

SCOPE AND SEQUENCE

Teaching CCSS Algebra 1

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SCOPE AND SEQUENCE

Teaching CCSS Algebra 1

The Curriculum

SCOPE AND SEQUENCE

The Scope and Sequence of this course is intended to provide pacing outlines that encompass a traditional, 180 day, 2 semester, school year.

Lessons are organized into Examples, Active Learning Problems, Adaptive Practice, and Review Problems, interspersed with some discussion paragraphs and summary boxes.

- **Examples** have solutions provided immediately afterward. Examples can be attempted in groups, pairs, individually or as a class, the results reported to the class or teacher before moving on.
- **Active Learning Problems** do not have answers immediately after. If a problem is particularly advanced and can be skipped, it is indicated as an extension problem.

Examples and Active Learning Problems often consist of interactives designed so that students can experiment with the parameters for functions, relations, and other quantitative relationships. These dynamic visualizations can provide a launch pad for rich discussion in groups, pairs, or as a class, and serve as succinct summaries of essential concepts.

Some lessons also include PLIX interactives, in which students can both experiment with scenarios and try related practice problems. These are also well-suited to student-directed engagement, and give students formative feedback on their work.

Adaptive Practice is accessible via a link at the top of each section, while Review Problems are an independent section after each section.

Each section and the entire book is structured to give students as much agency as possible. They are meant to connect with scenarios, experiment, discuss, draw conclusions, and abstract the structures they develop. This constructivist approach guides students to actively develop tools to model scenarios and solve problems so that they take greater ownership of their cognition.

MATERIALS & RESOURCES

READS (text-based lessons)

Included in the Pacing Guides

Replace traditionally printed textbook lessons. The digital format allows for a much more integrated learning experience.

READ Format:

- Opens with a short "Purpose" statement, intended to inform the student about the concept addressed within the READ.
- **Examples:** The format of CCSS Algebra I starts a student out with an instructional example. The example asks a question, then walks the student through solving the problem addressed in the question.
- Interspersed between examples are "**Active Learning Questions**" - they are progressive questions/problems that not only address solving mathematical questions/problems but also address the theory and reasons behind them. Many provide a student with answers, but all are intended to ensure that students are actively involved in the learning process. **These sections essentially replace the classic instructional section of the text.** Some do not have answers, and may be viewed as what would typically be "Review" questions at the end of a traditional CK-12 Read.
- Dispersed throughout the READ in applicable locations are *interactives, *PLIX, and *Videos.

*INTERACTIVES

Replace physical manipulatives with digital activities that model concepts covered in the READ. In this book, they are integral to working through many of the examples and Active Learning problems, and should not be viewed as supplemental.

*PLIX Interactives

(Play Learn Interact eXplore) PLIX help students explore a different method of learning that is hands-on and requires the students to utilize critical thinking and application skills. Includes a Challenge Me (Questions) section that asks a series of stimulating questions related to the interactive. A student should be expected to answer the Challenge Me Questions.

*VIDEOS

For the Auditory/Visual Learner, video lectures supplement text exponentially. With access to streaming video, students can re-watch/listen to lectures they may feel they did not fully grasp.

PRINTABLES

RWA's or Real World Applications. Real world applications contextualize classroom content and solidify knowledge.

* Embedded in the READ. Also available externally.

ADAPTIVE PRACTICE	Incorporating CK-12's extensive practice question library, students are given sets of questions and based on their answers, the system adjusts the difficulty level of questions.
CUSTOM QUIZZES	Quizzes and Chapter Assessment can be built using the Ck12 Quiz Building Tool. Specific questions can be assigned from 1 or more concepts. Quizzes and Assessments have been pre-built to support content in this course.
CHAPTER ASSESSMENTS	Created specifically to address Common Core Requirements. Solutions
PROJECTS	Created specifically to address Common Core Requirements and to address Project Based Learning.

Teaching from the Text

Lessons can begin with **ACTIVE LEARNING PROBLEMS**, which students can work on in groups or pairs. In the case where a lesson begins with Active Learning, the problems are of types with which they are already familiar with from the course. Typically these should be completed in class. In the case where they are recommended to be given as homework, the following day will open with a discussion reviewing how they solved the problems.

Lessons can also begin with **WRITTEN ANSWERS TO DISCUSSIONS**. Depending on the discussion, the students can read these together, alone, or be guided by the instructor. Typically it is recommended that students and instructors read the discussion sections together in class, they are very short.

Lessons can also begin with **EXAMPLES**. These often include some discussion but are often meant to be attempted by students, in pairs or groups, facilitated by the instructor. They also provide a walk through solution.

CUSTOM INTERACTIVES have been created to accompany some of the Examples and Active Learning Problems. These interactives have been created to directly model concepts taught, and should not be excluded from teaching the lesson.

Interspersed throughout the lesson are **RWA** - Real World Application Activities, and **PLIX** Interactives. **THESE DO NOT NEED TO BE INCORPORATED** in the lesson. They are included as extra curricular modalities to expand and extend instructional periods. They may be unnecessary or may require more time than is available to teach the core material. These interactives should be used at instructor discretion.

*Estimated times are provided for the instruction of this course. Most lessons will be taught over a period of 2-5 instructional periods. For the purposes of the Pacing Guides, an Instructional Period is considered to be 50 minutes.

- *Please note they are only estimates, as instructional periods vary by class, as well as ability levels of students, thus requiring either shorter or longer instruction time for specific topics.

5 minutes have been set aside for explaining to student expectations for homework.

CK-12 Interactive Algebra I Concepts for CCSS - Scope and Sequence

UNIT/CHAPTER	INSTRUCTION DAYS	TOTAL
Chapter 1 -	<ul style="list-style-type: none"> • 21 Instructional Periods including: <ul style="list-style-type: none"> – 2 Quizzes • 1 - Day Chapter Assessment 	22 Instructional Periods
Chapter 2 -	<ul style="list-style-type: none"> • 15 Instructional Periods including: <ul style="list-style-type: none"> – 2 Quizzes • 1 - Day Chapter Assessment 	16 Instructional Periods
Chapter 3 -	<ul style="list-style-type: none"> • 54 Instructional Periods including: <ul style="list-style-type: none"> – 2 Quizzes • 2 1-Day Chapter Assessments 	56 Instructional Periods
Semester Project	Midterm Project	2 Instructional Periods
Chapter 4 -	<ul style="list-style-type: none"> • 55 Instructional Periods • 3 1-Day Chapter Assessments 	58 Instructional Periods
Chapter 5 -	<ul style="list-style-type: none"> • 23 Instructional Periods including: <ul style="list-style-type: none"> – 1 Quiz • 1 - Day Final Assessment 	24 Instructional Periods
Final Assessment	3 Days Preparation 2 Days For Presentation	5 Instructional Periods

MIDTERM & FINAL PROJECTS

The full CCSS Algebra I Teacher's Guide provides quizzes throughout chapters and final chapter assessments.

Mid-term and Final Projects are intended to replace traditional Mid-term and Final Assessments. If an instructor wishes to present the students with a traditional assessment, the CK12's Custom Quiz Creator can be used to build customized Mid-term and Final Assessments.

Project-Based-Learning, which replaces within this specific curriculum, the Mid-Term and/or Final Assessment, requires that a student to apply acquired math knowledge to real-to-life simulations that incorporate how professionals use Algebra within their given professions.

For instructors looking for suggestions or ways to approach to Project-Based-Learning they can check out:

- Project Based Learning - Algebra - [Angry Birds](#) - Project from Curriki
- Teachers - Pay - Teachers - Project Based Learning Modules
- An internet search will generate a number of lesson plans that target Algebra Projects.