DAY: 1 hour class: 15 min 90 min class: 30 min	
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APRIL 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 SPRING BREAK	3 SPRING BREAK	4 SPRING BREAK	5 SPRING BREAK	6 SPRING BREAK	7
8	← Unit 7: Show What We Know					14
15	Unit 7: Show What We Know →					21
22	← EOG Testing →					28
29	30 Preview 8th Grade					
		Notes:		SLOT DAY: 1 hour class: 15 min 90 min class: 30 min		
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MAY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		Preview 8th Grade				
6	7	8	9	10	11	12
	Preview 8th Grade					
13	14	15	16	17	18	19
	Preview 8th Grade					
20	21	22	23	24	25	26
	Final Exams					
27	28 MEMORIAL DAY	29 POST-PLANNING	30 POST-PLANNING	31		
		Notes:		SLOT DAY: 1 hour class: 15 min 90 min class: 30 min		
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7th Grade Vertical Map for Competency Based Learning
 Henry County Schools – Office of Mathematics
 2017 – 2018

Competency 1 – Standards of Mathematical Practice

The student uses mathematical practices to help make sense of the real world. The student can identify variables, formulate a model describing a relationship between the variables, interpret results, and validate and report conclusions and the reasoning behind them.

Performance Indicator	6th Grade	7th Grade	8th Grade
C1.PI1 Students can make sense of problems and persevere in solving them.	✓	✓	✓
C1.PI2 Students can reason abstractly and quantitatively.	✓	✓	✓
C1.PI3 Students can construct viable arguments and critique the reasoning of others.	✓	✓	✓
C1.PI4 Students can model with mathematics.	✓	✓	✓
C1.PI5 Students can use appropriate tools strategically.	✓	✓	✓
C1.PI6 Students can attend to precision.	✓	✓	✓
C1.PI7 Students can look for and make use of structure.	✓	✓	✓
C1.PI8 Students can look for and express regularity in repeated reasoning.	✓	✓	✓

Competency 2 – Numbers and Number Systems

The student reasons, describes and analyzes quantitatively using units and number systems to make sense of and solve problems.

Performance Indicator	6th Grade	7th Grade	8th Grade
C2.P1a Understand and analyze ratio concepts and use ratio reasoning to solve problems.	✓	✓	
C2.P1b Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	✓		
C2.P1c Compute fluently with multi- digit numbers and find common factors and multiples.	✓		
C2.P1d Apply and extend previous understandings of numbers to the system of rational numbers.	✓		
C2.P1e Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	✓	✓	
C2.P1f Know that there are numbers that are not rational, and approximate them by rational numbers.			✓

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Competency 3 – Algebraic Structures The student creates, interprets, uses, and analyzes patterns of algebraic structures to make sense of problems.			
Performance Indicator	6th Grade	7th Grade	8th Grade
C3.P1a Apply and extend previous understandings of arithmetic to algebraic expressions.	✓	✓	
C3.P1b Reason about and solve one- variable equations and inequalities.	✓	✓	✓
C3.P1c Represent and analyze quantitative relationships between dependent and independent variables	✓	✓	✓
C3.P1d Use properties of operations to generate equivalent expressions.	✓	✓	✓
C3.P1e Solve real- life and mathematical problems using numerical and algebraic expressions and equations.	✓	✓	✓
C3.P1f Solve problems with radicals and/or integer exponents.	✓		✓
C3.P1g Understand the connections between proportional relationships, lines, and linear equations.		✓	✓
C3.P1h Analyze and solve linear equations and pairs of simultaneous linear equations.		✓	✓
C3.P1i Analyze proportional relationships and use them to solve real- world and mathematical problems.	✓	✓	✓

Competency 4 – Functions The student uses functions to interpret and analyze a variety of contexts. Functions describe situations where one quantity determines another.			
Performance Indicator	6th Grade	7th Grade	8th Grade
C4.P1a The student can define, evaluate, and compare functions			✓
C4.P1b The student can use functions to model relationships between quantities.	✓	✓	✓

Competency 5 – Geometry The student proves, understands, and models geometric concepts using appropriate tools, theorems and constructions to solve problems and apply logical reasoning.			
Performance Indicator	6th Grade	7th Grade	8th Grade
C5.P1a The student can solve real-world and mathematical problems involving angle measure, area, surface area, and volume	✓	✓	✓
C5.P1b The students can draw, construct and describe geometrical figures and describe the relationships between them.	✓	✓	✓
C5.P1c Understand congruence and similarity using physical models, transparencies, or geometry software.			✓
C5.P1d Understand and apply the Pythagorean Theorem.	✓	✓	✓
C5.P1e Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.			✓

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Competency 6 – Statistics and Probability

The student uses a variety of data analysis and statistics strategies to analyze, develop and evaluate inferences based on data.

Performance Indicator	6th Grade	7th Grade	8th Grade
C6.PIa The students can develop understanding of statistical variability..	✓		
C6.PIb The student can summarize and describe distributions.	✓		
C6.PIc The student can use random sampling to draw inferences about a population.		✓	
C6.PId The student can draw informal comparative inferences about two populations.		✓	
C6.PIe The student can investigate chance processes and develop, use, and evaluate probability models.	✓	✓	✓
C6.PIf The student can investigate patterns of association in bivariate data.			✓

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Seventh Grade Map for Competency Based Learning

Henry County Schools – Office of Mathematics

2017 – 2018

Grade Span: 6-8 Competencies	Unit 1: Operations with Rational Numbers Activities	Unit 2: Expressions and Equations Activities	Unit 3: Ratios and Proportional Reasoning Activities	Unit 4: Geometry Activities	Unit 5: Inferences Activities	Unit 6: Probability Activities
Competency 1: Standards for Mathematical Practice	District Benchmark Codes for Illuminate: (Pre): 27612 (Post) 27624 OR State Frameworks Culminating Task “A Poster” (pgs. 110-114)	District Benchmark Codes for Illuminate: (Pre): 27628 (Post): 27632 OR State Frameworks Culminating Task “Population Equations” (pgs. 68-75)	District Benchmark Codes for Illuminate: (Pre): 27635 (Post): 27639 OR State Frameworks Culminating Task “Which is the Better Deal” (pgs. 83-88)	District Benchmark Codes for Illuminate: (Pre): 27641 (Post): 27645 OR State Frameworks Culminating Task “The Three Little Pig Builders” (pgs. 114-122)	District Benchmark Codes for Illuminate: (Pre): 27649 (Post): 27652 OR State Frameworks Culminating Task “Emergency 911” (pgs. 61-75)	District Benchmark Codes for Illuminate: (Pre): 27655 (Post): 27661 OR State Frameworks Culminating Task “Conducting Simulations” (pgs. 101-113)
C1.P11 Students can make sense of problems and persevere in solving them.	Students explain and demonstrate rational number operations by using symbols, visuals, words, and real life contexts.	Students seek the meaning of a problem and look for efficient ways to represent and solve it.	Students make sense of ratio and unit rates in real-world contexts.	Students make sense of the problems involving geometric measurements (area, volume, surface area, etc.)	Students make sense of information by connecting visual, tabular, and symbolic representations of sample populations in real-life contexts.	Students make sense of probability situations by creating visual, tabular and symbolic models to represent the situations.
C1.P12 Students can reason abstractly and quantitatively.	They demonstrate abstract reasoning by translating numerical sentences into real world situations.	Students demonstrate quantitative reasoning by representing and solving real world situations using visuals, equations, inequalities and linear relationships into real world situations.	Students will reason about the value of the rational number in relation the models that are created to represent them.	Students must challenge themselves to think of three dimensional shapes with only two dimensional representations of them on paper in some cases.	Students’ reason about the values in data representations based upon their relationship to the real number line.	Students’ reason about the numerical values used to represent probabilities as values between 0 and 1.
C1.P13 Students can construct viable arguments and critique the reasoning of others.	Students apply properties to support their arguments and constructively critique the reasoning of others while supporting their own position.	Students will discuss the differences among expressions, equations and inequalities using appropriate terminology and tools/visuals.	Students use arguments to justify their reasoning when creating and solving proportions used in real-world contexts.	Students are able to construct arguments using concrete referents such as objects, drawings, diagrams, and actions	Students use data to make inferences from sample sets..	Students approximate probabilities and create probability models and explain reasoning for their approximations.

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C1.PI4 Students can model with mathematics.	Students model understanding of rational number operations using tools such as algebra tiles, counters, visuals, and number lines and connect these models to solve problems involving real-world situations.	Students will model an understanding of expressions, equations, inequalities, and graphs using tools such as algebra tiles/blocks, counters, protractors, compasses, and visuals to represent real world situations.	Students create models using tape diagrams, double number lines, manipulatives, tables and graphs to represent real-world and mathematical situations involving ratios and proportions.	Students are able to apply area and surface of 2-dimensional figures to solve interior design problems or surface area and volume of 3-dimensional figures to solve architectural problems.	Students generate representative samples in real-world contexts and represent these visually, in tables, and symbolically to gain information from sample sets.	Students model real world populations using mathematical probability representations that are algebraic, tabular or graphic.
C1.PI5 Students can use appropriate tools strategically.	Students demonstrate their ability to select and use the most appropriate tool (paper/pencil, manipulatives, and calculators) while solving problems with rational numbers.	Students demonstrate their ability to select and use the most appropriate tool (pencil/paper, manipulatives, calculators, protractors, etc.)	Students use visual representations such as the coordinate plane to show the constant of proportionality.	Mathematically proficient students consider available tools that might include concrete models, a ruler, a protractor, or dynamic geometry software such as virtual manipulatives and simulations.	Students choose appropriate mathematical and visual representations, including technology-based tools, to represent the data distributions	Students select and use technological, graphic or real-world contexts to model and simulate probabilities.
C1.PI6 Students can attend to precision.	Students use precision in calculation by checking the reasonableness of their answers and making adjustments accordingly.	Students use precision in calculation by checking the reasonableness of their answers and making adjustments accordingly.	Students attend to the ratio and rate language studied in grade 6 to represent and solve problems involving rates and ratios.	Students determine quantities of side lengths represented with variables, specify units of measure, and label geometric figures accurately..	Students use precision to collect accurate measurement information from sample populations and precise language when generating and interpreting data.	Students use precise language and calculations to represent probabilities in mathematical and real-world contexts.
C1.PI7 Students can look for and make use of structure.	Students look for structure in positive and negative rational numbers when they place them appropriately on the number line.	Students routinely seek patterns or structures to model and solve problems.	Students look for patterns that exist in ratio tables in order to make connections between the constant of proportionality in a table with the slope of a graph.	Students recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems.	Students interpret data representations in tables, histograms, boxplots and scatter plots by examining the features of those representations.	Students recognize that probability can be represented in tables, visual models, or as a rational number.
C1.PI8 Students can look for and express regularity in repeated reasoning.	Students will use manipulatives to explore the patterns of operations with rational numbers. Students will use these patterns to	Students use repeated reasoning to understand algorithms and make generalizations about patterns	Students formally begin to make connections between covariance, rates, and representations showing the relationships between	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for	Students look to make generalized comparisons between situations that involve bias using specific criteria.	Students use repeated reasoning when approximating probabilities. They refine their approximations

	develop algorithms.		quantities.	shortcuts.		based upon experiences with data.
Competency 2: Numbers and Number Systems						
C2.P1a Ratios and Proportions			Compute unit rate as a fraction			
C2.P1e Number Systems	Perform the four operations with rational numbers					
Competency 3: Algebra and Algebraic Thinking						
C3.P1a Simplifying Expressions		Combine like terms				
C3.P1b Solving Equations		Solve equations and inequalities using the four operations				
C3.P1c Independent and Dependent Variables		Show that an independent variable stands alone and a dependent variable depends on other factors				
C3.P1d Equivalent Expressions		Apply knowledge of properties to generate equivalent expressions				
C3.P1e Writing Equations		Write and solve equations from real-life.				
C3.P1g Equivalent Ratios			Recognize equivalent ratios			
C3.P1h Constant of proportionality			Recognize and use the constant of proportionality to solve problems			
C3.P1i Ratios and Proportions			Recognize equivalent ratios			
Competency 4: Functions						
C4.P1b Proportions			Set up proportions and cross multiply to determine equivalency			

Competency 5: Geometry						
C5.P1a Volume and Surface Area				Use given formulas and facts about angles to solve real-world problems.		
C5.P1b Finding Scale Factor			Setting up proportions	Applying the knowledge of proportions to solve scale factor problems. Be able to draw geometrical figures.		
Competency 6: Statistics and Probability						
C6.P1c Drawing Inferences					Draw inferences about populations	
C6.P1d Measures of Center and Measures of Variability					Be able to compare and contrast information about inferences drawn on two populations	
C6.P1e Probability						Determine whether an event is likely or unlikely to occur

7th Grade Mathematics Performance Indicators at a Glance
Henry County Schools – Office of Mathematics
2017 – 2018

Competency 1

1 Make sense of problems and persevere in solving them.
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4 Model with mathematics

5 Use appropriate tools strategically.
6 Attend to precision.
7 Look for and make use of structure.
8 Look for and express regularity in repeated reasoning.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Operations with Rational Numbers	Expressions and Equations	Ratios and Proportional Relationships	Geometry	Inferences	Probability
C2.P1e	C3.P1a-e	C2.P1a C3.P1g-i C4.P1b C5.P1b	C5.P1a-b	C6.P1c-d	C6.P1e

These units were written to build upon concepts from prior units, so later units contain tasks that depend upon the concepts addressed in earlier units. All units will include the Mathematical Practices and indicate skills to maintain. However, the progression of the units is at the discretion of districts.

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Performance Indicators

Unit 1

Unit 2

Operations with Rational Numbers

Expressions and Equations

C2.P1e Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Learning Targets:

- I can use appropriate strategies to compute the sums, differences, products and quotients of rational numbers.
- I can apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers in an authentic context using appropriate strategies.

Resources:

- [Operations on Integers Guided Lesson](#)
- **GSE Frameworks - [Hot Air Balloon \(33-43\)](#)**
- **GSE Frameworks - [Multiplying Integers \(65-69\)](#)**

C3.P1a Apply and extend previous understandings of arithmetic to algebraic expressions.

Learning Targets:

- I can identify and interpret patterns.
- I can apply and extend previous understandings of arithmetic to explain patterns by writing algebraic expressions.

Resources:

- **GSE Frameworks - [Geology Rocks \(45-52\)](#)**
- [Calendar Equations](#)

C3.P1b Reason about and solve one-variable equations and inequalities.

Learning Targets:

- I can explain solutions to routine problems involving one-variable equations and inequalities.
- I can analyze similarities/differences between procedures or solutions and solve one-variable equations and inequalities in an authentic context.

Resources:

- **GSE Frameworks [Guess My Number \(34-37\)](#)**
- [Fishing Adventures 2](#)

C3.P1c Represent and analyze quantitative relationships between dependent and

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independent variables.

Learning Targets:

- I can explain solutions to routine problems involving dependent and independent variables.
- I can represent and analyze quantitative relationships between dependent and independent variables in an authentic context.

Resources:

- GSE Frameworks [Population Equations](#) (68-73)
- [Bookstore Account](#)

C3.PId Use properties of operations to generate equivalent expressions.

Learning Targets:

- I can identify equivalent expressions.
- I can use properties of operations to generate equivalent expressions.

Resources:

- GSE Frameworks [Algebra Magic](#) (38-44)
- [Shrinking](#)

C3.PIe Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Learning Targets:

- I can use appropriate strategies to solve algebraic expressions and equations.
- I can solve real-life and mathematical problems involving numerical and algebraic expressions and equations.

Resources:

- GSE Frameworks [Deconstructing Word Problems](#) (53-58)
- [Drill Rig](#)

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Performance Indicators

Unit 3

Unit 4

Ratios and Proportional Relationships

Geometry

C2.P1a Understand and analyze ratio concepts and use ratio reasoning to solve problems.

Learning Targets:

- I can use number sense to solve problems involving ratios and proportional relationships.
- I can analyze ratio concepts and solve problems using ratios.

Resources:

- GSE Frameworks - [What is Unit Rate? \(14-18\)](#)
- GSE Frameworks - [Analyzing and Applying Unit Rate \(19-26\)](#)

C3.P1g Understand the connections between proportional relationships, lines, and linear equations.

Learning Targets:

- I can identify proportional relationships, lines, and linear equations.
- I can explain the connections between proportional relationships, lines, and linear equations using multiple representations.

Resources:

- GSE Frameworks - [Nate & Natalie's Walk \(46-49\)](#)
- [Ratios and Proportions Online Games](#)

C3.P1h Analyze and solve linear equations and pairs of simultaneous linear equations.

Learning Targets:

C5.P1a The student can solve real-world and mathematical problems involving angle measure, area, surface area, and volume.

Learning Targets:

- I can identify the dimensions of geometric figures
- I can solve mathematical problems using a formula or equation for angle measure, area, surface area, and volume.

Resources:

- GSE Frameworks [Roman Mosaic \(21-22\)](#)
- GSE Frameworks [Food Pyramid, Square, Circle \(34-41\)](#)

C5.P1b The student can draw, construct and describe geometrical figures and describe the relationships between them.

Learning Targets:

- I can draw and describe geometric figures
- I can draw, construct and describe geometrical figures.

Resources:

- GSE Frameworks [Take the Ancient Greek Challenge \(12-19\)](#)
- [Ladybug Triangles](#)

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- I can solve linear equations and pairs of simultaneous linear equations.
- I can analyze and solve linear equations and pairs of simultaneous linear equations using multiple strategies.

Resources:

- [Equations from Proportions Video Lesson](#)
- [Gym Membership Plans](#)

C3.P1i Analyze proportional relationships and use them to solve real-world and mathematical problems.

Learning Targets:

- I can identify patterns as proportional relationships.
- I can analyze proportional relationships and use them to solve real-world and mathematical problems.

Resources:

- **GSE Frameworks** - [The Fastest](#) 1(10-17)
- **GSE Frameworks** - [Thumbs on Fire](#) (39-43)

C4.P1b The student can use functions to model relationships between quantities.

Learning Targets:

- I can identify inputs and outputs.
- I can use functions to model relationships between quantities, using a graph *or* equation.

Resources:

- **GSE Frameworks** - [Classifying Proportions and Non Proportions](#) (44-45)
- **GSE Frameworks** - [Buses](#) (50)

C5.P1b The student can draw, construct and describe geometrical figures and describe the relationships between them.

Learning Targets:

- I can draw and describe geometric figures
- I can draw, construct and describe geometrical figures.

Resources:

- **GSE Frameworks** - [Sphero Draw & Drive](#) (51-54)
- [Scale City](#)

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Performance Indicators

Unit 5

Unit 6

Inferences

Probability

C6.PIc The students can use random sampling to draw inferences about a population.

Learning Targets:

- I can conduct a random sample of a population.
- I can organize data from a random sample of a population.
- I can use random sampling to draw inferences about a population.

Resources:

- GSE Frameworks [Snapshot \(17-19\)](#)
- GSE Frameworks [Candy Population \(20-28\)](#)
-

C6.PId The students can draw informal comparative inferences about two populations.

Learning Targets:

- I can compare information about two populations.
- I can interpret comparative inferences about two populations.

Resources:

- GSE Frameworks [Human Box Plot \(36-37\)](#)
- GSE Frameworks [Shakespeare vs Harry Potter \(38-45\)](#)

C6.PIe The student can investigate chance processes and develop, use, and evaluate probability models. .

Learning Targets:

- I can identify situations involving chance
- I can evaluate situations involving chance using probability models.
- I can investigate chance processes and develop, use, and evaluate probability models.

Resources:

- GSE Frameworks [Skittles \(Spotlight Task\) \(48-60\)](#)
- GSE Frameworks [What's Your Outcome? \(61-65\)](#)

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Unpacking Performance Indicators

Henry County Schools – Office of Mathematics

Time Map (*to be completed by teacher along with lesson planning activities form omitted from this template*)

Duration of Lesson: _____ Dates of Lesson _____

Number of Elements in Standard: _____

Weight on Milestone Assessment: _____

Time for each element: (*try to balance this for the duration of the lesson*)
_____ / element

Assessment Date(s): _____

Graduation Competency:

#2 The student reasons, describes and analyzes quantitatively using units and number systems to make sense of and solve problems

Performance Indicator:

E. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers

Ultimate ELEMENT TYPE (place an X on one type)

___(K)nowledge ___(R)easoning X(S)kill ___(P)roduct

How will the ultimate target be assessed? (be sure the assessment type is appropriate for the type of target indicated above) (*to be considered by teacher*)

Use the chart below to identify the underpinning targets for the target (element) above. Follow the guidelines below.

K Standard requires K Target(s)	R Standard requires K + R Targets	S Standard requires K + R + S Targets	P Standard requires K + R + S* + P Targets *Not always
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KNOWLEDGE:

1. **Order of Operations (avoid PEMDAS)**
2. **Add, Subtract, Multiply, and Divide (Fractions, Decimals, and Integers)**
3. **Recognize that Absolute Value is the distance away from zero and give real-world examples.**
4. **Explain the relationship between addition/subtraction and multiplication/division**

REASONING:

1. **Select appropriate methods and tools for computing with fractions and decimals (estimating, calculator, and mental computation).**
2. **Use strategies to estimate the results of rational-number computations and judge the reasonableness of the results**

PERFORMANCE SKILL:

1. **Fluency of all operations with integers**

PRODUCT:

1. **Model integers and represent and compare quantities**
2. **Model integers using counters and number lines.**

*Will the targets identified above move the student toward overall mastery? Yes or No
If “YES,” write the targets in “student friendly” terms and add a stem. *You may use: “I can...,” “I will be able to...,” “I am learning to...” etc.

STUDENT FRIENDLY LEARNING TARGETS FOR THE ELEMENT

KNOWLEDGE: (Use an ID system for the target i.e. K1 would be Knowledge target 1)

K1 - I can use Order of Operations to solve problems

K2 - I can Add, Subtract, Multiply, and Divide (Fractions, Decimals, and Integers)

K3 - I know that Absolute Value is the distance away from zero and can give real world examples.

K4 - I know how to explain the difference between addition/subtraction and multiplication/division.

REASONING:

R1 - I can select appropriate methods and tools for computing with fractions and decimals (estimating, calculator, and mental computation).

R2 - I can use strategies to estimate the results of rational-number computations and judge the reasonableness of the results.

PERFORMANCE SKILL:

S1 - I am fluent in all operations with integers.

PRODUCT:

P1 - I am learning to model integers and represent and compare quantities

P2 - I can model integers using counters and number lines.

Unpacking Performance Indicators

Henry County Schools – Office of Mathematics

Time Map (to be completed by teacher along with lesson planning activities form omitted from this template)

Duration of Lesson: _____ Dates of Lesson _____

Number of Elements in Standard: _____

Weight on Milestone Assessment: _____

Time for each element: (try to balance this for the duration of the lesson)
_____ / element

Assessment Date(s): _____

Graduation Competency:

#6 The student uses a variety of data analysis and statistics strategies to analyze, develop and evaluate inferences based on data.

Performance Indicator:

e. The student can investigate chance processes and develop, use, and evaluate probability models.

Ultimate ELEMENT TYPE (place an X on one type)

___(K)nowledge ___(R)easoning ___(S)kill X_(P)roduct

How will the ultimate target be assessed? (be sure the assessment type is appropriate for the type of target indicated above) (to be considered by teacher)

Use the chart below to identify the underpinning targets for the target (element) above. Follow the guidelines below.

K Standard requires K Target(s)	R Standard requires K + R Targets	S Standard requires K + R + S Targets	P Standard requires K + R + S* + P Targets *Not always
--	--	--	---

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KNOWLEDGE: <ol style="list-style-type: none">1. Measure probability between zero and one.2. Compute probability for simple/compound events3. Multiplying fractions and decimals4. Use fractions, decimals, and percents interchangeably
REASONING: <ol style="list-style-type: none">1. Determining the likelihood of an event using fractions, decimals, and percent.2. Determining the difference between theoretical and experimental probability3. Understanding that dependent and independent events affect the outcome of an event.
PERFORMANCE SKILL:
PRODUCT: <ol style="list-style-type: none">1. Create tree diagrams, organized list, and tables to represent compound events.2. Construct empirical probability distributions using simulations.

*Will the targets identified above move the student toward overall mastery? Yes or No
If “YES,” write the targets in “student friendly” terms and add a stem. *You may use: “I can...,” “I will be able to...,” “I am learning to...” etc.

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STUDENT FRIENDLY LEARNING TARGETS FOR THE ELEMENT

KNOWLEDGE: (Use an ID system for the target i.e. K1 would be Knowledge target 1)

K1 - I can measure probability between zero and one.

K2 - I can compute probability for simple/compound events

K3 - I can multiplying fractions and decimals

K4 - I am learning to use fractions, decimals, and percents interchangeably

REASONING:

R1 - I can determine the likelihood of an event using fractions, decimals, and percent.

R2 - I can determine the difference between theoretical and experimental probability

R3 - I can understand that dependent and independent events affect the outcome of an event.

PERFORMANCE SKILL:

PRODUCT:

P1 - I can create tree diagrams, organized list, and tables to represent compound events.

P2 - I can construct experimental probability distributions using simulations.

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