MATHLINKS: CORE Grades 6-8 (2nd ed)
PROGRAM DESCRIPTION

The Center for Mathematics and Teaching (CMAT) is a non-profit educational group dedicated to igniting and nurturing passion in middle school students and teachers about the elegance and utility of mathematics. We are located in Los Angeles and have been developing content to respond to needs in California for over 20 years.

For this adoption, we are proud to submit *MathLinks*: Core (2nd ed) for grades 6-8. This program was written specifically to meet requirements in California. Here are some guiding principles that we believe make this program special.

- We aim to contribute to and support a joyful experience for both teachers and students as they explore mathematics. We see the social aspects of teaching and learning mathematics as critical. Some ways we do this are with opening problems that engage students and create a need to know, slide decks that promote discussion, and activity routines that add variety and interest to practice.

- We put concept development at the forefront of lesson design, using hands-on approaches and visuals when appropriate to develop mathematical understanding.

- We focus on the big ideas of mathematics to help students see that mathematics is a cohesive and coherent, sensemaking body of knowledge. This approach is also efficient. As a result, each course consists of about 30 multi-hour lessons that can be completed in about 100 class hours – making up to 80 class hours available to meet the needs of students with review, intervention, enrichment, projects, tasks, and assessments – all included with the program.

- We recognize that the teacher is central to instruction. The *MathLinks* Teacher Edition and Teacher Portal offer support for different levels of content expertise and alternatives for different teaching styles.

COLOR SCHEMES

Colors denote grade levels in *MathLinks*. You will see these colors on the Program Information covers, on the website, and on criteria maps.

GRADE 6	GRADE 7	GRADE 8

Teacher Editions and the corresponding Student Packets have corresponding color covers as well. They are different for each unit within a grade level, making sorting and management more convenient.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10

Finally, grade-level Big Ideas, as well as units, lessons, and activities, are color-coded by CCSS-M domains in Program Information and criteria maps when appropriate.

Ratio and Proportional Relationships (Grades 6, 7) Functions (Grade 8)
Number Sense
Expressions and Equations
Statistics and Probability
Geometry

PROGRAM COMPONENTS

Each grade of *MathLinks* 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.

(PI) Program Information: This is a "read-me first" and "refer to me often" document. PI includes:

- Unit overviews (Unit summary, lesson titles, estimated class hours, CCSS-M standards)
- Program Components (with more detail than this document)
- Planning Tips
- Materials, Copies, and Shopping Lists
- Explanations of Focus, Coherence and Rigor
- Universal Design for Learning and its connection to *MathLinks*
- Descriptions and locations of Features to Engage Students
- Assessment Options
- Correlations
- Indexes

(SP) Student Packets: The 10 consumable Student Packets have structured workspace to help students stay organized and focused on time spent doing mathematics. (Note: Reviewers may not need to refer to SPs very much as everything in the SPs is also in the Teacher Edition.) Each SP is organized into parts.

- Front page (includes bulleted lesson goals and Monitor Your Progress column)
- Opening Problem
- Three or four multi-hour lessons
- Review activities
- Student Resources
- List of Common Core State Content and Practice Standards

(TE) Teacher Edition: There are 10 TEs for each grade level – one for each unit of instruction. Each TE is organized into two parts:

- (TE-UPI) Teacher Edition – Unit Planning Information: This part is at the front of the TE and numbered with Roman Numerals. It contains Planning Information, Math Background, Teaching Tips, and Reproducibles for the unit.

- (TE-AK) Teacher Edition – Answer Key: This part follows TE-UPI and is numbered with Arabic numerals. This contains the complete Student Packet plus a detailed answer key (in a different font that is red); lesson notes with slide deck thumbnails; references at the bottom of pages for materials, grouping, journals, etc.; and other reminders (also in red).

(Portal) Secure Teacher Portal: The portal is available to teachers and other professionals who use the program. A login is required. The Teacher Portal begins with a landing page. By clicking on a specific grade level, Unit Resources and General Resources are available.

- (LP) Landing Page – in addition to grade-level materials, Skill Boosters (a skills practice routine for intervention) and Puzzles and Games (for all) are accessed here.

- (UR) Unit Resources: After clicking on a grade level, the left of the screen (or top, depending upon your device) will have unit resources for each unit, available through pull-down menus. Here you'll find:

  - ✓ (TE) This printable Teacher Edition is TE-UPI and TE-AK combined.

  - ✓ (SP) This is the Student Packet for viewing only and a text file for translations

  - ✓ (OR-A) Other Resources for Adults include Assessment, Follow-up, and Feedback Charts, and Parent Letters.

  - ✓ (OR-S) Other Resources for Students include Quizzes, Extra Problems, Essential Skills (ES), Math Talks (MT), Nonroutine Problems (NP) Tasks (T), Projects (P), and Technology Activities (TA).

(GR) General Resources: After clicking on a grade level, the right of the screen (or bottom, depending upon your device) will have general resources, also available with pull-down menus.

- The Program Information (PI) document as well as a list of all references and resources used in the development of the program

- Getting Started Videos and Resources documents – These short videos introduce the philosophy, structure, and some components. There is also an annotated TE for Unit 1 to help users get started.

- Pre-assessments give teachers a snapshot of proficiency for essential skills needed for units. The Assessment, Follow-up, and Feedback charts in UR give support suggestions.

- Cumulative Tests – There is one per unit, and we suggest they be combined as desired to create periodic assessments.

- Activity Routines – These recurring features are designed to engage students in problem-solving and practice. Here teachers will find explanations of the routines and introductory activities. Most routines recur in all three programs so that once students understand the mechanics of a routine, it can become a seamless part of instruction.

- Big Ideas and Progressions include “big picture” documents to aid in understanding the scope of the course, connections within it, and where topics fit in the school mathematics continuum.

- Math Background – Compilations of all Math Background notes from all TE-UPI sections of all three courses, along with a detailed analysis of their purpose and importance by UCLA mathematician emeritus, Ted Gamelin, PhD, are here for professional learning.

- Math and the Environment – California’s Environmental Principles and Concepts (EP&Cs) examine the interactions and interdependence of human societies and natural systems. This section identifies MathLinks lessons and their connection to the environmental principles.

- Student Resources – Unit-specific guides are here for reference. They are also available on our public website.

- Parent Support – letters in English and Spanish keep parents/guardians informed about what students are learning in each unit. These are also available on our public website.

CRITERIA MAPS

As required for adoption, we provide criteria maps. Here are some citations and how to interpret them.

Criteria 1.1 (provided individually for Grades 6, 7, 8)

- **Big Ideas** – *MathLinks* content developers used the big ideas from the California Mathematics Framework (CMF) and other research to identify 7 or 8 Big Ideas per grade level.

  Example 1: (Grade 7) The *MathLinks* big idea "Applying Proportional Reasoning to ratios, rates, percent, and scale (7RP.A)"

  This maps a *MathLinks* big idea to five big ideas in CMF.

- **Standards for Mathematical Practice** – The first Teaching Tip in every TE-UPI (Applying Standards for Mathematical Practice) provides details for how SMPs are applied in that unit. Specific examples are also cited.

  Example 2: (Grade 7, MP.1) "Unit 9 TE- AK pg 1 + 1a (Opening Problem: Felix the Sheep + Lesson Notes), pg 13 #7 (Practice 4: Extend Your Thinking)".

  For MP.1, go to Unit 9, Teacher Edition-Answer Key portion, and consider pages 1 and 1a. The title(s) of the pages are in parentheses. See also page 13, problem 7 where the title of the page is in parentheses as well.

- **Grade-level Content Standards** – Lessons in which each standard is included are listed at the beginning. Then specific examples follow.

  Example 3: (7.NS.1c) "Unit 4 TE-AK pg 24 #1-9 (Comparing Addition and Subtraction) [*additive inverse*]"

  For 7.NS.1c, go to Unit 4, Teacher Edition-Answer Key portion, page 24, problems 1-9. The page title is in parentheses. Because this standard has multiple parts, the relevant part is in brackets in italics.

Criteria 1 through 5, except 1.1 (provided collectively for Grades 6, 7, 8)

- **For All Grades** - For many criteria, relevant citations for the program are listed first.

  Example 4: (Criteria 1.2) "PI pg 31 Real-Life Problems and Mathematical Investigations"

  For 1.2, go to a Program Information document for any grade, page 31. The title of the page is in parentheses.

  Example 5: (Criteria 3.1) "Portal → UR → Units 1-10 → OR-A Assessment, Follow-up and Feedback Charts"

  For 3.1, go to the Portal Unit Resources for any unit. Under Other Resources for Adults, look for the title in parentheses.

- **Examples from Grades 6, 7, 8** - For many criteria, grade-level citations are also provided, and grade-level headings are color-coded for easy reference (Grade 6, Grade 7, Grade 8)

  Example 6: (Criteria 1.2) "Examples from Grade 7 …. Portal → UR → Unit 6 → OR-S → Math Talk A (Water Used to Make Various Food Items) [*data*]"

  For 1.2, go to the Portal for Grade 7. Under Unit Resources, open Unit 6. Under Other Resources for Students, open Math Talks. The title of Math Talk A is in parentheses. Because this criterion has multiple parts, the relevant part is in brackets in italic print.

IN CONCLUSION

We thank the members of the Department of Education and the hard-working professionals who are spending significant time on this adoption. We hope you find our work interesting, on target, easy to follow, and something that will help teachers and students find joy, beauty, and success in mathematics.