

Common Core Standards

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Why is this different?

- Designed by the National Governors Association for best practices and the Council of Chief State School Officers
- Reviewed by Teachers, Post-secondary Education Groups, Civil Rights Groups, English Language Learners, and Students with Disabilities Groups.
- Informed by top performing countries.
- Evidence and research-based.

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Characteristics

- Fewer and more rigorous.
- Aligned with college and career expectations
- Internationally benchmarked
- Rigorous content *and* application of higher-order skills.
- Builds on strengths and lessons of current state standards.
- Research based

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### What does college and career readiness mean?

#### The Standards

- Have strong content knowledge.
- Respond to varying demands of audience, task, purpose, and discipline.
- Value evidence.
- Use technology and digital media strategically and capably
- Understand other perspectives and cultures.

#### The Students

- Will be able to demonstrate independence
- Comprehend as well as critique.
- Use technology and digital media strategically and capably

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### Intent of the Common Core Standards

- The same goals for all students
- Coherence
- Focus
- Clarity and Specificity

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### Focus

- Key ideas, understandings, and skills are identified
- Deep learning of concepts is emphasized
  - That is, time is spent on a topic and on learning it well. This counters the “mile wide, inch deep” criticism leveled at most current U.S. standards.

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### Math Standards – Key Points

- Focus on numeracy in the early grades.
- Basic Algebraic readiness by eighth grade.
- Geometric concepts in the middle grades.
- Emphasis on solving real world problems

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### Kindergarten

- Focuses work on the number core: learning how numbers correspond to quantities, and learning how to put numbers together and take them apart (the beginnings of addition and subtraction).

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### K - 5

- The K-5 standards build on the best state standards to provide detailed guidance to teachers on how to navigate their way through knotty topics such as *fractions*, *negative numbers*, and *geometry*, and do so by maintaining a continuous progression from grade to grade

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### 6 - 8

- Having built a strong foundation K-5, students can do hands on learning in geometry, algebra and probability and statistics. Students who have completed 7th grade and mastered the content and skills through the 7th grade will be well-prepared *for algebra* in grade 8.

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### High School

- The high school standards call on students to *practice applying mathematical ways of thinking to real world issues and challenges*; they prepare students to think and reason mathematically.
- The high school standards set a *rigorous definition of college and career readiness*, by helping students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do.

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### High School Cont'd

- The high school standards *emphasize mathematical modeling*, the use of mathematics and statistics to analyze empirical situations, understand them better, and improve decisions.

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### 8 CCSSM Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
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.

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### Common Core Format

**K-8**

**High School**

Grade

Conceptual Category

Domain

Domain

Cluster

Cluster

Standards

Standards

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### Common Core Format

- **Domains** are large groups of related standards. Standards from different domains may sometimes be closely related. Look for the name with the code number on it for a Domain.
- Domains are overarching big ideas that connect topics across the grades
- Descriptions of the mathematical content to be learned elaborated through clusters and standards

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### Common Core Format

- **Clusters** are groups of related standards. Standards from different clusters may sometimes be closely related, because mathematics is a connected subject.
- Clusters appear inside domains.
- May appear in multiple grade levels in the K-8 Common Core. There is increasing development as the grade levels progress
- What students should know and be able to do at each grade level
- Reflect both mathematical understandings and skills, which are equally important

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### Common Core Format

- **Standards** define what students should be able to understand and be able to do – part of a cluster.
- Standards are content statements. An example content statement is: *“Use properties of operations to generate equivalent expressions.”*
- Progressions of increasing complexity from grade to grade

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### Common Core Website

<http://www.corestandards.org/>

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### Grade Level Overview

**Number and Operations in Base Ten**

Use place value understanding and properties of operations to perform multi-digit arithmetic.

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 100 using strategies and algorithms based on place value, properties of operations, and the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10–100 (e.g., 9 × 10, 5 × 100) using strategies based on place value and properties of operations.

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### Format of K-8 Standards

**Operations and Algebraic Thinking**

**Represent and solve problems involving addition and subtraction.**

1. Use addition within 100 to solve problems. The problems involve finding unknowns in all positions (e.g., 8 + ? = 18, 18 - ? = 8), unknowns in all positions (e.g., ? + 8 = 18, 18 - ? = 8), and unknowns with subtraction (e.g., 35 - ? = 10, 35 - 10 = ?).
2. Use addition to solve real-world problems involving unknowns in all positions (e.g., unknowns in all positions, unknowns in all positions).

**Understand and apply properties of operations and the relationship between addition and subtraction.**

3. Understand and apply properties of addition and subtraction. Examples: (a) Using the commutative property of addition to solve an equation (e.g., 8 + 5 = 13, 5 + 8 = 13); (b) using the inverse relationship between addition and subtraction to solve an equation (e.g., 18 - 9 = 9, 9 + 9 = 18).

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### Grade Level Overview

**Mathematics | Grade 2**

Use addition and subtraction within 100 to solve problems involving unknowns in all positions (e.g., 8 + ? = 18, 18 - ? = 8), unknowns in all positions (e.g., ? + 8 = 18, 18 - ? = 8), and unknowns with subtraction (e.g., 35 - ? = 10, 35 - 10 = ?).

**Critical Areas Similar to NCTM's Curriculum Focal Points**

1. Students extend their understanding of the base-ten system. They understand that each digit in a number has a value that is ten times as much as the digit to its right and one-tenth as much as the digit to its left. They understand that the relationship between addition and subtraction is inverse.
2. Students use their understanding of addition to solve problems involving unknowns in all positions (e.g., 8 + ? = 18, 18 - ? = 8).

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### Differences

[http://www.isbe.net/common\\_core/htmls/gap\\_analysis.htm](http://www.isbe.net/common_core/htmls/gap_analysis.htm)

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### If taught as intended

- Students will not skip grades.
- Differentiated Lessons
- Remediation Exercises and Enrichments

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Grade 1	Grade 2
<p><b>1-1.A.1</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.2</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.3</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.4</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.5</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.6</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.7</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.8</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.9</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>1-1.A.10</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p>	<p><b>2-1.A.1</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.2</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.3</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.4</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.5</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.6</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.7</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.8</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.9</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p> <p><b>2-1.A.10</b> Read with accuracy and fluency words and sentences, including those with multisyllabic words. Read on level of text.</p>



Course Title: Algebra I School District: Sample High School Grade: 09		Sample Curriculum Map		
Vertically Aligned Topics and Concepts	Essential Numbers	Enduring Understandings	Learning Objectives	
Concept Topics	Concept Topics	Concept Topics	Concept Topics	
Solving Equations Operations and Order of Operations Properties of Real Numbers Fractions and Decimals Scientific Notation Mean, Median, Mode, and Range	Solving Rational Equations Solving Rational Inequalities Solving and Graphing Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	Operations and Properties Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	
Skills	Skills	Skills	Skills	
Operations and Properties Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	Operations and Properties Solving Systems of Linear Equations and Inequalities Properties of Real Numbers Properties of Fractions Properties of Decimals Properties of Scientific Notation Properties of Statistics	

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Unit Title: Algebra I	Unit Length: 1 week				
Unit Overview					
Unit Components	Prerequisites	Prerequisites	Prerequisites	Prerequisites	Prerequisites
1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics
Learner/Performance Objectives: The students will... 1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics	Assessments/Evidence 1.1 Operations and Properties 1.2 Solving Systems of Linear Equations and Inequalities 1.3 Properties of Real Numbers 1.4 Properties of Fractions 1.5 Properties of Decimals 1.6 Properties of Scientific Notation 1.7 Properties of Statistics				

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### How does this work with RTI?

This is the group of students who will need remediation to be proficient in the topic

This group of students gets it the first time through. Enrichment materials are used to help them gain a deeper understanding of the content.

600 Total Students

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### Resources

- [http://www.isbe.net/common\\_core/htmls/resources.htm](http://www.isbe.net/common_core/htmls/resources.htm)
- <http://www.education.ohio.gov/GD/Templates/Pages/ODE/ODEPrimary.aspx?page=2&TopicRelationID=1704>
- <http://ims.ode.state.oh.us/ODE/IMS/Lessons/default.aspx>
- [http://www.jamesrahn.com/homepages/algebra\\_tiles.htm](http://www.jamesrahn.com/homepages/algebra_tiles.htm)
- <http://parcconline.org/>
- <http://www.uen.org/core/math/index.shtml>

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