

PROGRAM COMPONENTS

MathLinks: Grade 8 consists of ten units of instruction, organized into ten consumable or digital Student Packets, a Teacher Edition, a Teacher Portal with digital resources, and a Program Information document. It was designed in response to a need for instructional materials to align with the 2010 Common Core State Standards (CCSS-M). The program was developed at the Center for Mathematics and Teaching (CMAT), a nonprofit education group led by mathematics educators and mathematicians who worked in the UCLA Department of Mathematics until 2010. Before embarking on your *MathLinks* journey, here are brief explanations of some of the program's components.

STUDENT PACKETS



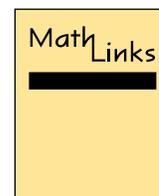
Ten consumable or digital Student Packets (SP) with structured workspace help students stay organized and focused on time spent doing mathematics. This lessens the need for rote notetaking and emphasizes time spent on developing concepts, solving problems, and practicing skills. SPs (and the corresponding Teacher Editions) are color-coded to make organization convenient.

Unit	Title	Unit Color
1	Plane and Solid Figures	Light blue
2	Real Numbers and the Pythagorean Theorem	Orbit orange
3	The Algebra of Exponents and Roots	Light green
4	Introduction to Functions.....	Orchid
5	Linear Functions.....	Canary yellow
6	Bivariate Data.....	Pink
7	Linear Equations and Systems 1	Lunar blue
8	Linear Equations and Systems 2	Cosmic orange
9	Congruence	Cherry
10	Similarity	Terra green

- Opening Problems.... Each unit begins with an Opening Problem. Spend a typical class hour or less on this to start. Sometimes, it is completed in one sitting; sometimes, students will revisit it after some instruction.
- Lessons Includes three lessons that each take about 2-4 class hours to complete. All lessons begin with a Getting Started exercise. Many new concept development pages contain insufficient information to be done without some guided instruction, and these pages are accompanied by Slide Decks (in the Teacher Portal), with a Slide Deck Alternative option and Lesson Notes (in the Teacher Edition). All concept development is followed by skills practice. Other pages in lessons include applications or new content that may require guided instruction or partner work.
- Review This activity-based section addresses the main topics in a unit. Many are appropriate for partner work. Spiral Review pages keep students' skills sharp on topics from previous units. A Reflection page helps students monitor growth and make connections among the Big Ideas of the unit.
- Vocabulary Work with students to unpack and record targeted vocabulary in My Word Bank, located at the front of each SP. A Vocabulary Review crossword puzzle is in each Review section.
- Student Resources ... This section includes definitions, explanations, and examples for the unit.
- Homework Homework choices from the SP are at the discretion of the teacher. Common choices include (1) finishing pages started in class, (2) Practice pages, (3) Spiral Review pages near the end of each SP, (4) skills practice pulled from the Extra Problems file (Portal), (5) unfinished work from previous units, and (6) Projects (Portal) from current or previous units.

TEACHER EDITION

The Teacher Edition (print or digital) for each unit is divided into Unit Planning Information (TE-UPI) and an Annotated Answer Key, including the Student Packet and Lesson Notes (TE-AK). Here we address these two parts. Since the SP is a subset of TE-AK, we generally cite TE-AK when both components are relevant.



Unit Planning Information (TE-UPI)

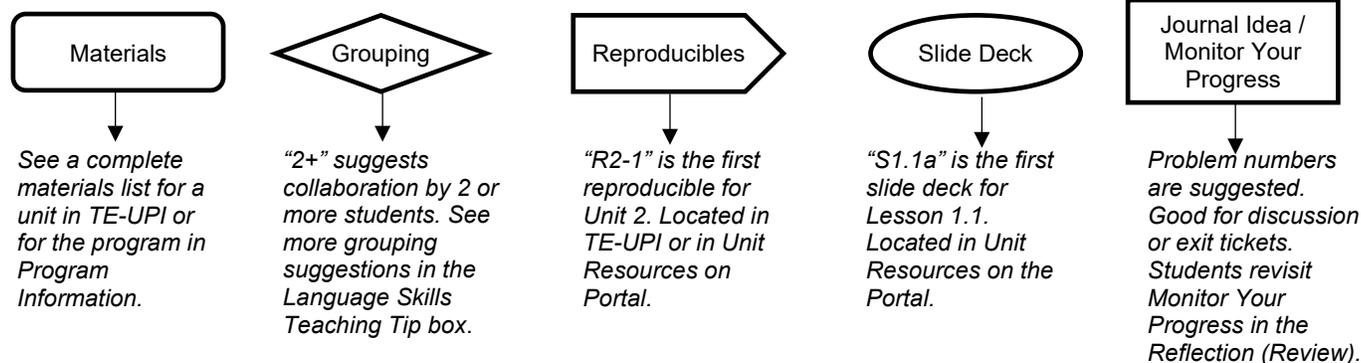
The front section of every Teacher Edition contains important Unit Planning Information.

- Common Core The relevant Standards for Mathematical Content are on the inside cover.
State Standards
- Unit Planning This snapshot includes pacing, lists of unit resources, assessment options, materials, slide decks, reproducibles, and suggestions to prepare ahead.
- Planning for This page gives some guidance for differentiation with suggestions for all students, English Different Users learners, struggling learners, and advanced learners. It also identifies resources for teachers, substitutes, and parents.
- Math Background These notes were written by our research mathematicians to deepen understanding of unit content and to provide insight into what's ahead. More information about the purpose of Math Background notes is located in General Resources on the Teacher Portal.
- Teaching Tips Subsections include (1) Applying Standards for Mathematical Practice, (2) Strategies to Support Different Learners, (3) Big Ideas and Connections, (4) Students May Wonder..., (5) Enrichment and Challenges for Advanced Learners, (6) Developing Language Skills Through *MathLinks*, and other relevant tips. When timely, a tip showing the progression of functions and algebra is included here as well.
- Reproducibles If needed for lessons, reproducibles are included here. They are also available in .PDF format in Unit Planning on the Portal.

Annotated Answer Key (TE-AK)

- Student Packet The SP with detailed answers immediately follows the TE-UPI. Other timely tips in this with Answer Key section include “Watch-Fors” for formative assessment and references to the *MathLinks* Rubric for extra work communicating ideas.
- Lesson Notes..... Slide Decks (in the Teacher Portal) that guide a portion of the lesson’s development are and Slide Deck accompanied by Lesson Notes (in the Teacher Edition). The Slide Deck Alternative Alternatives: (following the Lesson Notes in the TE) is a static format for the slide deck that teachers may choose to use with the accompanying notes if they prefer guiding instruction in a different style.

Lesson Icons: Icons at the bottom of some TE-AK pages are planning reminders for that page.



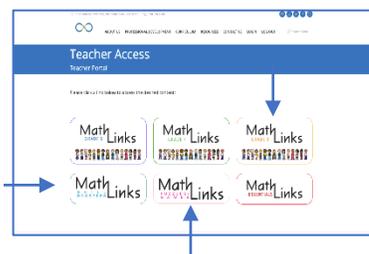
TEACHER PORTAL

MathLinks includes a rich collection of resources that are available through a password-protected Teacher Portal. Logins are available through your administrator or from CMAT directly. To maintain the security of assessments and answer keys that are housed here, please do not make this portal accessible to students or parents. Teachers are welcome to download useful resources to a virtual classroom space for student and parent use. All files in the Teacher Portal may be printed, except for the Student Packets, which are copyright-protected and must be purchased.

Landing Page (LP)

On the Teacher Portal, a total of six buttons may be visible. Purchased components will be activated. Typically, an 8th grade *MathLinks* user has access to the grade level, Skill Boosters, and Puzzles and Games.

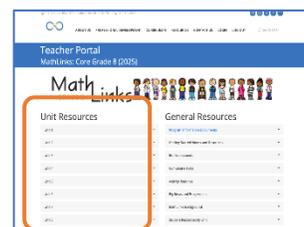
Component	Details
<i>MathLinks</i> : Grade 8	Contains all Unit Resources and General Resources for the Grade 8 program.
Skill Boosters	A distributed practice routine for selected, below-grade level topics. These are intended for daily use in increments of about 5 to 10 minutes to fill in gaps. They do NOT connect to <i>MathLinks</i> : Grade 8 in any specific way.
Puzzles and Games	Complete books written by Carole Greenes and Tanner Wolfram for <i>MathLinks</i> users, as well as collections of activities from the <i>MathLinks</i> Team. Use these for engaging practice and enrichment. They do NOT connect to <i>MathLinks</i> : Grade 8 in any specific way.



Grade 8: Unit Resources (UR)

The Grade 8 button opens to a wealth of resources to support instruction. On the left (or top) are Unit Resources (UR). Each of the ten units in the program has its own pull-down menu. Go to Unit Resources → <Unit Number>.

<Unit number>	Details
Teacher Edition (TE)	A printable version of the TE for the unit, Reproducibles (also in TE-UPI), and Slide Decks as PowerPoints and Google Slides.
Student Packet (SP)	The Portal's version may be used for viewing and for projection. To translate SP text into practically any language for English learners, put the Text File for Translation into a translation program. Students will be able to use the translation alongside the SP to increase comprehension.
Other Resources (OR, OR-A, OR-S)	For adults: OR-A includes (1) Assessment, Follow-up, and Feedback Charts and (2) Parent Letters. For students: OR-S includes (1) Quizzes, (2) Extra Problems, (3) Essential Skills, (4) Math Talks, (5) Nonroutine Problems, (6) Tasks, (7) Projects, and (8) Technology Activities. Answer keys are included when applicable.



Grade 8: General Resources (GR)

When the Grade 8 button opens, find General Resources on the right (or towards the bottom).

Pull Down Menu

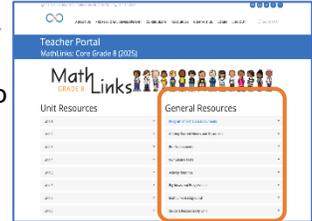
Details

Program Information (PI) & References

The Grade 8 Program Information Book is located here, by section. A bibliography of all references that are cited or inspired the development of *MathLinks* (Grades 6-8) is also included here.

Getting Started Videos & “At a Glance” documents

Find an Annotated Teacher Edition for Unit 1, descriptions of some program features, and short videos that introduce the philosophy, structure, and some components.



Pre-Assessments

Easy-to-score snapshots of essential unit skills. Each pre-assessment addresses one or more units. Suggestions for struggling learners are provided. See Assessments, Follow-up, and Feedback charts in UR for unit-by-unit follow-up support.

Cumulative Tests

Easy-to-score snapshots of grade-level knowledge. There is one Test per unit, and we suggest that they be combined to create periodic assessments to fit your school calendar. See also Assessments, Follow-up, and Feedback charts in UR for unit-by-unit follow-up support.

Activity Routines

These recurring features in *MathLinks* are designed to engage students in problem-solving and practice. These typically appear within unit lessons, in the Review section of each unit, in Essential Skills (OR-S), or in Nonroutine Problems (OR-S). This section includes detailed instructions with sample introductory activities to use to establish classroom norms and procedures for the actual Activity Routines.

Big Ideas & Progressions

“Big picture” documents aid in understanding the scope of the course, connections within it, and where it fits in K-12 mathematics.

Math Background

Includes a summary and compilation of all Math Background notes, and a detailed analysis of all Math Backgrounds in *MathLinks: Grades 6-8* by mathematician Ted Gamelin.

Student Resources

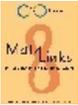
Unit-specific guides are available for reference by teachers, students, parents, and others supporting instruction. This is also available on the public website at <https://mathandteaching.org/student-resources/>.

Parent Support

An introductory letter, suggested materials list, and unit-specific letters to keep parents/guardians informed are available in both English and Spanish. These are also available on the public website at <https://mathandteaching.org/parent-support-2nd-ed/>.

SUMMARY

Moving forward, icons and descriptors will be used to reference program components in a chart similar to this.

Print	Portal
<p>Program Information (PI)</p> 	<p>Portal Landing Page (LP)</p> 
<p>Teacher Edition (TE)</p> <ul style="list-style-type: none"> • Unit Planning Information (TE-UPI) • Annotated Answer Key, including Student Packet and Lesson Notes (TE-AK) 	<p>Grade 8 Unit Resources → <Unit number> (UR)</p>
<p>Student Packet (SP)</p>  	<p>Grade 8 General Resources (GR)</p>