Phoenix Union High School District

Curriculum Development Model:

Policies and Practices
Phoenix Union High School District Governing Board

Lela Alston, President
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Superintendent
Kent P. Scribner, Ph.D.

Phoenix Union High School District Mission Statement:
“Preparing Every Student for Success in College, Career and Life”
Title IX Statement

The Phoenix Union High School District does not discriminate on the basis of race, color, religion, national origin, sex, disability, age or sexual orientation in admission and access to its programs, services, activities, or in any aspect of their operations and provides equal access to the Boy Scouts and other designated youth groups. The lack of English language skills shall not be a barrier to admission or participation in the District’s activities and programs. The Phoenix Union High School District also does not discriminate in its hiring or employment practices. The following employees have been designated to handle inquiries regarding the non-discrimination policies:

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CURRICULUM Process and Model
For
Phoenix Union High School District

I. CURRICULUM DEFINED
The role of curriculum in realizing the district’s purpose, vision, and mission is based upon the following common definitions and principles regarding curriculum design and its implementation.

CURRICULUM ALIGNMENT
Curriculum Alignment is an agreement of what is written, taught, and as assessed. It is expected that adherence to a tightly aligned curriculum will result in greater student success and learning.

CURRICULUM DEFINITIONS
Written Curriculum is defined as non-negotiable essential learning standards and learning targets/objectives that students achieve while in school. The written curriculum will have at its core the AZ College and Career Readiness Standards, national or state standards for each content area, and is the curriculum map used to ensure that each student meets the essential learning standards stated in the curriculum. The Written Curriculum is approved by the PUHSD Instruction and Accountability Division.

Taught Curriculum refers to instruction, the process by which teachers develop units of study, lesson plans, and/or approaches to instruction for teaching the written curriculum. The Taught Curriculum is the utilization of the curriculum map. The major objective of the Taught Curriculum is to guide the student in acquiring the knowledge, skills and information necessary to successfully demonstrate mastery of the standards.

Assessed Curriculum is assessment of the taught curriculum. It is used to measure the success and usefulness of the curriculum map. The assessed curriculum’s main objective is to look for gaps in students’ learning.

PRINCIPLES OF CURRICULUM
• The design of the curriculum (written, taught, and assessed) establishes the framework and parameters that guide educational decision-making at all levels of PUHSD.
• Only a tightly aligned, well-written, and thoroughly assessed curriculum will help negate SES (socio-economic status – income level, minority status, etc.) effects among our students.
• Curriculum development is a participatory process involving collaborative teams that include various Stakeholders: teachers, principals, administrators, students, parents, and/or community as appropriate.
• The curriculum is based on a core set of non-negotiable, relevant and challenging student expectations that guide decisions about teaching and learning, and which are aligned both vertically (PK-16) and horizontally (within an instructional level).
• Curriculum is developed to ensure that students from teacher to teacher and school to school have the opportunity to learn the same core content at a particular instructional level.
• The curriculum is accessible and manageable.
• The curriculum is assessed regularly at all levels: district, campus, classroom, and individual student.
PRINCIPLES OF INSTRUCTION

- The design and implementation of teaching/learning processes hold the greatest potential for improving student achievement and closing the knowing/doing gap.
- National, State, District and site based benchmark assessments and formative assessments are fundamental and critical components of the curriculum.
- Teachers are encouraged to use flexibility and creativity in the “how” of teaching (instruction), and ensure the “what” of teaching (curriculum expectations) remains consistent between site-level teacher teams and district-level teacher teams.
- Teachers may arrange the order of a subject as they see fit; however, it is expected that all teachers in a grade level will use the district developed sequence to matriculate through the content.
- Instructional resources and programs such as textbooks, software, and other materials are selected by the collaborative team representing all stakeholders under the direction of the Instruction and Accountability Division.
- Professional development is designed and implemented to prepare staff members to implement best practices to meet the needs of diverse learners.

PUHSD PHILOSOPHY OF ASSESSMENT

The Phoenix Union High School District believes assessment is a student-centered, meaningful, multifaceted process to improve student learning. Assessments are aligned to course, state and national standards to capture evidence of student mastery. This evidence serves as feedback to empower students and teachers to be reflective and respond appropriately. As such, the Phoenix Union High School District embraces a system of balanced assessments that consist of varied and multiple measures to gain a holistic view of student performance which include assessment of (summative) and for (formative) learning.

Principles of Assessment:

- Assessments are aligned to curricular standards and measure foundational concepts and/or key ideas which can be supported by a variety of instructional resources.
- Assessments allow students the opportunity to apply critical thinking skills and demonstrate their learning.
- Assessments are accessible and appropriate for all students.
- Assessment data is used reflectively to guide teachers and students towards improved instruction and performance.
- Quality assessment types are varied, creative, and reasonable.
- Quality assessments create opportunities for teachers and students to discover success while teaching and learning.
- Assessment takes place in multiple forms offering various creative opportunities to demonstrate mastery.
The process of assessment is an ongoing cycle that:

1. Is student centered, encourages self-assessment and requires a commitment by stakeholders.
2. Provides valuable information for teachers and PLCs to design targeted educational opportunities which promote student achievement.
3. Provides feedback that is timely, specific, accurate and fair.
4. Creates access for all students.
5. Utilizes a variety of formative and summative assessment types.
6. Includes evidence of mastery that will be communicated to appropriate stakeholders.

II. CURRICULUM EXPECTATIONS

The Written Curriculum
Research has shown that learning will be enhanced by adherence to a tightly aligned, articulated curriculum that promotes continuity and cumulative acquisition of skills and knowledge from grade to grade and from school to school. With this expectation, PUHSD 9-12 curriculum shall be based on a core set of expectations that are clearly articulated and aligned to the AZ College and Career Readiness Standards.

Subject-area written curriculum guides shall be developed for all grade levels and subjects under the direction of PUHSD Instruction and Accountability Division. After subject-area curriculum development is completed, curriculum will be disseminated as follows:

- Curriculum originals will be stored at the Curriculum and Instruction website (SharePoint)
- All teachers will have access to copies of curriculum guides for courses they teach
- Principals will have overviews/copies of curriculum guides for all courses taught on their campuses
- Curriculum standards/expectations will be made available on the district website. Copies of curriculum information will be made available upon request.
- Overviews of the curriculum for the course will be included on the Plan for Student Success (See Appendix A for an example)
- The taught curriculum will be prominently displayed in classrooms to ensure that students are engaging in reflective practices
COMPONENTS OF THE WRITTEN CURRICULUM
Curriculum guides shall, at a minimum, contain the following components (See Appendix B for samples):

Introductory Pages

- District Governing Board Members & Superintendent
- District Mission Statement
- Title IX statement
- How to use the document
- Course description
- (Possible vertical connection to other courses)

Scope and Sequence

- A scope and sequence detailing the essential learning standards of the course.
- Alignment to the national/state/local standards for the subject area

Unit Plan: At a minimum plans should contain:

- Essential learning standards
- Learning targets/objectives (student-friendly language)
- Time Frame (how many instructional days will be needed for the unit)
- Essential Questions
- Enduring Understanding
- Key vocabulary (Content and Academic vocabulary)
- Assessment strategies - how do we know that the students are learning the standard
- Instructional Strategies
- Resources that will support the instructional and assessment design
- Description of instructional technology resources

Assessment Instruments (Assessed curriculum): Pre-tests and post-tests, aligned to assessment blueprints, balanced in complexity, and based on the written curriculum is provided to all teachers. These items are stored in the district adopted student learning management or assessment platform.

The guides may contain additional components as directed by the appropriate curriculum development team.
The Taught Curriculum

District curriculum guides are to serve as a framework from which teachers develop units of study, lesson plans, and/or approaches to instruction that will serve their students’ needs. All teachers have a responsibility to contribute to the development and/or refinement of written curriculum, and also to teach the district curriculum. Teachers are expected to teach and assess the essential learning standards as aligned and articulated in their subject-area curriculum guides, as well as any required units/activities as directed. Instructional support staff and campus administrators are expected to be knowledgeable about the written curriculum and to support teachers in the implementation and evaluation of the curriculum. This expectation provides an assurance to all teachers that they and their colleagues are working toward a common purpose.

INSTRUCTIONAL PLANNING AND DELIVERY

In addition to consistent delivery of the essential learning standards in the curriculum, it is expected that instructional delivery will be based on research-affirmed teaching principles. The instructional planning and delivery process is to include but not limited to:

- Varied instructional strategies and assessments tightly aligned to the essential learning standards advancing individual learning of the content
- Implement a variety of experiences to engage all students in rich, relevant, and meaningful content (real-world application/Project-based learning)
- Differentiation to meet the needs of diverse learners (including accommodations, modifications, and tiered instruction)
- Developmentally appropriate instruction that takes into account learners prior knowledge, strengths, interests, differences and needs

INSTRUCTIONAL PLANNING AND DELIVERY CONTINUED

- Guides students to use research-based literacy and/or communications strategies appropriate to the content
- Establishment of a climate conducive to learning
- The expectation that all students can be successful and will perform at high levels of learning
- Determining students’ current skills/learning to guide instruction at appropriate levels
- Engaging students systematically examine learning targets, work, and assessment results to determine learning gaps and take action.
- Basing instructional decisions on student achievement data (see below)
- Using technology and other resources/materials as tools to teach and learn the required curriculum
- On-going assessment of the teaching/learning process to understand the impact of the design of the curriculum (written, taught, and tested) on student achievement
DATA-INFORMED INSTRUCTION AND LEARNING

Effective use of process data and student achievement data is critical to achieving the District’s mission and goals. This type of “data-driven instruction” occurs when students are regularly assessed for mastery of the curriculum, and the assessment data is used to guide instructional decisions at the student, classroom, campus, and district levels. Evidence of “data-driven instruction” includes such things as:

- Pre-assessment of students’ learning levels for diagnostic purposes
- Focus/narrow instruction by teaching to essential learning standards not mastered
- Flexible grouping and regrouping of students within the classroom
- Vary the instructional time, resources, setting, and/or presentation for re-engagement and enrichment opportunities based on student achievement data
- Students self-assess and communicate their learning goals and achievement
- Align interventions and enrichment with students needs based on assessment data
- Use data to identify general achievement trends
- Teachers, collaborative teams, campuses, and District staff create improvement plans based on data
- Evaluate and improve instructional programs based on student achievement data and other relevant data

PROFESSIONAL DEVELOPMENT

As outlined in the Phoenix Union High School Strategic and Continuous Improvement Plans, the professional growth and professional development opportunities for staff are focused on continuous development of instructional strategies and are designed to provide teachers with the tools and knowledge needed to teach the curriculum as outlined in the instructional model above. Phoenix Union High School District engages in a professional learning community process and collaborative culture. This culture requires all members of the community to be reflective practitioners, share ideas and strategies through a professional learning community process. Professional development should provide for:

- Research-based training opportunities in the design and delivery of curriculum
- Using data to improve teaching/learning processes
- Induction training for new teachers to the district
- Mentoring and coaching for all teachers
- Implementation and incorporation of learning into current professional practices
- On-the-job application of learning with follow-up and support
- Understanding the expectation of the PUHSD Instructional model described above to improve student achievement
MANAGING CURRICULUM IMPLEMENTATION

Principals shall manage the implementation of the aligned curriculum at their sites. Strategies for curriculum management include:

- Managing the campus system within which teaching/learning occurs
- Development of a working knowledge of curriculum documents for all courses/subjects
- Support teachers in the use of data to focus and improve instruction
- Regular observation of teaching in all classrooms
- Support and educational meetings, interviews, and conferences with individual teachers and/or teams
- Meetings with campus/district instructional facilitators
- Participation in research-based professional development activities
- Campus-based training opportunities
- Create conditions for teachers to discuss and share ideas and strategies
- Confer with other principals

The Tested Curriculum

Appropriate and timely process and student achievement data are needed to support “data-informed” instruction of the written curriculum. Therefore, the tested curriculum, as outlined in the PUHSD Assessment Philosophy ..., must provide for the acquisition, analysis, and communication of process and student achievement data to:

- Understand the impact that the design of the curriculum (written, taught, tested) has on student achievement
- Measure student progress
- Look for holes in student learning
- Guide teachers’ design and redesign of instruction at appropriate levels of challenge
- Guide students’ learning
- Guide district/campus improvement of curriculum alignment and programmatic decisions
- Communicate progress to parents to support learning at home
- Communicate feedback to students to support their engagement in the assessment process
To this end, the tested curriculum includes the following components:

- A district-wide criterion-referenced and/or performance-based assessment system that determines, documents, records, and reports student mastery of the curriculum in subject areas as directed by the superintendent or designee.
- A variety of process and results-oriented assessment tools to assess students, programs, and curriculum including:
  - District-developed assessments (Benchmarks, course exams, etc.)
  - ACT
  - AZ Merit
  - AP Exams
  - IB Exams
  - Science AIMS
  - State Civics Exam
- An information management system that provides timely, efficient district assessment feedback to students, teachers, parents, principals, and district administrators.
- Ongoing classroom-level formative assessment of student learning in a variety of formats
- Adequate practice and assessment in the testing format of required tests (AZ Merit, SAT, ACT, AP, etc.).
- A process evaluation component that guides curriculum redesign, instructional planning, and programmatic decisions based on student achievement within each program area.

**CURRICULUM DEVELOPMENT CYCLE**

Subject-area written curriculum guides shall be developed for all grade levels and subjects in the district. As directed by the superintendent or designee, district-wide vertical alignment curriculum development teams and subject-area curriculum coordinators will provide input to the curriculum development process. Curriculum coordinators and selected members of the vertical alignment teams will then write the curriculum based on this input.
DEVELOPMENT CYCLE

The curriculum development cycle will include the following steps:

1. District supervisor of the content will convene teachers, through an application process.
2. Selected teachers for the curriculum team for the course/content will review the state/national standards for given course. Using the Understanding by Design framework (see below), the team will create a course long curriculum that encompasses aforementioned components of the curriculum.

3. The written curriculum is a fluid process that involves continual reflection and revision. District support will be provided to content areas to provide opportunities to engage in targeted reflection.
APPENDIX A: Plan for Student Success
PLAN FOR STUDENT SUCCESS SAMPLE FORMAT

School __________________________ Teacher _______________________________

Department __________________________ Course Title: __________________________ Course Code XXXXX

No. of Credits __________ Grade Level(s) __________ Prerequisite(s) __________

Each teacher will prepare and distribute to all students in his/her classes, a planned course statement which shall contain the following information:

1. Course Description: A brief summary of what the student will learn in the course. Mention shall be made of how the course will benefit the student.

2. Materials Required: An outline of the books and other materials required to succeed in the course.

3. Grading System: Detailed information on how student’s classwork, homework and assessments will be counted towards his/her grade. Information given here should include: the grading scale and the relative value of each area used to calculated grades as well as extra credit (if any is accepted), final exam, adherence to deadlines, etc. An indication about how accommodations and modifications will be included per IEP and 504 Plans needs to be included. How to access StudentVUE/ParentVUE needs to be included in this section as well as where to find additional information about the class (ie: teacher’s website, location in class for work missing, etc.)

4. Title I Program: Academic tutoring and test preparation is available to all students. Additional support for passing classes and graduating on time is the intent of these services. Support through Title I funding is available in the areas of: math, reading and English. If interested, please contact the Principal _____ (name) or Assistant Principal for Instruction___ (name) for additional information at ___________

5. Make-up Policy: Information on adherence to deadlines; and how a student may make up work missed as a result of absence. Included here may be a reminder of the KKIS period and any other special resources available to students to assist in making up work.

6. Attendance: "Absent" is defined as nonattendance in an assigned class or activity for more than one-half of the period. (PUHSD Governing Board Policy J-1561 JHR)

   “Tardy” is defined as not being in the assigned class or activity when the tardy bell has finished ringing. (PUHSD Governing Board Policy J-1561 JHR)

   Students may fail the class for the semester in any course, when reaching a total of 12 excused/unexcused absences and after school-documented interventions have been exhausted. (Student Procedures Handbook page 22)

7. Parent/Guardian and A brief statement to acknowledge receipt.

   Student Sign Off Document:

8. Additional Site Agreed To be determined by each site as needed.
APPENDIX B: Sample Templates
Algebra 1-2 and Algebra 1-2 Honors
Curriculum
Phoenix Union High School District
July 2015

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ALGEBRA 1-2
Two-semester course, grade level 9, 10
Meets PUHSD and Arizona Mathematics Standards graduation requirements
Meets mathematics admission requirements of Arizona universities

This course is designed to prepare students to meet the AZ Math Standards graduation requirement and provide students with the mathematical background necessary to meet college entrance requirements. Concept units include solving, graphing and writing linear functions, system of equations, exponents, radicals, polynomials, quadratics and statistics. Students who have previously received credit for Algebra 1-2 H may not receive credit for Algebra 1-2.

ALGEBRA 1-2 HONORS
Two-semester course, grade level 9, 10
Meets placement criteria on standardized test
Meets PUHSD and Arizona Mathematics Standards graduation requirements
Meets mathematics admission requirements of Arizona universities

This is the first course of a four-year program in the Honors sequence designed to prepare students for careers in mathematics, science, engineering or related fields. Concept units are similar to those in Algebra 1-2, and focus on tasks that are inquiry based and more in depth. This course is an integration of technology, inquiry-based learning, critical thinking, with a culminating capstone project. Students who receive credit for Algebra 1-2 H may not also receive credit for Algebra 1-2 or Introduction to Algebra 1-2.
COURSE COMPETENCIES

Students in Algebra I fully master linear equations and linear functions, especially the algebra-geometry interplay regarding slope and graphs. Students also work intensively to master quadratic functions, both from an algebraic and formal perspective as well as in the context of modeling. The work that students do with quadratic functions is connected with and reinforces their work in quadratic equations, polynomial arithmetic and seeing structure in expressions. From an applications perspective, quadratic functions provide opportunities for solving problems involving maxima and minima, an important aspect of modeling. Working intensively with linear and quadratic expressions, equations and functions in Algebra I enables students to focus and master this material.

At the same time, however, students in Algebra I encounter general principles and techniques that apply much more generally than in the linear or quadratic case — for example, learning that the graph of an equation in two variables often forms a curve, which could be a line (A-REI.D.10). Thus, although most of Algebra I focuses on linear and quadratic equations and functions, the course does include concepts that apply more generally and therefore need to be illustrated beyond the linear and quadratic case. Exponential functions may be discussed in this context but studied in depth later in Algebra II.

Within the domain of Statistics and Probability, Algebra I students work with data on a single count or measurement variable as well as data on two categorical and quantitative variables. Connecting their statistical work with their work in algebra and functions, they also interpret linear models.

To summarize, the critical areas in Algebra I include mastery of linear equations and inequalities, formalization and extension of function concepts (including function notation, domain and range, and exploration of many types of functions, including sequences), linear regression models, quadratic and exponential expressions (including rational exponents), and quadratic functions.

The Standards for Mathematical Practice apply throughout the Algebra I course and, when connected meaningfully with the content standards, allow for students to experience mathematics as a coherent, useful and logical subject. Details about the content and practice standards follow in this analysis.

*Adapted from the PARCC Model Content Framework*
## Algebra 1-2 Curriculum

**PUHSD**

**INSTRUCTIONS ON HOW TO USE THIS DOCUMENT**

This is a curriculum guide and it is not exhaustive in its depth or in the number of resources, but it is specifically designed for PUHSD Mathematics educators to look with intention and clear guidance for crafting the teaching and learning for each course. Instructional Alignment Charts (Unit Plans), instructional strategies, assessment strategies, lesson plans, activities, and online resources are available on the District Mathematics SharePoint site.

**Enduring understandings** are statements summarizing important ideas and core processes that are central to a discipline and have lasting value beyond the classroom. **Essential Questions** are questions that lie at the heart of a subject or a curriculum and promotes inquiry and uncoverage of a subject.

### Algebra 1-2 and Algebra 1-2 (Honors) Outcomes (Days in Units are estimated and include review and test days)

Some standards do not show up on unit assessments/grade book because they are embedded in other assessed standards.

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<table>
<thead>
<tr>
<th>Enduring Understandings:</th>
<th>Essential Questions:</th>
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</thead>
<tbody>
<tr>
<td>Real-world applications:</td>
<td>How can we solve real-world problems using linear systems?</td>
</tr>
<tr>
<td>What are the characteristics of the possible solutions of a system of linear equations?</td>
<td>What are the characteristics of the solution region of a system of linear inequalities?</td>
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### Instructional Alignment Charts (Unit Plans)

Instructional strategies, assessment strategies, lesson plans, activities, and online resources are available on the District Mathematics SharePoint site.

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<tr>
<th>Standard</th>
<th>Learning Targets</th>
<th>Technology Standards</th>
</tr>
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<tbody>
<tr>
<td>A.REI.C.5</td>
<td>Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.</td>
<td>*Use a graphing calculator to:</td>
</tr>
<tr>
<td>A.REI.C.6</td>
<td>Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.</td>
<td><strong>Explore the validity of linear combination.</strong></td>
</tr>
<tr>
<td>A.REI.D.11</td>
<td>Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately.</td>
<td><strong>Solve systems of linear equations.</strong></td>
</tr>
<tr>
<td><strong>Standards that are bolded appear in more than 1 course. Refer to Assessment Units for details and procedures.</strong></td>
<td><strong>Essential Learning outcomes for the given unit (ACCR-M standards)</strong></td>
<td></td>
</tr>
</tbody>
</table>

**What broad or topical conceptual question do I want students to be able to answer?**

<table>
<thead>
<tr>
<th>Student friendly learning targets for the unit</th>
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</table>

**Key Vocabulary**

- Parallel, Perpendicular Function
- System of equations
- System of inequalities
- Intersection
- Region

**Academic Vocabulary for each unit**

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<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Unit 3</th>
<th>Unit 4</th>
<th>Unit 5</th>
<th>Unit 6</th>
<th>Unit 7</th>
<th>Unit 8</th>
<th>Unit 9</th>
<th>Unit 10</th>
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<tbody>
<tr>
<td>10 Days Expressions</td>
<td>14 Days Equations</td>
<td>14 Days Linear Functions</td>
<td>12 Days Linear Inequalities</td>
<td>14 Days Systems</td>
<td>18 Days Exponential Functions</td>
<td>17 Days Polynomials</td>
<td>18 Days Quadratic Functions</td>
<td>18 Days Quadratic Functions</td>
<td>21 Days Statistics</td>
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<td>F-IF.B.5 #</td>
<td>F-IF.C.7b#</td>
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<td>F-LE.A.1a*</td>
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<td>F-BF.B.3 * #</td>
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</table>

* = standards are addressed in multiple courses
# = standards are addressed in multiple units
# Unit 1: Expressions

## Enduring Understandings:
Real world problems can be represented as expressions and simplify.

## Essential Questions:
- How do you use algebraic symbols and structure to represent problems?
- How do properties of rational and irrational numbers determine outcomes?

<table>
<thead>
<tr>
<th>Standard</th>
<th>Learning Targets</th>
<th>Technology Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Reason quantitatively and use units to solve problems</td>
<td>- I can use units (cm, sec., grams) appropriately through the problem solving process. I can understand units that are used in graphical displays. - I can identify the correct type of measurement to represent a real-life situation. - I can estimate to an appropriate level of accuracy. - I can set up an expression to represent a real-world problem.</td>
<td>*Use a graphing calculator to - Solve a single variable equation by setting equal to $y$. - To explore algebraic structure and equivalence. - Manipulate the settings of calculator to show answers to the appropriate level of accuracy, including scientific notation.</td>
</tr>
<tr>
<td>N-Q.A.1</td>
<td>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</td>
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<tr>
<td>N-Q.A.2</td>
<td>Define appropriate quantities for the purpose of descriptive modeling.</td>
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<tr>
<td>N-Q.A.3</td>
<td>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</td>
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<tr>
<td>B. Use properties of rational and irrational numbers</td>
<td>Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.</td>
<td></td>
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</tbody>
</table>
| N-RN.B.3 | Interpret expressions that represent a quantity in terms of its context.★
- a) Interpret parts of an expression, such as terms, factors, and coefficients.
- b) Interpret complicated expressions by viewing one or more of their parts as a single entity. | |

## Key Vocabulary
- Equivalent Expressions
- Distributive Property, Like Terms
- Estimate, Rounding
- Simplifying
- Algebraic Expression
- Variable, Absolute Value
- Commutative Property
- Associative Property
- Property, Coefficient, Constant
**ALGEBRA 1-2 SCOPE AND SEQUENCE**

<table>
<thead>
<tr>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
</table>
| **Unit 1: Expressions**  
  - Use units appropriately  
  - Vocabulary of Algebra structures  
  - Translate expressions | **Unit 4: Linear Inequalities**  
  - Linear Inequalities  
  - Write  
  - Model real World  
  - Solve and justify  
  - Graph  
  - Piecewise functions  
  - Graph | **Unit 7: Polynomials**  
  - Expressions  
  - Polynomials  
  - Add  
  - Subtract  
  - Multiply | **Unit 9: Quadratic Equations**  
  - Quadratics  
  - Graphing  
  - Application  
  - Domain and Range  
  - Rate of Change |
| **Unit 2: Linear Equations**  
  - Linear equations  
  - Write  
  - Model real World  
  - Solve and justify  
  - Absolute Value Equations  
  - Solve and justify | **Unit 5: Systems**  
  - Systems of Linear Equations and Inequalities  
  - Write  
  - Solve  
  - Graph  
  - Model Real World | **Unit 8: Quadratic Functions**  
  - Quadratics  
  - Factoring  
  - Graphing  
  - Quadratic Equation  
  - Vertex Form | **Unit 10: Statistics**  
  - Represent data  
  - Correlation coefficient of a linear fit  
  - Interpreting and analyzing data |
| **Unit 3: Linear Functions**  
  - Reasoning with Equations  
  - Interpreting Functions  
  - Building functions  
  - Linear Equations  
  - Graph  
  - Write  
  - Solve  
  - Model Real World | **Unit 6 Exponential Functions**  
  - Manipulate exponents using properties  
  - Model problems  
  - Graph  
  - Write exponential functions  
  - Describe graphs  
  - Generalize to function form | **Unit 7: Polynomials**  
  - Expressions  
  - Polynomials  
  - Add  
  - Subtract  
  - Multiply | **Unit 9: Quadratic Equations**  
  - Quadratics  
  - Graphing  
  - Application  
  - Domain and Range  
  - Rate of Change |


CTE Scope & Sequence and Unit Plan Templates
Phoenix Union High School District
July 2015

PUHSD Mission: Preparing every student for success in college, career and life.
<table>
<thead>
<tr>
<th>Unit Number</th>
<th>Unit Title:</th>
<th>Enduring Understanding</th>
<th>Technical Standards &amp; Workplace Employability Skills</th>
<th>Integration</th>
<th>Pacing</th>
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<tbody>
<tr>
<td>1</td>
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<td>Title of unit of study</td>
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<td>Enduring Understanding</td>
<td>Important ideas that have lasting value beyond the classroom</td>
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<td>Technical Standards &amp; Workplace Employability Skills</td>
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<td>1&lt;sup&gt;st&lt;/sup&gt;, 2&lt;sup&gt;nd&lt;/sup&gt;, 3&lt;sup&gt;rd&lt;/sup&gt;, 4&lt;sup&gt;th&lt;/sup&gt; quarter</td>
<td>Number of 50 minute lessons to complete</td>
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**STANDARDS & MEASUREMENT CRITERIA**
Copy/paste from online curriculum

**ENDURING UNDERSTANDING**
Important ideas that have lasting value beyond the classroom

**ESSENTIAL QUESTIONS**
The question should lead to inquiry and other important questions to stimulate ongoing thinking. *Overarching – big idea & Topical – unit specific*

**KEY VOCABULARY**
List most important terms associated with the unit

**INSTRUCTIONAL STRATEGIES**
Cooperative learning, Student-to-student discourse, Think-Pair-Share, Graphic organizer, Exit ticket, Summarize, Cornell Notes, Close reading, Marking text

**ACADEMIC INTEGRATION & STANDARDS**
Include academic standards if the lesson has math or ELA integration

**RESOURCES & TECHNOLOGY**
Textbooks, teacher materials, supplies, software applications, internet, etc.
<table>
<thead>
<tr>
<th>KNOWLEDGE &amp; SKILLS – Unit Topics</th>
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</thead>
<tbody>
<tr>
<td>List the knowledge, skills, topics, and/or concepts students should understand and be able to do following the unit.</td>
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</table>

<table>
<thead>
<tr>
<th>EVIDENCE OF MASTERY/ASSESSMENT EVIDENCE</th>
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<tbody>
<tr>
<td>FORMATIVE &amp; SUMMATIVE</td>
</tr>
<tr>
<td>How will you know when students understand the concepts taught? How will you assess their understanding?</td>
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<tr>
<td>Can be informal (quick write, fist to five, thumbs up/thumbs down, Student Self-Assessment) or formal (test, quiz, project)</td>
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### Students’ Learning Targets - *I can...*

List the lesson objectives in student-friendly language and use for Student Self-Assessment. Lesson plans & activities will follow in curriculum book & Gaggle.

<table>
<thead>
<tr>
<th>Lesson 1:</th>
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