Perris Union High School District
Course of Study

A. COURSE INFORMATION

Course Title:
Math 7 Support
- ❑ New
- ✓ Revised

Transcript Title/Abbreviation:
(To be assigned by Educational Services)

Transcript Course Code/Number:
(To be assigned by Educational Services)

Required for Graduation:
- ❑ Yes
- ✓ No

Meets UC/CSU Requirements?
- ❑ Yes
- ✓ No

Was this course *previously approved by UC* for PUHSD?
- ❑ Yes
- ❑ No

(Will be verified by Ed Services)

Meets "AP" Requirements?
- ❑ Yes
- ✓ No

Submitted by: Amanda Darton
Site: ESC
Date: 4/28/17

Subject Area:
- ❑ Social Science
- ❑ English
- ✓ Mathematics
- ❑ Laboratory Science
- ❑ World Languages
- ❑ Visual or Performing Arts
- ❑ College Prep Elective
- ❑ Other

Is this classified as a Career Technical Education course?
- ❑ Yes
- ✓ No

Grade Level
- ❑ MS
- ❑ HS
- ❑ 5
- ❑ 6
- ✓ 7
- ❑ 8
- ❑ 9
- ❑ 10
- ❑ 11
- ❑ 12

Credential Required to teach this course:
Mathematics

To be completed by Human Resources only.

Signature 5/3/17 Date

Meets "Honors" Requirements?
- ❑ Yes
- ✓ No

Unit Value/Length of Course:
- ❑ 0.5 (half year or semester equivalent)
- ✓ 1.0 (one year equivalent)
- ❑ 2.0 (two year equivalent)
- ❑ Other:

Approvals	Name/Signature	Date
Director of Curriculum & Instruction		5/1/17
Asst. Superintendent of Educational Services		5.4.17
Governing Board		

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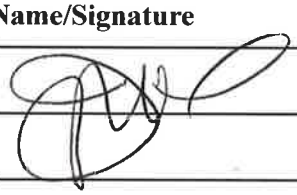
Submitted by: Amanda Darton
Site: 35C
Date: 4/28/17

Approvals	**Name/Signature**	**Date**
Director of Curriculum & Instruction		5/1/17
Asst. Superintendent of Educational Services		
Governing Board		

Prerequisite(s) (REQUIRED):
None
Corequisite(s) (REQUIRED):
None
Brief Course Description (REQUIRED):
In Math 7 Support instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

B. COURSE CONTENT

Course Purpose (REQUIRED):
What is the purpose of this course? Please provide a brief description of the goals and expected outcomes. Note: More specificity than a simple recitation of the State Standards is needed.

In grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

(3) Students continue their work with area from grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Course Outline (REQUIRED):
Detailed description of topics covered. All historical knowledge is expected to be empirically based, give examples. Show examples of how the text is incorporated into the topics covered.

Students will work on the following concepts from the Math 7 course:

- Integers and Rational Numbers
    - Operations with Integers
    - Operations with Rational Numbers
    - Solve Problems with Rational Numbers
- Analyze Proportional Relationship
    - Ratio and Rat Concepts
    - Recognize Proportional Relationships
    - Represent Proportional Relationships
- Analyze and Solve Percent Problems
    - Percent and Proportions
    - Represent the Percent Equation
    - Use the Percent Equation
- Generate Equivalent Expressions
    - Recognize and Represent Expressions
    - Use Properties
    - Simplify Expressions
- Solve Problems Using Equations and Inequalities
    - Evaluate Expressions and Equations
    - The Rules of Equations and Inequalities

- Evaluate Inequalities
- Use Sampling to draw Inferences About Populations
  - Populations and Samples
  - Make Informal Inferences
  - Compare Populations Informally
- Probability
  - Probability of a Single Event
  - Probability of Compound Events
  - Simulate Compound Events
- Solve Problems Involving Geometry
  - Scale Drawing and Formula Concepts
  - Recognize Angle and Side Relationships
  - Geometric Figures

Students will also be reviewing topics needed as a prerequisite. These topics will include:

- Analyze proportional relationships, and determine the ratios that describe them
- Describe the relationship a ratio describes
- Divide fractions by fraction
- Work fluently with fractions and decimals, converting fractions to decimals and vice versa
- Visualize numbers and ordered pairs by using a number lines and the coordinate plane
- Determine solutions to inequalities on number line
- Evaluate expressions using absolute values
- Evaluate exponential expressions.
- Work with expressions in which letters stand for numbers.
- Describe the properties of operations to determine whether two expressions are equivalent.
- Evaluate equations and inequalities.
- Analyze real-world problems and use variables to solve them.
- Determine the area of a triangle, rectangle, or polygon made up of triangles and rectangles.
- Determine the volume of right rectangular prisms.
- Recognize questions that can be answered using statistics.
- Describe different methods of determining the center of a set of numbers.

Writing Assignments (REQUIRED):
Give examples of the writing assignments and the use of critical analysis within the writing assignments.

Writing assignments will include:

- Justifications and/or Explanations
- Cornell Notes
- Assessments
- Journals/Learning Logs – Reflections/Summaries
- Writing Prompts
- Other CFUs (i.e.Warm ups and Tickets out the Door)

INSTRUCTIONAL MATERIALS (REQUIRED)	
Textbook #1	
Title: envision Math 2.0	Edition: First
Author: Berry, Champagne, Milou, Schielack, Wray, Charles and Fennell	ISBN: 9780328896226
Publisher: Pearson	Publication Date: 2016
Usage: ✓ Primary Text ❑ Read in entirety or near	
Textbook #2	
Title:	Edition:
Author:	ISBN:
Publisher:	Publication Date:
Usage: ❑ Primary Text ❑ Read in entirety or near	
Supplemental Instructional Materials *Please include online, and open source resources if any.*	
9780328896448 ENVISION MATH 2.0 EXAMVIEW CD-ROM GRADE 7 COPYRIGHT 2017 $128.97 9780328881123 ENVISION MATH 2.0 TEACHER RESOURCE MASTERS PACKAGE GR 7 COPYRIGHT 2017 $149.97 9780328880973 ENVISION MATH 2.0 COMMON CORE TEACHER EDITION PACKAGE GR.7 COPYRIGHT 2017 $ 530.97 Edmentum - Math 6, Semester A/B	
Estimated costs for classroom materials and supplies (REQUIRED). *Please describe in detail.* If more space is needed than what is provided, please attach backup as applicable.	
Cost for class set of textbooks: $ 3742.92	Description of Additional Costs: Per contract all supplemental materials for the Teachers is free of cost.
Additional costs:$ 530.97	
Total cost per class set of instructional materials:	$ 42738.89

Key Assignments (REQUIRED):

Please provide a detailed description of the Key Assignments including tests, and quizzes, which should incorporate not only short answers but essay questions also. How do assignments incorporate topics? Include all major assessments that students will be required to complete

Key Assignments will include:

- End of Unit Assessments
- Edmentum Assignments
- Cornell Notes

Instructional Methods and/or Strategies (REQUIRED):

Please list specific instructional methods that will be use.

Instructional Strategies will include:

- Direct Instruction
- Small Group Instruction
- Targeted Feedback
- Reciprocal Teaching
- Collaboration
- Adapting to learning styles and multiple intelligences
- Realia
- Modeling
- Guided and Independent practice
- Partner/ Group work
- Spiraling
- Questioning strategies that look for participation and content understanding

Assessment Methods and/or Tools (REQUIRED):

Please list different methods of assessments that will be used.

Assessment Methods will include:

- Type of Questions include:
  - Open Response
  - Multiple Choice
  - Performance Assessment\
  - Multiple Choice
- Self-assessment
- Whiteboards
- Portfolios/"Notebooks"

Platforms include: Pearson, Eadms, Haiku, Desmos and Edmentum

<table>
<tr><th colspan="5">COURSE PACING GUIDE AND OBJECTIVES (REQUIRED)</th></tr>
<tr><th>Day(s)</th><th>Objective</th><th>Standard(s)</th><th>Chapter(s)</th><th>Reference</th></tr>
<tr><td>30</td><td>Unit 1: Ratios and Proportional Relationships

Summary: In this unit, you will explore basic principles of ratios and proportional relationships. Using the skills you learn, you will be able to solve real-world problems that use ratios. For example, you can use these tools to convert feet into inches, double or halve recipes, or describe a relationship between two objects using proportional language (e.g., the building is twice as tall as the tree next to it).

<table>
<tr><th>Day</th><th>Activity/Objective</th></tr>
<tr><td>1</td><td>Syllabus and Plato Student Orientation
Review the Plato Student Orientation and Course Syllabus at the beginning of this course.</td></tr>
<tr><td>2-5</td><td>Introduction to Ratios
Study ratios and use them to describe relationships between quantities.</td></tr>
<tr><td>6-9</td><td>Rates
Explore the concept of a unit rate and use rates to describe ratio relationships.</td></tr>
<tr><td>10-13</td><td>Tables of Ratios
Make tables of equivalent ratios and use them to compare ratios</td></tr>
<tr><td>14-17</td><td>Applications of Rates
Solve unit rate problems, including those that involve unit pricing and constant speed.</td></tr>
<tr><td>18-21</td><td>Ratios and Rates as Percentages
Find a percentage of a quantity as a rate per 100, and solve problems that</td></tr>
</table>
</td><td>6.RP</td><td>Semester A - Unit 1</td><td></td></tr>
</table>

	<table><tr><td></td><td>involve finding the whole, given a part and the percentage.</td></tr><tr><td>22-25</td><td>Measurement Units and Ratio Conversions Use ratio reasoning to convert measurement units</td></tr><tr><td>26-29</td><td>Unit Activity and Discussion—Unit 1</td></tr><tr><td>30</td><td>Posttest—Unit 1</td></tr></table>			
25	**Unit 2: The Number System** Summary: In this unit, you will apply and extend your previous understanding of multiplication and division to divide fractions by fractions. You will compute with multi-digit numbers and find common factors and multiples. <table><tr><th>Day</th><th>Activity/Objective</th></tr><tr><td>31-34</td><td>Dividing Fractions Interpret and find quotients of fractions in real-world situations</td></tr><tr><td>35-38</td><td>Dividing Multi-digit Numbers Divide multi-digit numbers using the standard algorithm.</td></tr><tr><td>39-42</td><td>Operations with Decimals Add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</td></tr><tr><td>43-46</td><td>Common Factors and Multiples Express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers with no common factor</td></tr><tr><td>47-50</td><td>Positive and Negative Rational Numbers Use positive and negative numbers to represent quantities in real world</td></tr></table>	6.NS	Semester A - Unit 2	

<table>
<tr>
<td></td>
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<table>
<tr><td></td><td>situations.</td></tr>
<tr><td>51-54</td><td>Unit Activity and Discussion—Unit 2</td></tr>
<tr><td>55</td><td>Posttest—Unit 2</td></tr>
</table>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>
Unit 3: Visualizing Numbers

Summary: In this unit, you will apply and extend your understanding of numbers to the system of rational numbers. You will use the coordinate plane, a useful tool for visualizing the behavior of equations, and explore absolute values and their unique role in manipulating equations.

<table>
<tr><th>Day</th><th>Activity/ Objective</th></tr>
<tr><td>55-59</td><td>The Number Line
Represent positive and negative rational numbers on a number line.</td></tr>
<tr><td>60-63</td><td>The Coordinate Plane
Find and position pairs of integers and other rational numbers on a coordinate plane.</td></tr>
<tr><td>64-67</td><td>Inequalities on the Number Line
Interpret statements of inequality as statements about the relative position of two numbers on a number line.</td></tr>
<tr><td>68-71</td><td>Ordering Values in the Real World
Write and explain statements of order for rational numbers in real world situations.</td></tr>
<tr><td>72-75</td><td>Absolute Values
Study the absolute value of a rational number as its distance from zero on the number line</td></tr>
<tr><td>76-79</td><td>Comparing Absolute Values</td></tr>
</table>
</td>
<td>6.NS</td>
<td>Semester A - Unit 3</td>
<td></td>
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</table>

	<table><tr><td></td><td>Recognize the difference between comparisons of absolute value and statements about order.</td></tr><tr><td>80-83</td><td>**The Coordinate Plane in the Real** World Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.</td></tr><tr><td>84-87</td><td>**Unit Activity and Discussion-Unit 3**</td></tr><tr><td>88</td><td>**Post Test - Unit 3**</td></tr><tr><td>89</td><td>**Semester Review**</td></tr><tr><td>90</td><td>**End of Semester Test**</td></tr></table>			
42	**Unit 1: Expressions and Equations** Summary: In this unit, you will use your previous knowledge of rational numbers to form algebraic equations and solve one-variable equations and inequalities. You will analyze the relationship between independent and dependent variables. <table><tr><th>Day</th><th>Activity/ Objective</th></tr><tr><td>1</td><td>**Syllabus and Plato Student** Orientation Review the Plato Student Orientation and Course Syllabus at the beginning of this course.</td></tr><tr><td>2-5</td><td>**Exponential Expressions** Write and evaluate numerical expressions involving whole-number exponents.</td></tr><tr><td>6-9</td><td>**Using Variables** Write, read, and evaluate expressions in which letters stand for numbers.</td></tr><tr><td>10-13</td><td>**Properties of Operations** Apply the properties of operations to determine whether two expressions are</td></tr></table>	6.EE	Semester B: Unit 1	

	<table><tr><td></td><td>equivalent.</td></tr><tr><td>14-17</td><td>**Problems with Equations** Study solving an equation as a process of answering a question.</td></tr><tr><td>18-21</td><td>**Problems with Inequalities** Study solving an inequality as a process of answering a question.</td></tr><tr><td>22-25</td><td>**Real-World Expressions** Use variables to represent numbers when solving real-world and mathematical problems.</td></tr><tr><td>26-29</td><td>**Equations in the Real World** Solve real-world problems by writing and solving equations.</td></tr><tr><td>30-33</td><td>**Inequalities as Constraints** Write an inequality to represent a real-world mathematical problem.</td></tr><tr><td>34-37</td><td>**Quantitative Relationships** Use variables to represent two quantities that change in relationship to one another.</td></tr><tr><td>38-41</td><td>**Unit Activity and Discussion—Unit 1**</td></tr><tr><td>42</td><td>**Posttest—Unit 1**</td></tr></table>			
21	**Unit 2: Geometry** Summary: In this unit, you will find area, volume, and surface area of polygons in mathematical and real-world contexts <table><tr><th>Day</th><th>Activity/ Objective</th></tr><tr><td>43-46</td><td>**Area** Find the areas of triangles, special quadrilaterals, and polygons by composing or decomposing them into other shapes</td></tr></table>	6.G	Semester B: Unit 2	

	<table><tr><td>47-50</td><td>Volume Apply volume formulas to find the volumes of right rectangular prisms.</td></tr><tr><td>51-54</td><td>Polygons Use coordinates to find the length of a side of a polygon</td></tr><tr><td>55-58</td><td>Three-Dimensional Figures Represent three-dimensional figures using nets made up of rectangles and triangles, and find the surface area of these figures.</td></tr><tr><td>59-62</td><td>Unit Activity and Discussion—Unit 2</td></tr><tr><td>63</td><td>Posttest—Unit 2</td></tr></table>			
27	**Unit 3: Statistics and Probability** Summary: In this unit, you will study concepts related to statistics. You will describe statistical and nonstatistical situations and find the measures of center and measures of variation for statistical data. <table><tr><th>Day</th><th>Activity/Objective</th></tr><tr><td>64-67</td><td>Introduction to Statistics Recognize statistical questions and examine the habits of data collected to answer them.</td></tr><tr><td>68-71</td><td>Measures of Center Recognize the difference between measure of center and measure of variation.</td></tr><tr><td>72-75</td><td>Descriptive Statistics Display numerical data on a number line in plots, including dot plots, histograms, and box plots</td></tr><tr><td>76-79</td><td>Data Sets</td></tr></table>	6.SP	Semester B: Unit 3	

			Describe the nature of an attribute under investigation, including how it was measured and its units of measurement.		
		80-83	**Interpreting Statistics** Relate the choice of measures of center and variability to the shape of the data distribution.		
		84-87	**Unit Activity and Discussion-Unit 3**		
		88	**Post Test-Unit 3**		
		89	**Semester Review**		
		90	**End-of-Semester Test**		

C. HONORS COURSES ONLY
Indicate how much this honors course is different from the standard course.

D. BACKGROUND INFORMATION
Context for course (optional)
History of Course Development (optional)