

Perris Union High School District Course of Study

A. COURSE INFORMATION

Course Title: <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Math 6</div> <input type="checkbox"/> New <input checked="" type="checkbox"/> Revised	Subject Area: <input type="checkbox"/> Social Science <input type="checkbox"/> English <input checked="" type="checkbox"/> Mathematics <input type="checkbox"/> Laboratory Science <input type="checkbox"/> World Languages <input type="checkbox"/> Visual or Performing Arts <input type="checkbox"/> College Prep Elective <input type="checkbox"/> Other	Grade Level <input type="checkbox"/> MS <input type="checkbox"/> HS <input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12
Transcript Title/Abbreviation: <div style="border: 1px solid black; height: 20px; width: 100%;"></div> (To be assigned by Educational Services)	Is this classified as a Career Technical Education course? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Transcript Course Code/Number: <div style="border: 1px solid black; height: 20px; width: 100%;"></div> (To be assigned by Educational Services)		
Required for Graduation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Credential Required to teach this course: <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Mathematics</div> <i>To be completed by Human Resources only.</i>	
Meets UC/CSU Requirements? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Was this course <i>previously approved by UC</i> for PUHSD? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Will be verified by Ed Services)	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> 5/5/17 </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Signature Date </div>	
Meets "AP" Requirements? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Value/Length of Course: <input type="checkbox"/> 0.5 (half year or semester equivalent) <input checked="" type="checkbox"/> 1.0 (one year equivalent) <input type="checkbox"/> 2.0 (two year equivalent) <input type="checkbox"/> Other:	
Submitted by: Amanda Darton Site: SSC Date: 4/28/17		
Approvals	Name/Signature	Date
Director of Curriculum & Instruction		5/1/17
Asst. Superintendent of Educational Services		5.4.17
Governing Board		

Prerequisite(s) (REQUIRED):

None

Corequisite(s) (REQUIRED):

None

Brief Course Description (REQUIRED):

In Math 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division, and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

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 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division, and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

(1) Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

(2) Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between

multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

(3) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

(4) Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

Students in grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in grade 7 by drawing polygons in the coordinate plane.

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 know how to:

- Use Positive Rational Numbers
 - Solve Decimal Problems
 - Add, Subtract and Multiply Decimals
 - Divide Whole Numbers
 - Divide Decimals
 - Solve Fraction Problems
 - Multiply Fractions

- Divide Fraction
- Divide Mixed Numbers
- Solve Multistep Problems
- Integers and Rational Numbers
 - Integers and Rational Numbers
 - Understand Integers
 - Understand Rational Numbers
 - Absolute Value
 - Coordinate Geometry
 - Rational Numbers on the Coordinate Plane
 - Distance and Polygons on the Coordinate Plane
- Numeric and Algebraic Expressions
 - Numerical Expressions
 - Find the Greatest Common Factor and the Least Common Multiple
 - Write and Evaluate Numerical Expressions
 - Algebraic Expressions
 - Write Algebraic Expressions
 - Evaluate Algebraic Expressions
 - Equivalent Expressions
 - Generate Equivalent Expressions
 - Simplify Algebraic Expressions
- Represent and Solve Equations and Inequalities
 - Understand Equations
 - Represent Equations Using a Pan Balance
 - Properties of Equality
 - Write and Solve Equations
 - Understand Inequalities
 - Write and Solve Inequalities
 - Number Lines and Inequalities
 - Independent and Dependent Variables
 - Identify Independent and Dependent Variables
 - Write Equations to Represent Relationships
 - Analyze Relationships
- Understand and Use Ratio and Rate
 - Ratio Concepts
 - The Concept of a Ratio
 - Ratio and Graphs
 - Rates
 - The Concept of Rates and Unit Rates
 - Convert Measurement Units
- Understand and Use Percent
 - Understand and Use Percent
 - The concept of Percent
 - Relating Fractions, Decimals and Percents
 - Other Percents
 - Estimate to Find Percent of a Number
 - Find the Percent, The Whole, or a Part

- Solve Area, Surface Area, and Volume Problems
 - Find Area
 - Area of Parallelograms and Rhombuses
 - Area of Triangles
 - Area of Trapezoids and Kites
 - Areas of Other Polygons
- Find Surface Areas and Volume
 - Surface Area
 - Volume
- Display, Describe , and Summarize Data
 - Understand Statistics
 - Recognize Statistical Questions
 - Finding Mean, Median, Mode, and Range
 - Displaying Data
 - Box Plots
 - Frequency Tables and Histograms
 - Summarizing Data Sets
 - Measures of Variability
 - Choose Appropriate Statistical Measures to Summarize Data

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
- Projects/Performance Tasks
- 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 COMMON CORE STUDENT EDITION 8-YEAR SUBSCRIPTION + DIGITAL COURSEWARE 8-YEAR LICENSE GRADE 6 COPYRIGHT 2017

Edition: First

Author: Berry, Champagne, Milou, Schielack, Wray, Charles and Fennell

ISBN:
9780328896172

Publisher: Pearson	Publication Date: 2016
--------------------	------------------------

Usage: <input checked="" type="checkbox"/> Primary Text <input type="checkbox"/> Read in entirety or near

Textbook #2

Title:	Edition:
--------	----------

Author:	ISBN:
---------	-------

Publisher:	Publication Date:
------------	-------------------

Usage: <input type="checkbox"/> Primary Text <input type="checkbox"/> Read in entirety or near
--

Supplemental Instructional Materials *Please include online, and open source resources if any.*

9780328880966 ENVISION MATH 2.0 CC T EDITION PACKAGE GRADE 6 COPYRIGHT 2017 \$530.47
 9780328896431 ENVISION MATH 2.0 EXAMVIEW CD-ROM GRADE 6 COPYRIGHT 2017 \$128.97
 9780328881116 ENVISION MATH 2.0 TEACHER RESOURCE MASTERS PACKAGE Gr. 6 COPYRIGHT 2017 \$149.97

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: All supplemental materials. Per contract all Teacher Resource are free.
Additional costs:\$ 530.47	
Total cost per class set of instructional materials:	\$ 4273.39

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
 - Daily/Lesson Quizzes
 - Semester Benchmarks/Finals
 - Performance Tasks/ Projects
 - Homework

- Midterm/mid-unit Assessments
- Cornell Notes

Instructional Methods and/or Strategies (REQUIRED):

Please list specific instructional methods that will be use.

Instructional Strategies will include:

- Direct 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
- Investigations
- Projects
- Self-assessment
- Whiteboards
- Find the error
- Portfolios/"Notebooks"
- Ticket out the Doors
- Homework

Platforms include: Pearson, Eadms, Haiku and Desmos

COURSE PACING GUIDE AND OBJECTIVES (REQUIRED)

Day(s)	Objective	Standard(s)	Chapter(s)	Reference
18-26	<p>Use Positive Rational Numbers</p> <p>3-Act 3-Act Mathematical Modeling</p> <p>1-1 Fluently Add, Subtract, and Multiply Decimals</p> <p>1-2 Fluently Divide Whole Numbers and Decimals</p> <p>1-3 Multiply Fractions</p> <p>1-4 Understand Division with Fractions</p> <p>1-5 Divide Fractions by Fractions</p> <p>1-6 Divide Mixed Numbers</p> <p>1-7 Solve Problems with Rational Numbers</p>	<p>6.NS.1</p> <p>6.NS.2</p> <p>6.NS.3</p>	Topic 1	Essential Standards Addressed
14-20	<p>Integers and Rational Numbers</p> <p>2-1 Understand Integers</p> <p>2-2 Represent Rational Numbers on the Number Line</p> <p>2-3 Identify Opposites and Absolute Values of Rational Numbers</p> <p>2-4 Represent Rational Numbers on the Coordinate Plane</p> <p>2-5 Find Distances on the Coordinate Plane</p> <p>2-6 Represent Polygons on the Coordinate Plane</p>	<p>6.NS.5</p> <p>6.NS.6a</p> <p>6.NS.6c</p> <p>6.NS.7a</p> <p>6.NS.7b</p> <p>6.NS.7c</p> <p>6.NS.7d</p> <p>6.NS.6b</p> <p>6.NS.8</p> <p>6.G.3</p>	Topic 2	
17-25	<p>Numeric and Algebraic Expressions</p>	<p>6.EE.1</p> <p>6.EE.3</p>	Topic 3	

	<p>3-1 Understand and Represent Exponents</p> <p>3-2 Find Greatest Common Factor and Least Common Multiple</p> <p>3-3 Write and Evaluate Numerical Expressions</p> <p>3-4 Write Algebraic Expressions</p> <p>3-5 Evaluate Algebraic Expressions</p> <p>3-Act 3-Act Mathematical Modeling</p> <p>3-6 Generate Equivalent Expressions</p> <p>3-7 Simplify Algebraic Expressions</p>	<p>6.EE.2a</p> <p>6.EE.2b</p> <p>6.EE.6</p> <p>6.EE.2c</p> <p>6.EE.4</p> <p>6.NS.4</p>		
15-25	<p>Represent and Solve Equations and Inequalities</p> <p>4-1 Understand Equations and Solutions</p> <p>4-2 Apply Properties of Equality</p> <p>4-3 Write and Solve Addition and Subtraction Equations</p> <p>4-4 Write and Solve Multiplication and Division Equations</p> <p>4-5 Write and Solve Equations with Rational Numbers</p> <p>4-6 Understand and Write Inequalities</p> <p>4-7 Solve Inequalities</p> <p>4-8 Understand Dependent and Independent Variables</p> <p>4-9 Use Patterns to Write and Solve Equations</p> <p>4-10 Relate Tables, Graphs, and Equations</p>	<p>6.EE.5</p> <p>6.EE.4</p> <p>6.EE.7</p> <p>6.EE.6</p> <p>6.EE.8</p> <p>6.EE.9</p>	Topic 4	

16-23	<p>Understand and Use Ratio and Rates</p> <p>5-1 Understand Ratios</p> <p>5-2 Generate Equivalent Ratios</p> <p>5-3 Compare Ratios</p> <p>5-4 Represent and Graph Ratios</p> <p>5-5 Understand Rates and Unit Rates</p> <p>5-6 Compare Unit Rates</p> <p>5-7 Solve Unit Rate Problems</p> <p>3-Act 3-Act Mathematical Modeling</p> <p>5-8 Ratio Reasoning: Convert Customary Units</p> <p>5-9 Ratio Reasoning: Convert Metric Units</p> <p>5-10 Relate Customary and Metric Units</p>	<p>6.RP.1</p> <p>6.RP.3a</p> <p>6.RP.2</p> <p>6.RP.3b</p> <p>6.RP.3</p> <p>6.RP.3d</p>	Topic 5	
8-14	<p>Understand and Use Percent</p> <p>6-1 Understand Percent</p> <p>6-2 Relate Fractions, Decimals, and Percents</p> <p>6-3 Represent Percents Greater Than 100 and Less Than 1</p> <p>6-4 Estimate and Find Percent</p> <p>6-5 Find the Percent of a Number</p> <p>6-6 Find the Whole Given a Part and the Percent</p>	6.RP.3c	Topic 6	
19-28	<p>Solve Area, Surface Area, and Volume Problems</p>	<p>6.G.1</p> <p>6.EE.2c</p>	Topic 7	

	<p>7-1 Find Areas of Parallelograms and Rhombuses</p> <p>7-2 Solve Triangle Area Problems</p> <p>7-3 Find Areas of Trapezoids and Kites</p> <p>7-4 Find Areas of Polygons</p> <p>7-5 Represent Solid Figures Using Nets</p> <p>3-Act 3-Act Mathematical Modeling</p> <p>7-6 Find Surface Areas of Prisms</p> <p>7-7 Find Surface Areas of Pyramids</p> <p>7-8 Find Volume of Prisms with Fractional Edge Lengths</p>	<p>6.G.3</p> <p>6.NS.6c</p> <p>6.NS.8</p> <p>6.G.4</p> <p>6.G.2</p> <p>6.EE.2a</p> <p>6.EE.6</p>		
12-20	<p>Solve Area, Surface Area, and Volume Problems</p> <p>8-1 Recognize Statistical Questions</p> <p>8-2 Summarize Data Using Mean, Median, and Mode</p> <p>8-3 Display Data in Box Plots</p> <p>8-4 Display Data in Frequency Tables and Histograms</p> <p>8-5 Summarize Data Using Measures of Variability</p> <p>8-6 Choose Appropriate Statistical Measures</p> <p>8-7 Summarize and Compare Data Distributions</p> <p>3-Act 3-Act Mathematical Modeling</p>	<p>6.SP.1</p> <p>6.SP.4</p> <p>6.SP.3</p> <p>6.SP.5c</p> <p>6.SP.5a</p> <p>6.SP.5d</p> <p>6.SP.2</p> <p>6.SP.5b</p> <p>6.SP.5</p>	Topic 8	

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)

--