

How to Read the Pathways:

Each pathway consists of two parts. The first is a chart that shows an overview of the pathway. Organized by course and by conceptual category (algebra, functions, geometry, etc...), these charts show which clusters and standards appear in which course (see page 5 of the CCSS for definitions of clusters and standards). For example, in the chart below, the three standards (N.Q.1, 2, 3) associated with the cluster “Reason quantitatively and use units to solve problems,” are found in Course 1. This cluster is found under the domain “Quantities” in the “Number and Quantity” conceptual category. All high school standards in the CCSS are located in at least one of the courses in this chart.

Overview of the Traditional Pathway for the Common Core State Mathematics

This table shows the domains and clusters in each course in the Traditional Pathway. For each cluster included in that course are listed below each cluster. For each course, limits and focus for the clusters are shown in italics.

Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses ¹
Number and Quantity	<ul style="list-style-type: none"> Extend the properties of exponents to rational exponents. N.RN.1, 2 Use properties of rational and irrational numbers. N.RN.3 			
Quantities	<ul style="list-style-type: none"> Reason quantitatively and use units to solve problems. <i>Foundation for work with expressions, equations and functions</i> N.Q.1, 2, 3 			
The Complex Number System			<ul style="list-style-type: none"> Perform arithmetic operations with complex numbers. N.CN.1, 2 Use complex numbers in polynomial identities and equations. 	<ul style="list-style-type: none"> Perform arithmetic operations with complex numbers. (+) N.CN.3 Represent complex numbers and their operations on the complex plane.

Domain (points to the 'Domains' column header)

Conceptual Category (points to the 'Number and Quantity' row header)

Courses (points to the course headers: High School Algebra I, Geometry, Algebra II, Fourth Courses¹)

Clusters, Notes, and Standards (points to the content within the 'Number and Quantity' row)

The second part of the pathways shows the clusters and standards as they appear in the courses. Each course contains the following components:

- An introduction to the course and a list of the units in the course
- Unit titles and unit overviews (see below)
- Units that show the cluster titles, associated standards, and instructional notes (below)

It is important to note that the units (or critical areas) are intended to convey coherent groupings of content. The clusters and standards within units are ordered as they are in the Common Core State Standards, and are not intended to convey an instructional order. Considerations regarding constraints, extensions, and connections are found in the instructional notes. The instructional notes are a critical attribute of the courses and should not be overlooked. For example, one will see that standards such as A.CED.1 and A.CED.2 are repeated in multiple courses, yet their emphases change from one course to the next. These changes are seen only in the instructional notes, making the notes an indispensable component of the pathways.

Unit 1: Relationships Between Quantities

By the end of eighth grade students have learned to solve linear equations in one variable using graphical and algebraic methods to analyze and solve systems of linear equations in two variables. Students build on these earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions. All of this work is grounded on understanding quantities and on relationships between them.

Unit 1: Relationships between Quantities	
Clusters with Instructional Notes	Common Core Standards
<p>SKILLS TO MAINTAIN</p> <p><i>Reinforce understanding of the properties of integer exponents. The initial experience with exponential expressions, equations, and functions involves integer exponents and builds on this understanding.⁸</i></p> <p>• Reason quantitatively and use units to solve problems.</p> <p><i>Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</i></p>	<p>Standards Associated with Cluster</p> <p>N.Q.1 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.</p> <p>N.Q.2 Define appropriate quantities for the purpose of descriptive modeling.</p> <p>N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p>

Cluster

Instructional Note

Unit Title and Overview

Standards Associated with Cluster