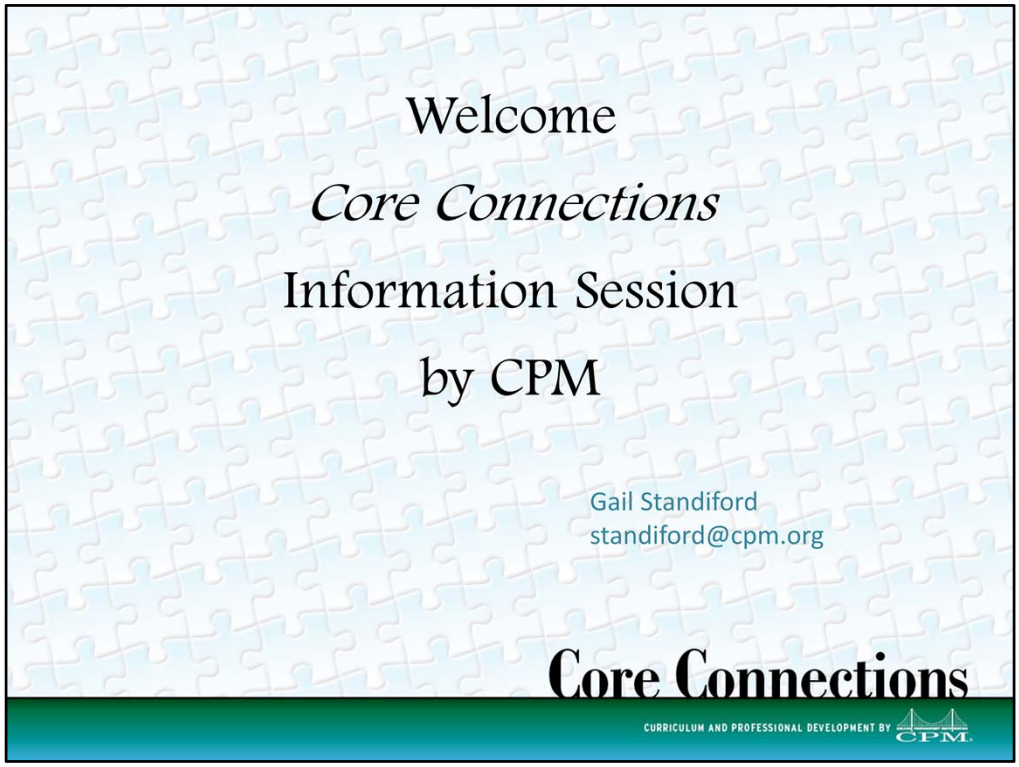
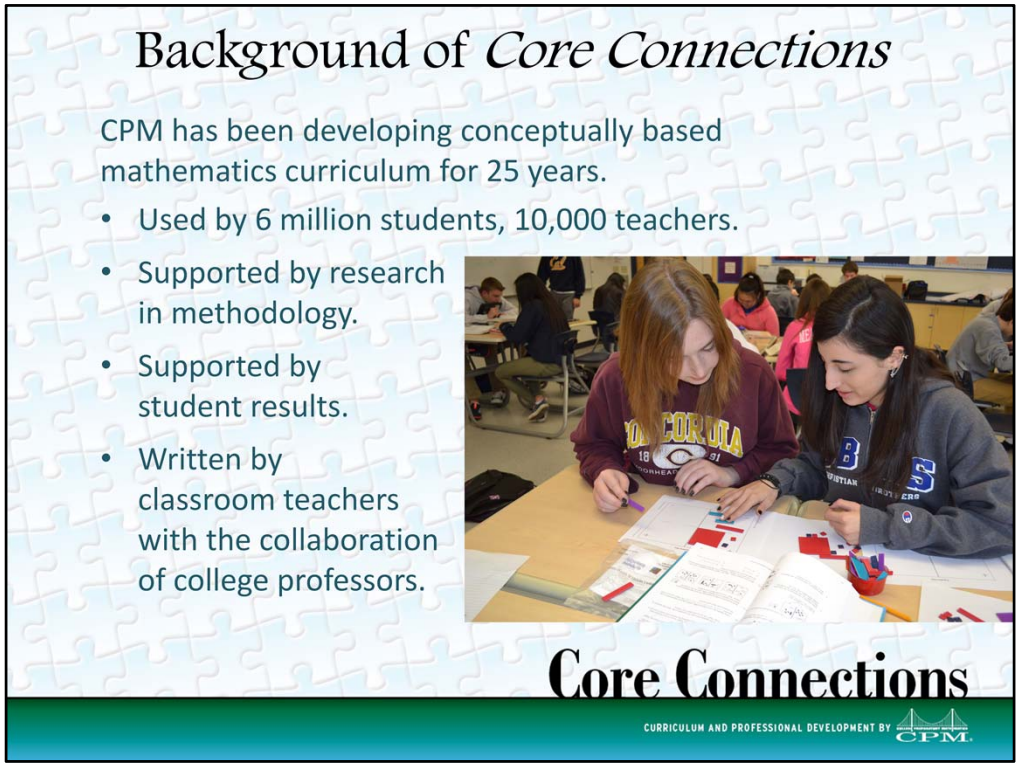
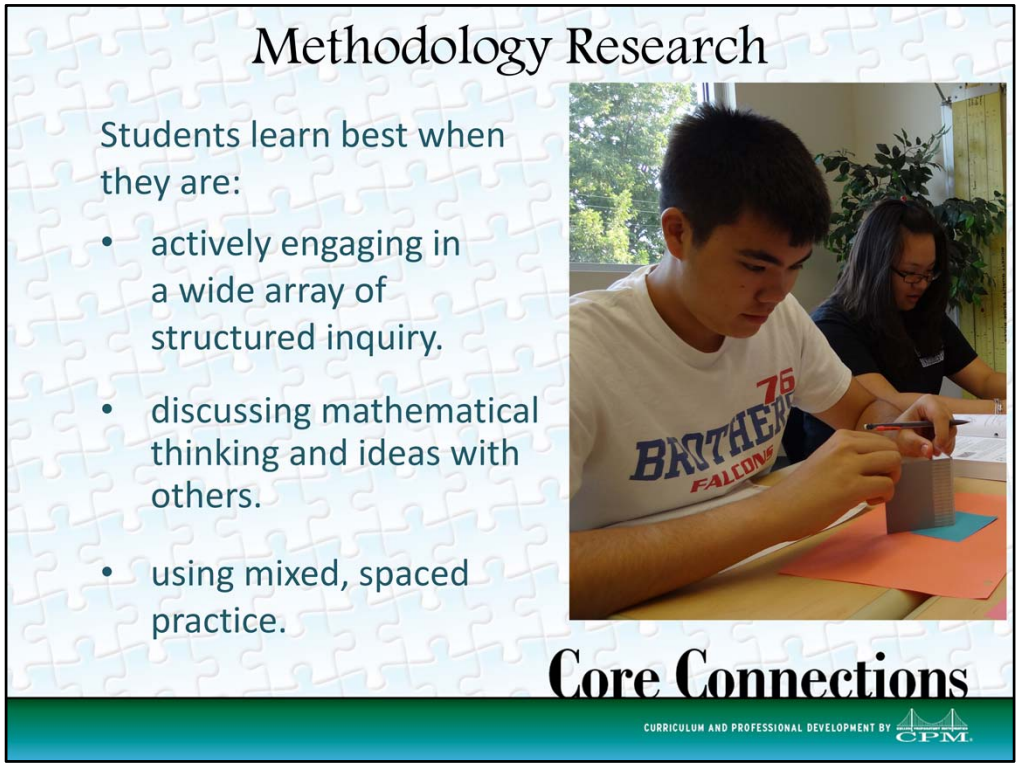


Introduce yourself.
Change the name out and put your information here.



History:
CPM is a non-profit organization that has developed mathematics curriculum and provided its teachers with professional development support since 1989. CPM used two Eisenhower grants to develop its original high school program concurrently with the release of The National Council for Teachers of Mathematics (NCTM) Standards and the funding of other curricular programs by the National Science Foundation (NSF). CPM writers designed a curriculum based on the NCTM standards that is a blend of traditional and integrated approaches. Our textbooks are written mainly by middle school and high school classroom teachers in collaboration with university professors in mathematics and education.
Ten years later the CPM high school courses were selected by the U.S. Department of Education as one of the five exemplary mathematics programs in the country. This process included providing an independent panel of researchers with evidence of CPM's effectiveness.
In 1993 CPM began self-publishing the materials. By retaining editorial control of the courses, the Directors and teacher-authors can provide materials that allow teachers to use the "best practices" of teaching mathematics on which the books are based. We also decided to print the books in black and white so that distractions are reduced and their focus is on mathematics. This format, along with the option of soft or hard bound

bindings, also saves you money with lower textbook costs. We also have the option of eBooks.



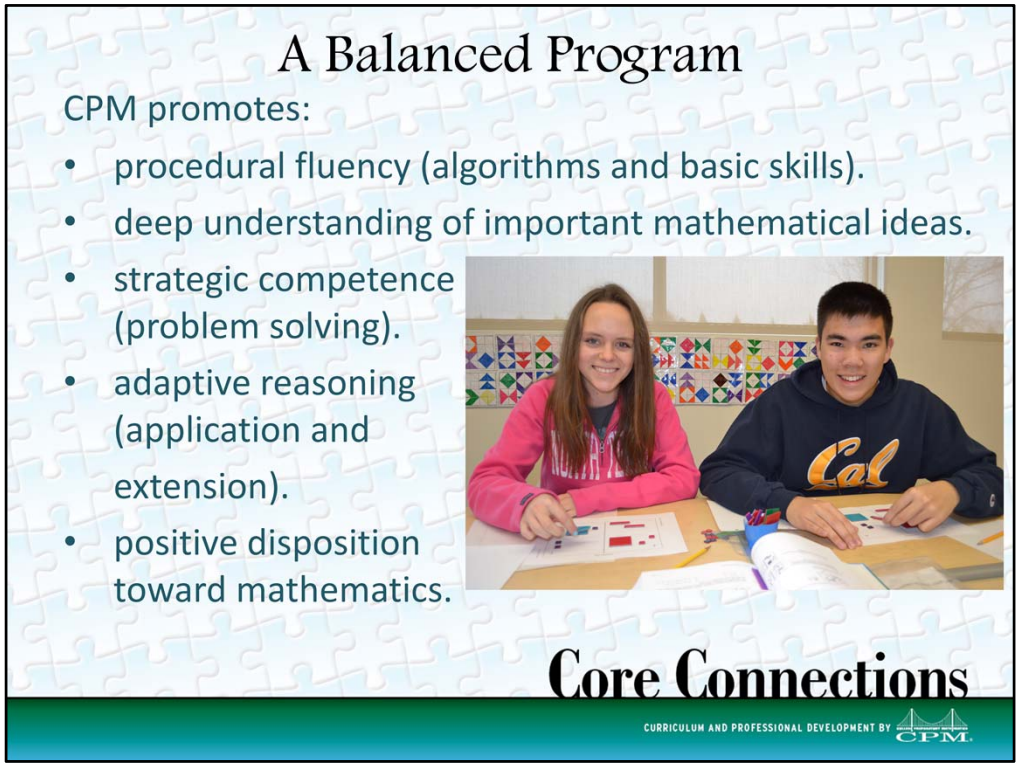
Long-term retention of mathematical knowledge.

The CPM curriculum is based on contemporary research. We have monitored the progress of teachers and students using CPM materials. Problem based learning raises. the level of thinking required

Our primary goal is the **long-term retention of mathematical knowledge**.

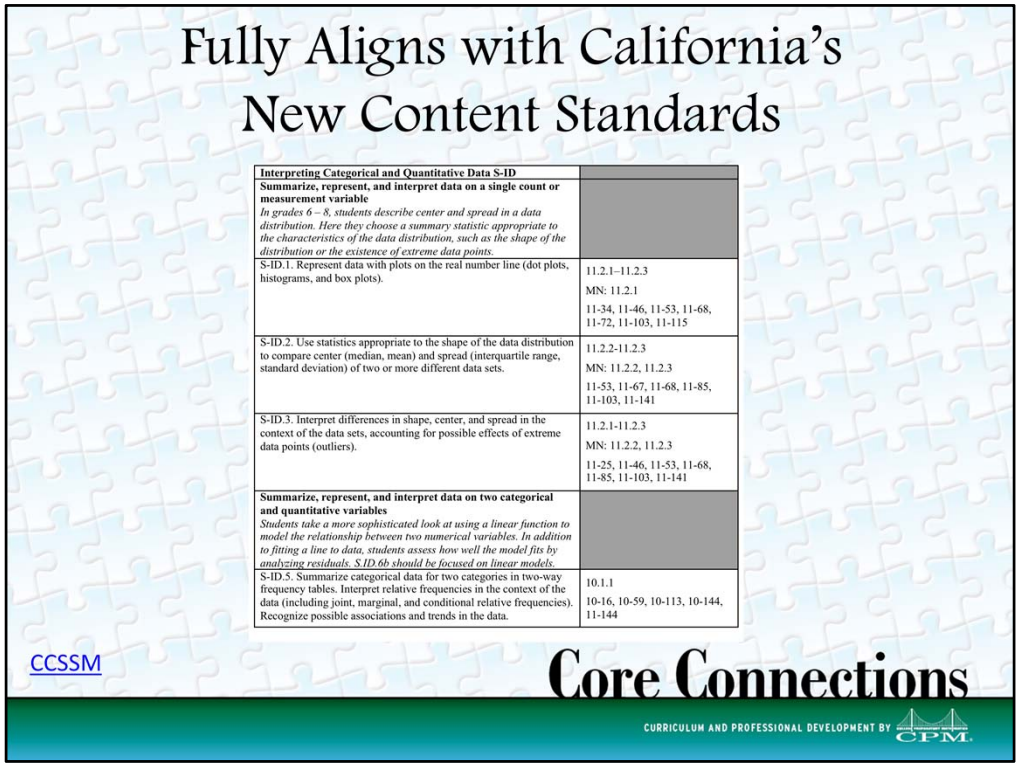
The research base supports three fundamental principles:

1. Social interaction increases the ability of students to learn ideas and integrate them into existing cognitive structures. **Hence, CPM lessons use study teams.**
2. The integration of knowledge is best supported by engaging in a wide array of problems around a single idea. **Hence, CPM lessons are problem-based.**
3. Long-term retention and transfer of knowledge are best-supported by spaced practice. **Hence, CPM spreads practice with ideas over days, weeks, and months.**



Core Connections does not emphasize problem solving with a disregard for skills, nor does it focus solely on skills without attention to real world problems. Students understand the importance of both, and learn to use the appropriate skills at the appropriate times.

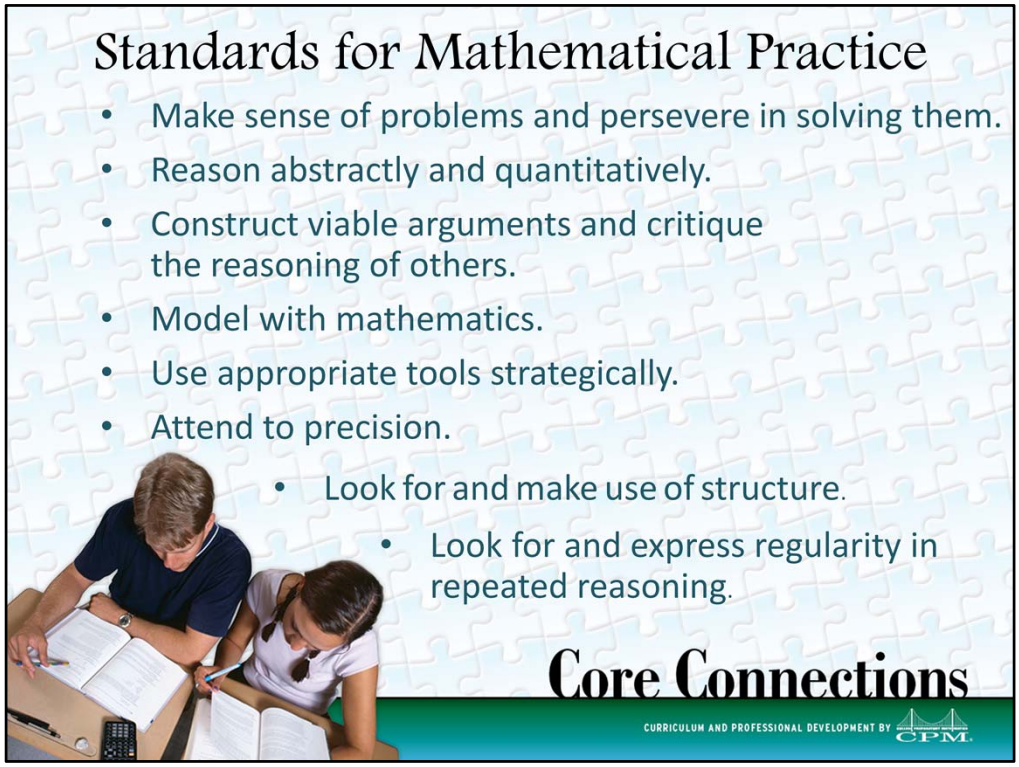
The document Adding It Up (early 1990s) discusses the power of problem-based learning and was a key document in the creation of CCSS. It discusses the fluency, deep understanding, etc., and supports CPM's goals.



This can be found at cpm.org//teachers/reference.htm… Click link CCSSM to go to it directly, if you have internet and choose to do so.
Our CC books are 100% correlated to CCSS including the (+) standards. CC 1-3, CCA have been independently verified by CA DOE.

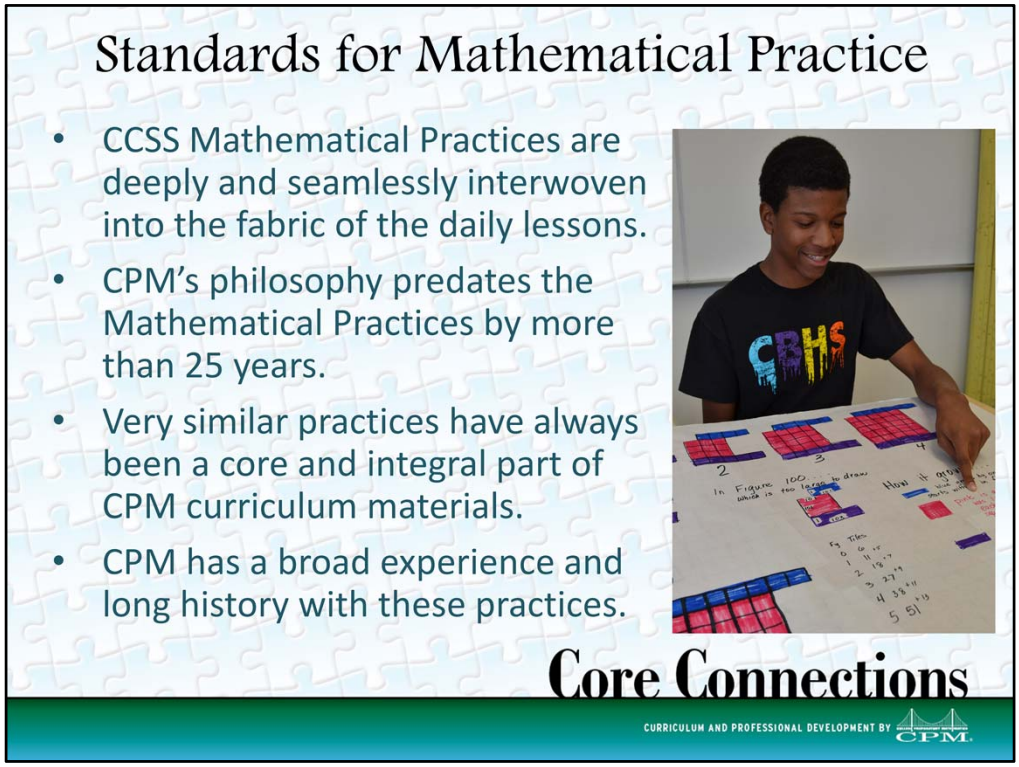
Other references related to the slide:

(1) Standard correlations available at website cpm.org//teachers/reference.htm and through eBook
(2) Additionally at website are reverse correlations (lesson to standard) and practices correlations
(3) Correlations show where taught, where formalized (MN), and some examples of additional practice



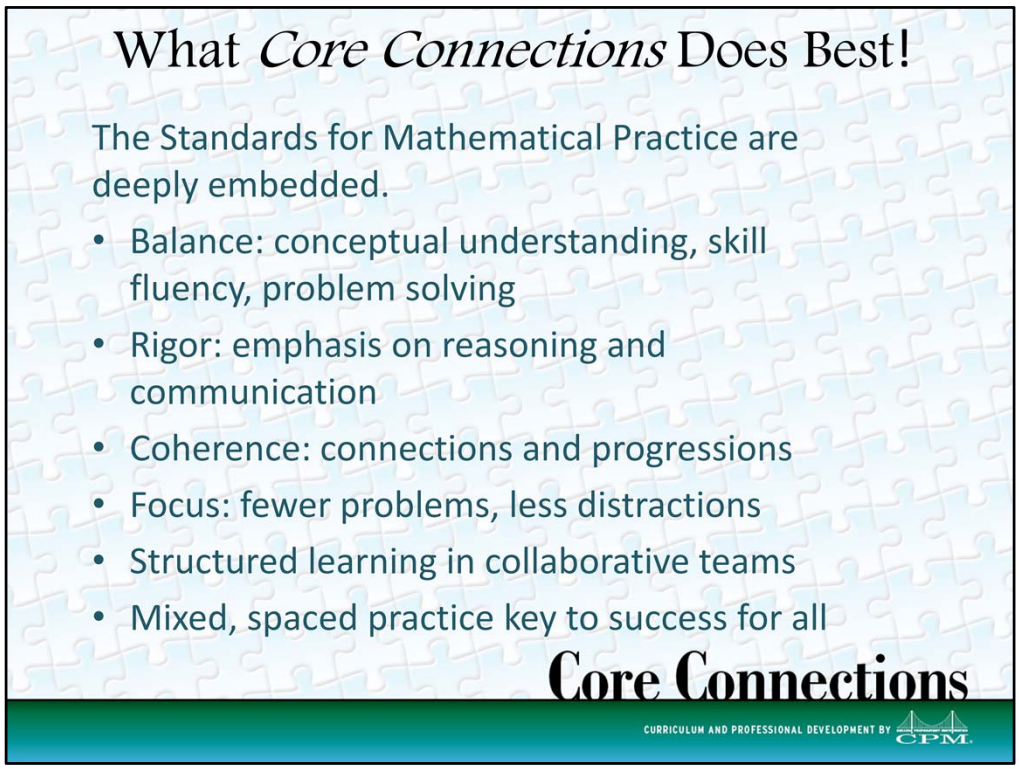
http://www.cpm.org/teachers/CCSS_Practices.htm for how CPM is aligned to the SMPs (standards for mathematical practices)
NOTE: the point of this slide is NOT to read through and discuss the practices. People know about the practices! What is important is the following statement and the next slide.

"Aligning curriculum to content standards is easy. Blending the math practices into every lesson is another matter. CPM has 25 years of experience writing lessons for mathematics textbooks that embed the mathematical practices in them."



http://www.cpm.org/teachers/CCSS_Practices.htm

Above it says "Very similar practices." Those "similar practices" are the NCTM principles and standards. CPM took the NCTM Principles and Standards to heart and incorporated these into their books in the beginning. They have always been a part of the materials.

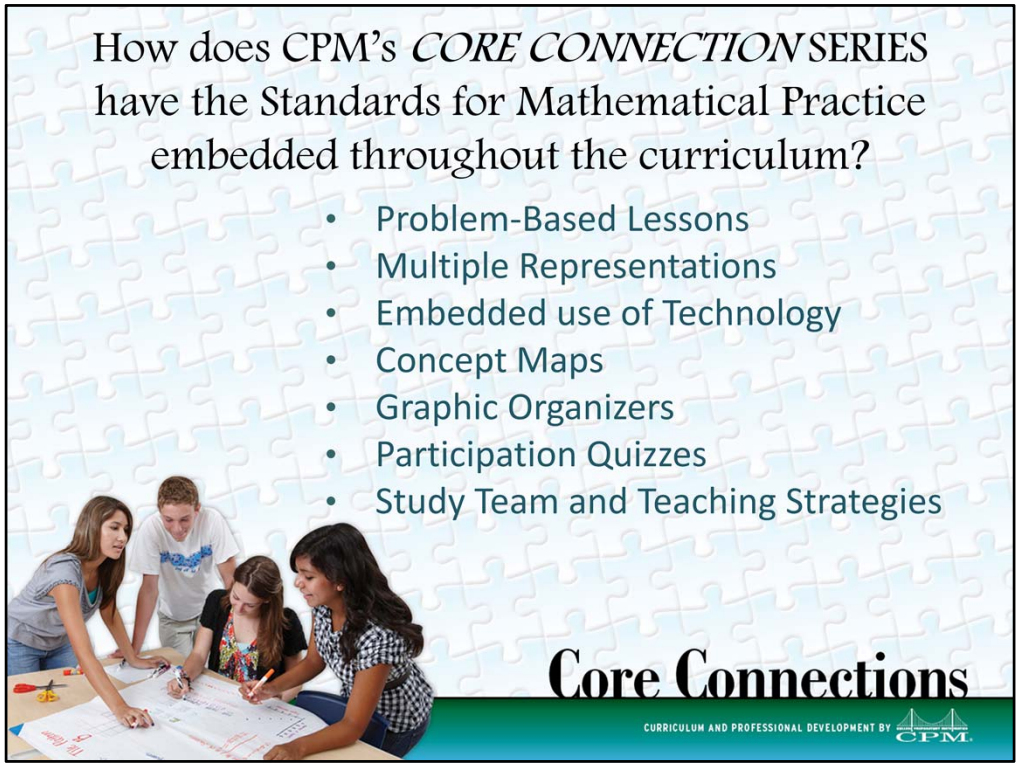


For rigor: procedures are based on principles of math, not mnemonics

Emphasis is on reasoning, critical analysis, gathering evidence, students justify their thinking and communicating of mathematical arguments are constantly expected

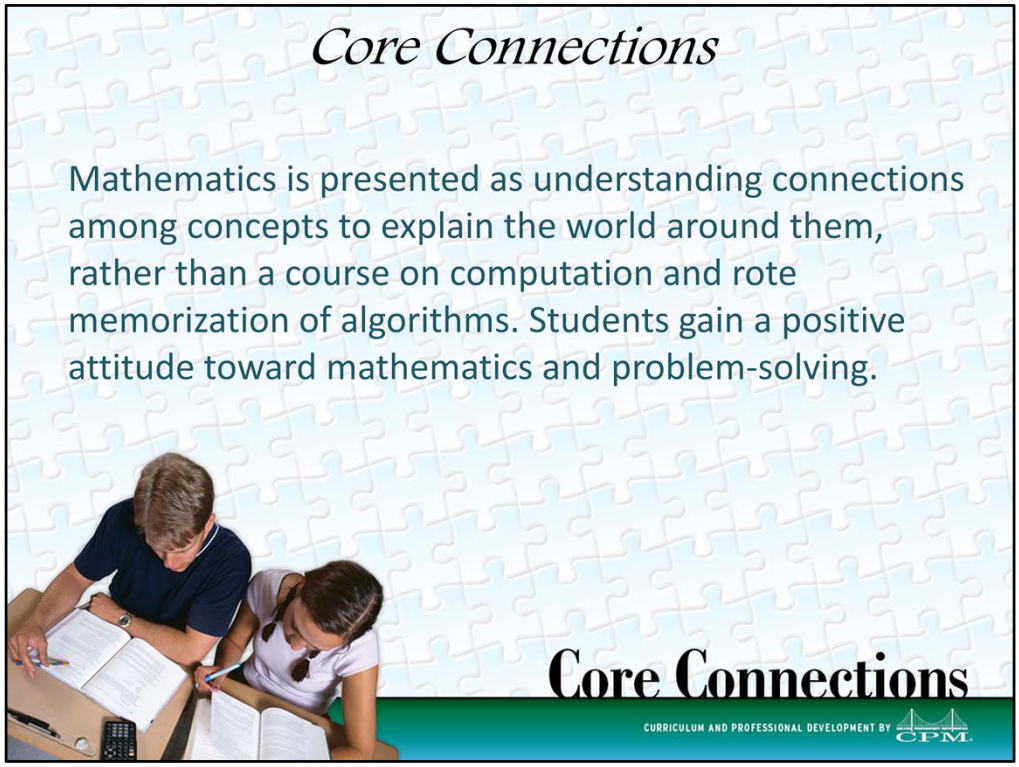
For Coherence: Connections and progressions between topics – not a series of content standards, focus is on the big ideas.

For Focus: Fewer problems allow for more concentration and perseverance, non routine problems encourage transference and opportunities for extensions, team worthy problems require reasoning and are engaging, variety of outcomes: reports, diagrams, models, presentations

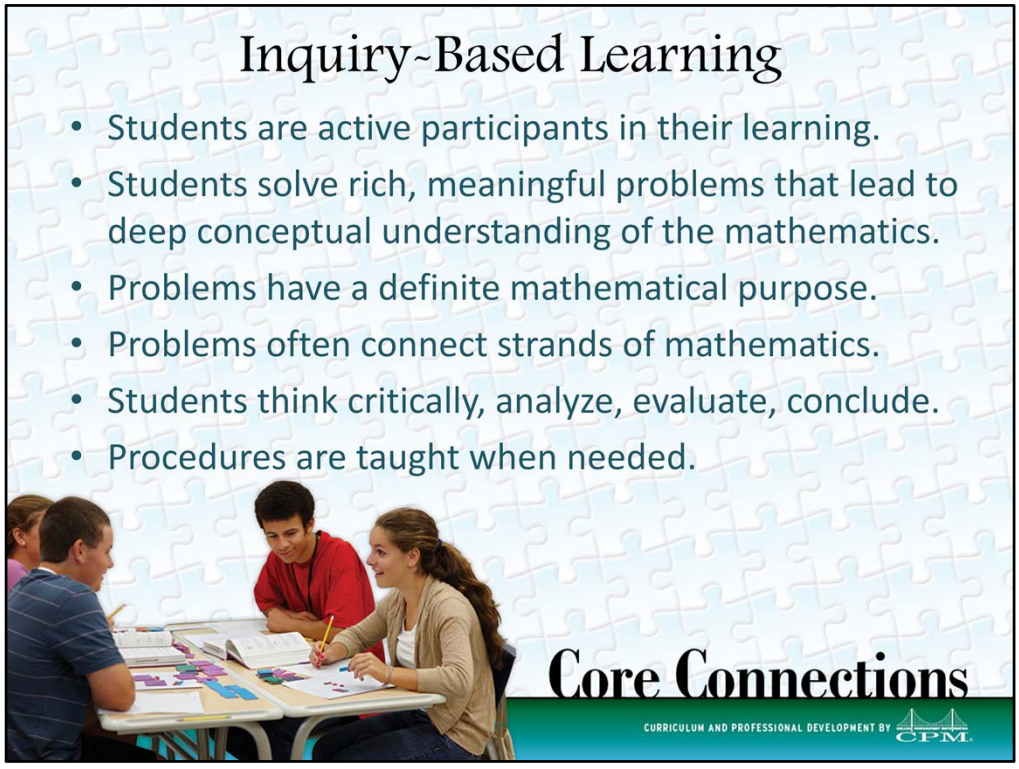


These are just a few examples. Please expand as needed and according to your audience's wants/needs.

Worth stating how these ARE the practices. For instance, by having problem-based lessons, students are taught that they must persevere when working through problems and they learn to use appropriate tools. Also, with teams, students are constantly convincing their group, i.e. constructing viable arguments and constructing the reasoning of others.



This sums it up.
Please note: the statement “students gain a positive attitude toward mathematics and problem-solving” is based on teachers’ comments to us.
Students biggest complaint is that they have to think too much. But they will also note that they never forget anything because of the spaced practice.



This outlines what Inquiry based learning is. Emphasize that we are (1) Problem-based learning, and (2) have a structured approach. CPM's Core Connections is NOT a "free exploration" or a place where students reinvent everything, trying to recreate all of mathematics from scratch. It is structured, and with the problems the way they are written, the strategic placement of the Math Notes AND (most importantly) the teacher's active involvement in the student learning, students are carefully guided to the CORRECT and necessary mathematics. Also, CPM's problems require students to work with a higher level of Webb's Depth of Knowledge.

Big Ideas Develop Over Time

Core Connections, Course 2

Thread Showing Development and Practice for
Operations with Integers (including simplifying expressions/solving equations)

Developmental Work:

Lesson 2.2.1 (2-31 to 2-35)
Lesson 2.2.2 (2-42 to 2-50)
Lesson 2.2.3 (2-56 to 2-61)
Lesson 2.2.4 (2-67 to 2-78)
Lesson 3.1.1 (3-1 to 3-6)
Lesson 3.1.2 (3-12 to 3-17)
Lesson 3.2.1 (3-24 to 3-33)
Lesson 3.2.2 (3-39 to 3-45)
Lesson 3.2.3 (3-51 to 3-58)
Lesson 3.2.5 (3-78 to 3-81)
Lesson 3.3.3 (3-112 to 3-119)
Lesson 4.3.3 (4-103 to 4-111)
Lesson 6.1.1 (6-1 to 6-5)
Lesson 6.1.2 (6-12 to 6-15)

Mixed, Spaced Practice in addition to the developmental problems:

2-37, 2-38, 2-40 (e), 2-51, 2-52, 2-53, 2-62, 2-63, 2-79, 2-85, 2-92, 2-116, 2-127, CL 2-131, CL 2-132, CL 2-133, 3-7, 3-8, 3-19 to 3-21, 3-34 to 3-36, 3-46, 3-47, 3-59 to 3-61, 3-63, 3-69 to 3-71, 3-74, 3-76, 3-82, 3-83, 3-88, 3-91, 3-93, 3-94, 3-96, 3-103, 3-111, 3-114 to 3-118, 3-120 to 3-122, 3-123, 3-126, 3-128, 3-129, CL3-130, CL 3-131, 4-6, 4-10, 4-16, 4-19, 4-31, 4-32, 4-44, 4-53, 4-63, 4-83, 4-101, 4-113, 4-119, CL 4-123, CL 4-124, CL 4-126, 5-13, 5-21, 5-33, 5-41, 5-64, 5-74, 5-92, 5-102, 5-113, 5-124, 5-125, 5-140, 5-141, 5-145, 5-148, CL 5-154, CL 5-155, 6-6, 6-8, 6-17, 6-19, 6-23 to 6-25, 6-43, 6-44, 6-57, 6-58, 6-59, 6-62, 6-64, 6-65, 6-67, 6-71 to 6-74, 6-76, 6-79, 6-81, 6-85, 6-87, 6-88, 6-90, 6-102, 6-112, 6-118 to 6-121, 6-125, 6-129, 6-133, 6-137, CL 6-147, CL 6-148, 7-13, 7-23, 7-34, 7-37, 7-44, 7-50, 7-62, 7-68 to 7-71, 7-84, 7-103, CL 7-121, CL 7-123, 8-9, 8-10, 8-14, 8-37, 8-40, 8-48, 8-62, 8-101, 8-107, 8-109, CL 8-110, 9-40, 9-49, 9-69, 9-70, 9-80, CL 9-100. 162 problems.

Core Connections

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Let's try a 6th Grade Problem

1.1.3 How does it grow?

Describing and Extending Patterns

Patterns are everywhere! You may have noticed them in pinecones, flowers, stacks of cans in the grocery store, or many other places. Patterns are interesting partly because of the different ways that you can see how the parts of a pattern are changing. In this course, you will often look for different ways of seeing a pattern or concept. As you study the pattern in this lesson, work with your team to find several ways to see and describe the pattern and how it is growing. The following questions can help guide your discussion.

- How can we describe the pattern?
- Is there another way to see or describe it?
- Does anyone see it differently?

1-15. DOT PATTERN

Examine the dot pattern at right:

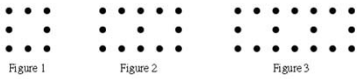

Figure 1 Figure 2 Figure 3

a. What should the 4th and 5th figures look like? Draw them below.

b. How can you describe the way the pattern is growing? Can you find more than one way?

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What kind of mathematical thinking did you see evidence of in this problem?

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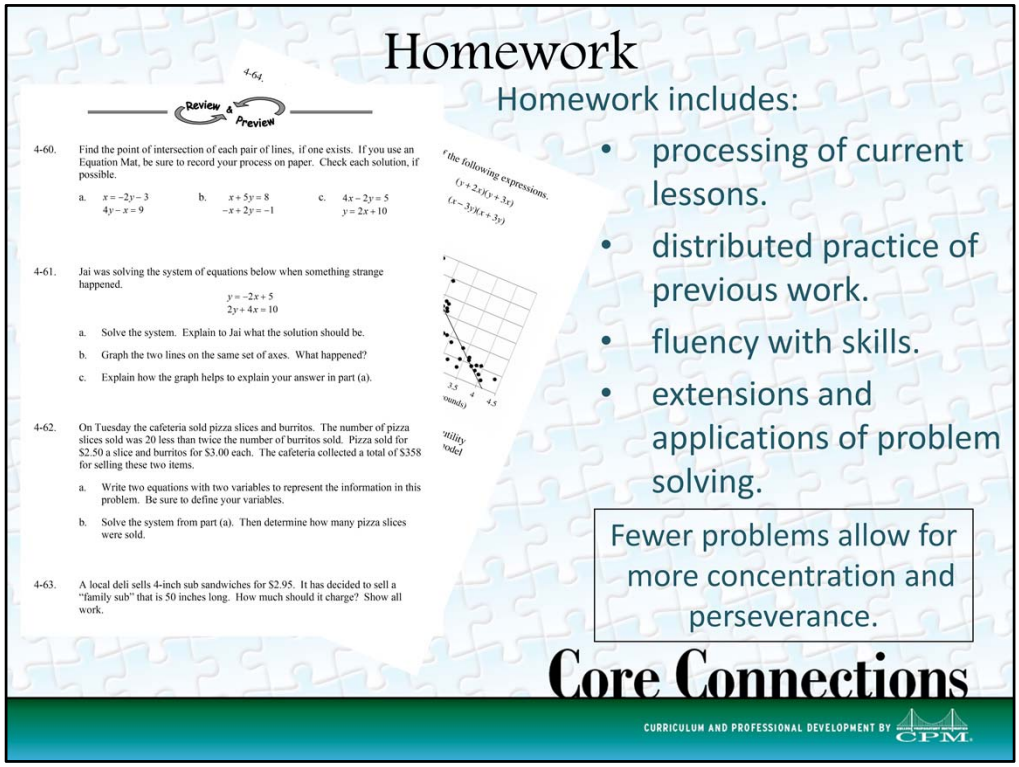
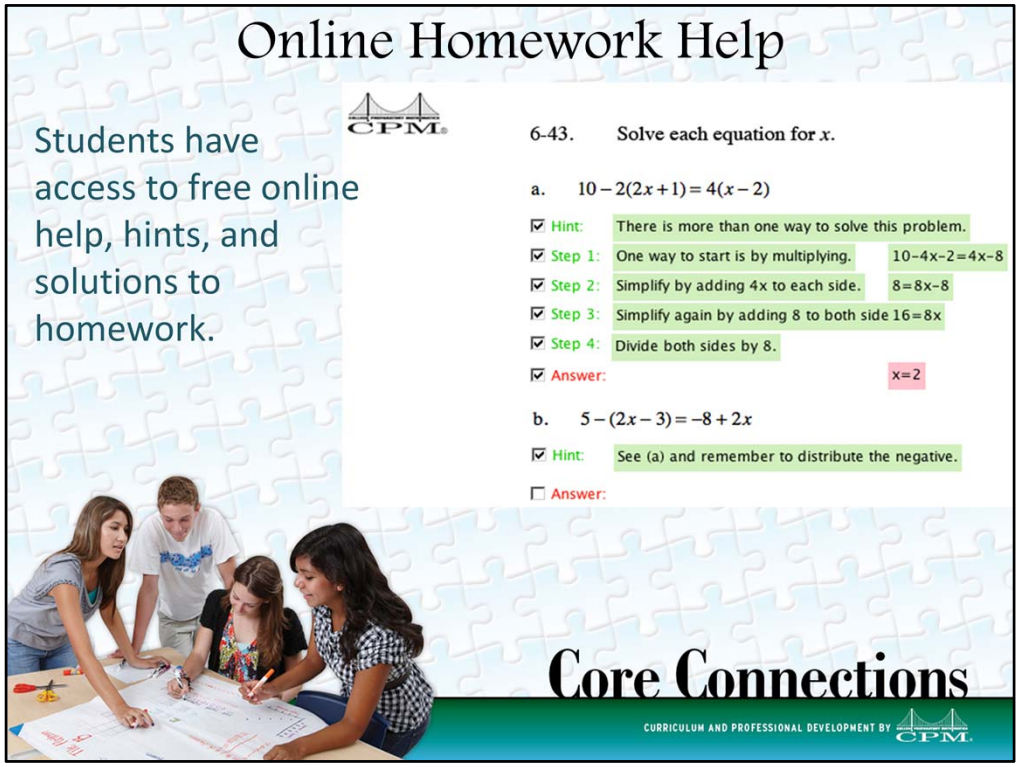
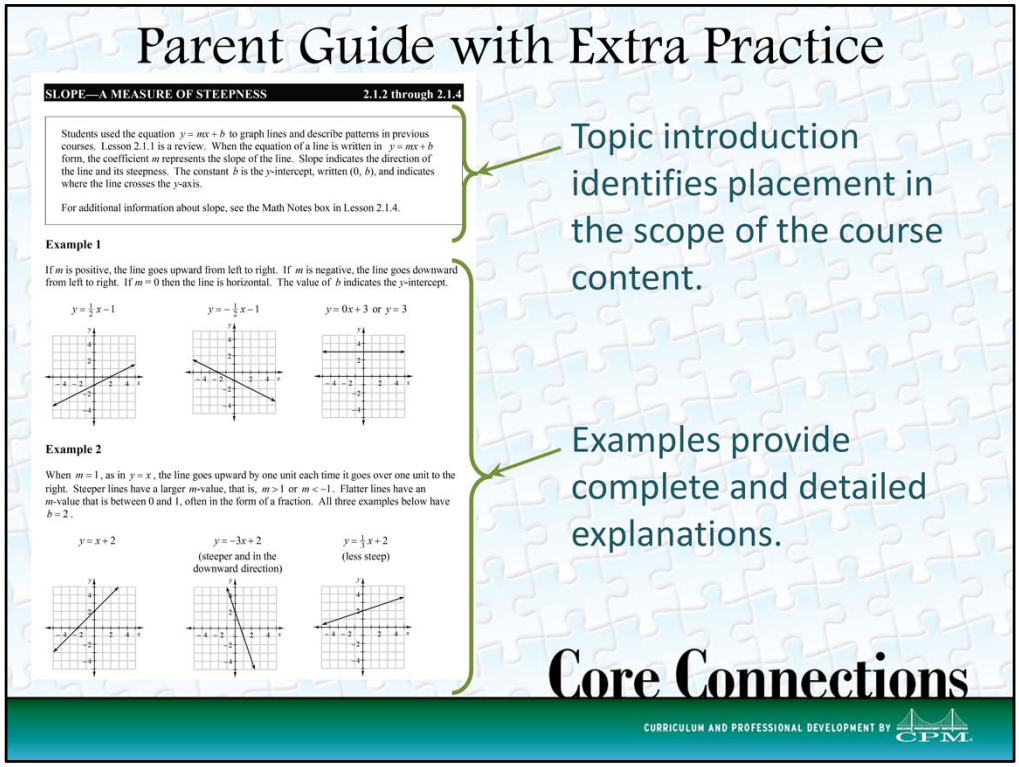


Homework assignments are designed to:

- Offer practice with the day's topic,
- Include spaced practice to reinforce and deepen the knowledge of previous topics,
- Provide extensions and enrichments of some topics, and
- Occasionally contain a pre-problem that anticipates an upcoming topic.

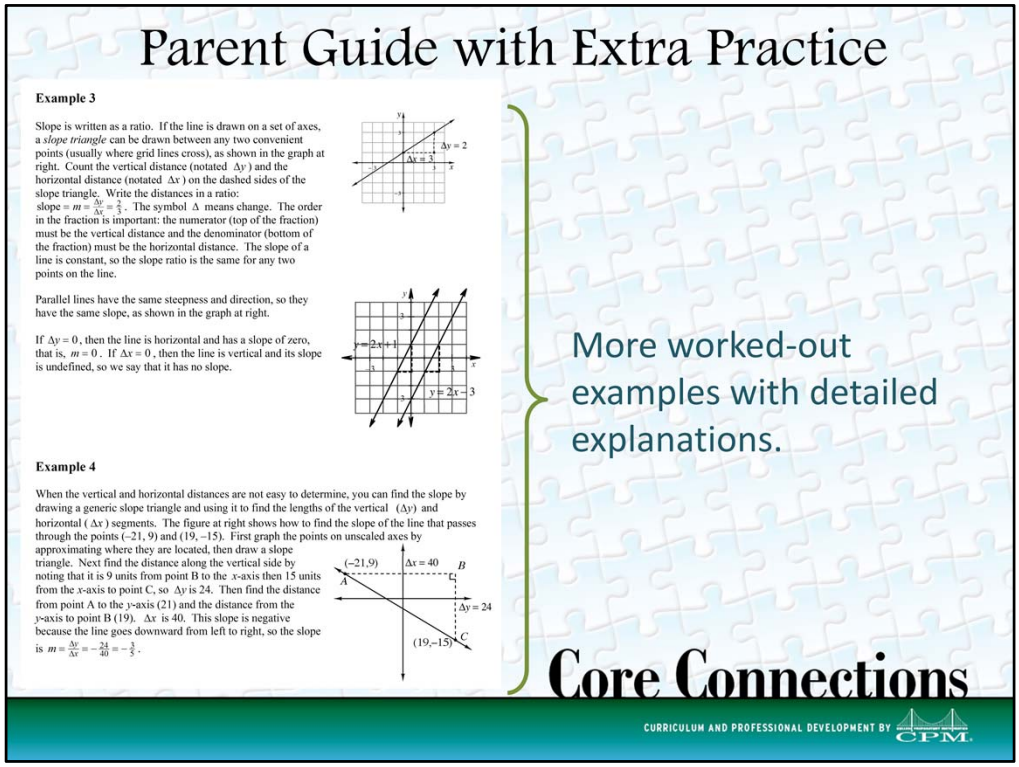


Can be accessed online through the student portal or through the eBooks.
All CC edition textbooks now include an ebook so students have access to all support materials, including the ebooks, at home. eBooks require internet access.



The Parent Guide presents the ideas for each chapter using a direct instruction mode so that parents can quickly review topics to help their child. This resource is available in print form or as a free download from the CPM website.
We want to stress that our field-testing and subsequent usage show that students who complete the lessons as intended, including homework, have adequate practice and master the material. However, should students need additional practice or an alternative explanation of the topic, teachers can integrate these resources to differentiate instruction for students.

If teachers need help with the mathematics of the lesson, the Parent Guide booklet augments the support found in the lesson plan notes. Also, some teachers find these helpful when a student has been absent for an extended period of time.



(You can go through this slide quickly. It is just evidence that there are worked out examples.)The examples are given to help parents better understand how to do the problem. It is usually presented the way that they are familiar with solving or explains how CPM is presenting the topic (like with manipulatives or a new idea like Circle the terms instead of PEMDAS).

Parent Guide with Extra Practice

Problems

Is the slope of each line negative, positive, or zero?

1. 

2. 

3. 

Identify the slope in each equation. State whether the graph of the line is steeper or flatter than $y = x$ or $y = -x$, whether it goes up or down from left to right, or if it is horizontal or vertical.

4. $y = 3x + 2$
5. $y = -\frac{1}{2}x + 4$
6. $y = \frac{1}{3}x - 4$
7. $4x - 3 = y$
8. $y = -2 + \frac{1}{2}x$
9. $3 + 2y = 8x$
10. $y = 2$
11. $x = 5$
12. $6x + 3y = 8$

Without graphing, find the slope of each line based on the given information.

13. $\Delta y = 27$ $\Delta x = -8$
14. $\Delta x = 15$ $\Delta y = 3$
15. $\Delta y = 7$ $\Delta x = 0$
16. Horizontal $\Delta = 6$ Vertical $\Delta = 0$
17. Between (5, 28) and (64, 12)
18. Between (–3, 2) and (5, -7)

Answers

1. zero
2. negative
3. positive
4. Slope = 3, steeper, up
5. Slope = $-\frac{1}{2}$, flatter, down
6. Slope = $\frac{1}{3}$, flatter, up
7. Slope = 4, steeper, up
8. Slope = $\frac{1}{2}$, flatter, up
9. Slope = 4, steeper, up
10. horizontal
11. vertical
12. Slope = –2, steeper, down
13. $-\frac{27}{8}$
14. $\frac{3}{15} = \frac{1}{5}$
15. undefined
16. 0
17. $-\frac{16}{59}$
18. $-\frac{9}{8}$

Practice problems

Answers for every practice problem

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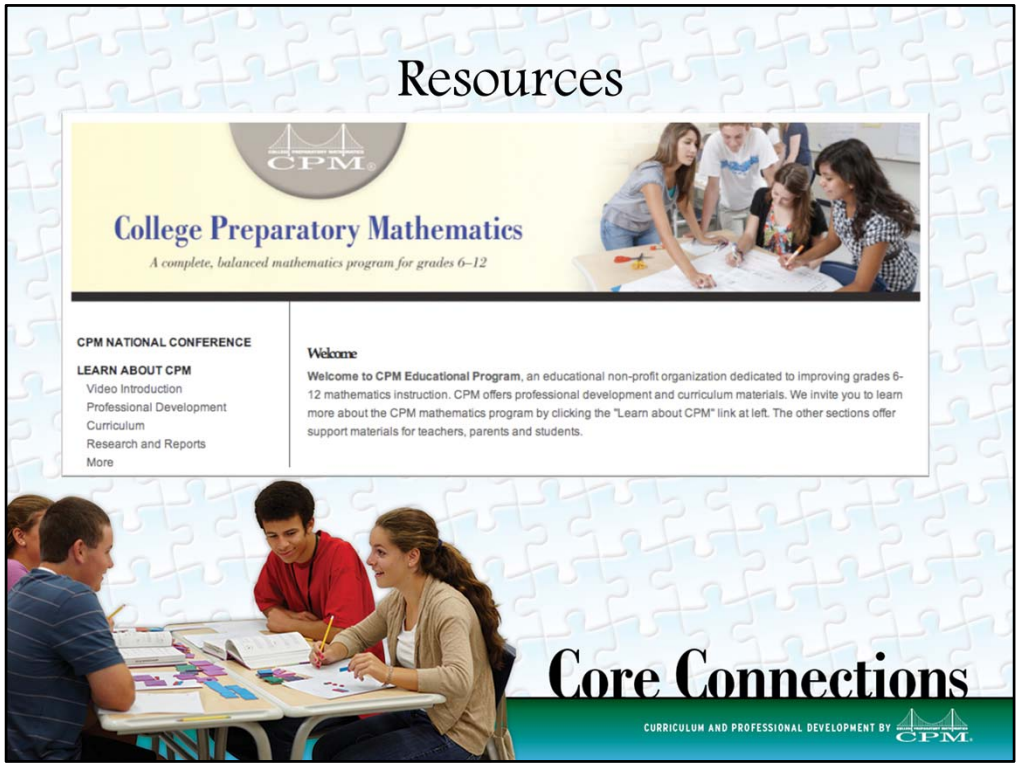
Practice problems and answers are included.

Take a trip through the web site, if possible. Make sure to show applets, homework help, teacher/parent/student portals….
The blue link is a hyperlink to use, if you have time. Then you won't need the three slides that follow.


Resources
College Preparatory Mathematics
A complete, balanced mathematics program for grades 6–12
CPM NATIONAL CONFERENCE
LEARN ABOUT CPM
Video Introduction
Professional Development
Curriculum
Research and Reports
More
Welcome
Welcome to CPM Educational Program, an educational non-profit organization dedicated to improving grades 6-12 mathematics instruction. CPM offers professional development and curriculum materials. We invite you to learn more about the CPM mathematics program by clicking the "Learn about CPM" link at left. The other sections offer support materials for teachers, parents and students.
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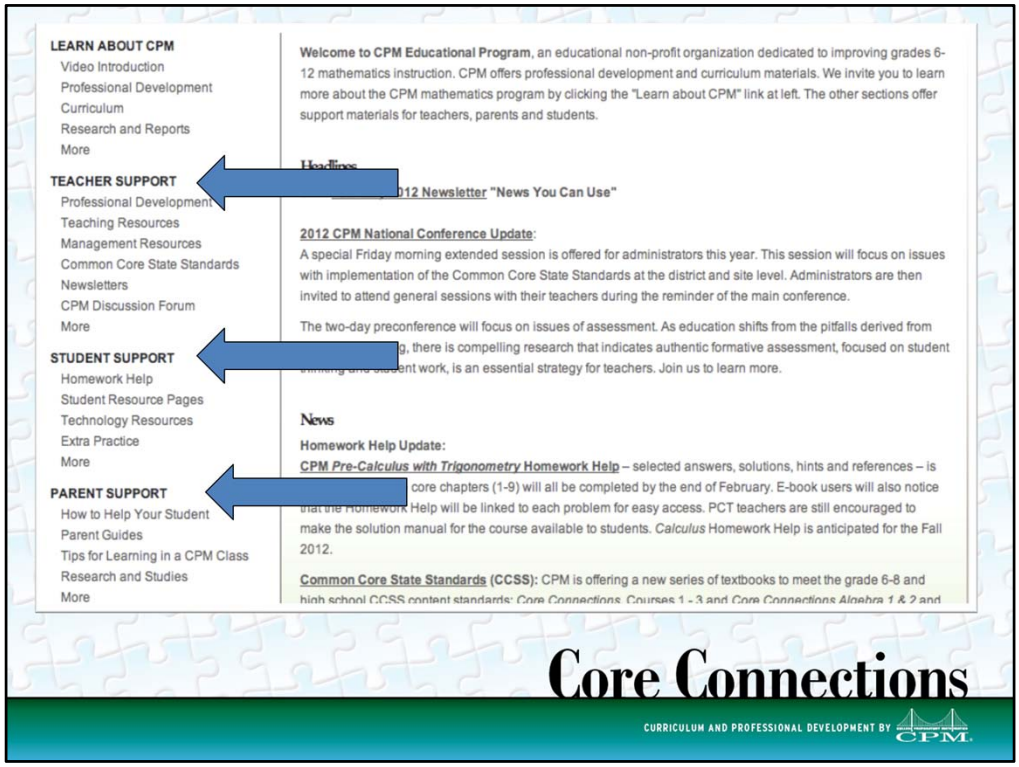
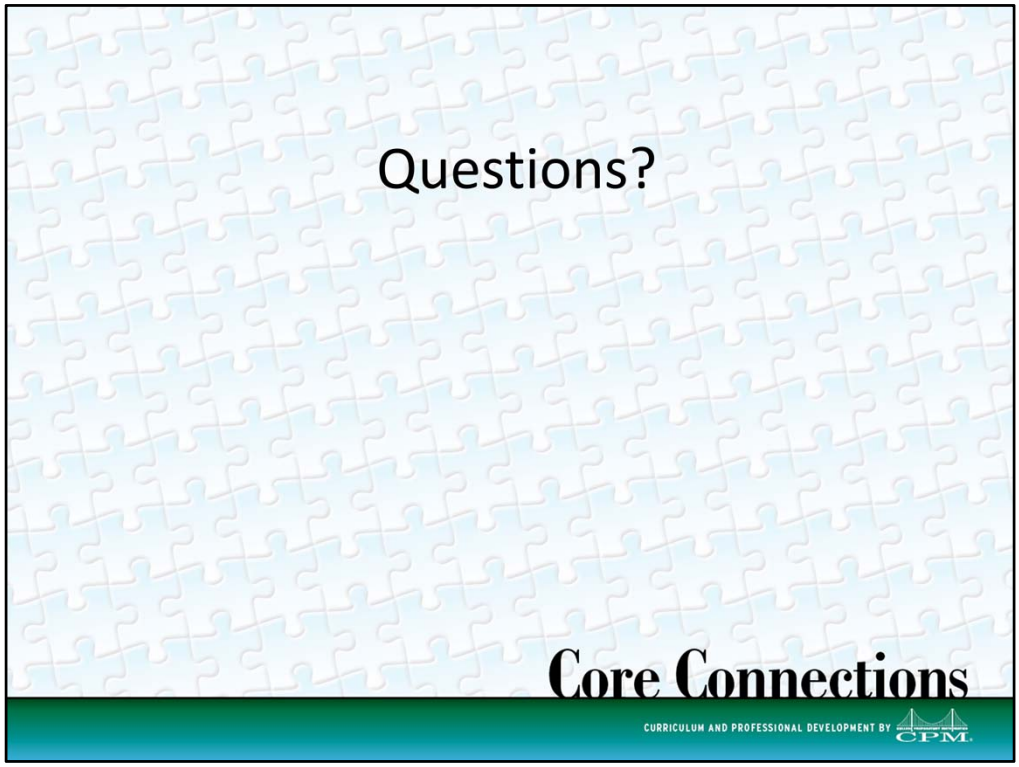
Home page



Teacher, Parent and Student portals. Give a few examples of what they can find under each portal.


Questions?
Core Connections
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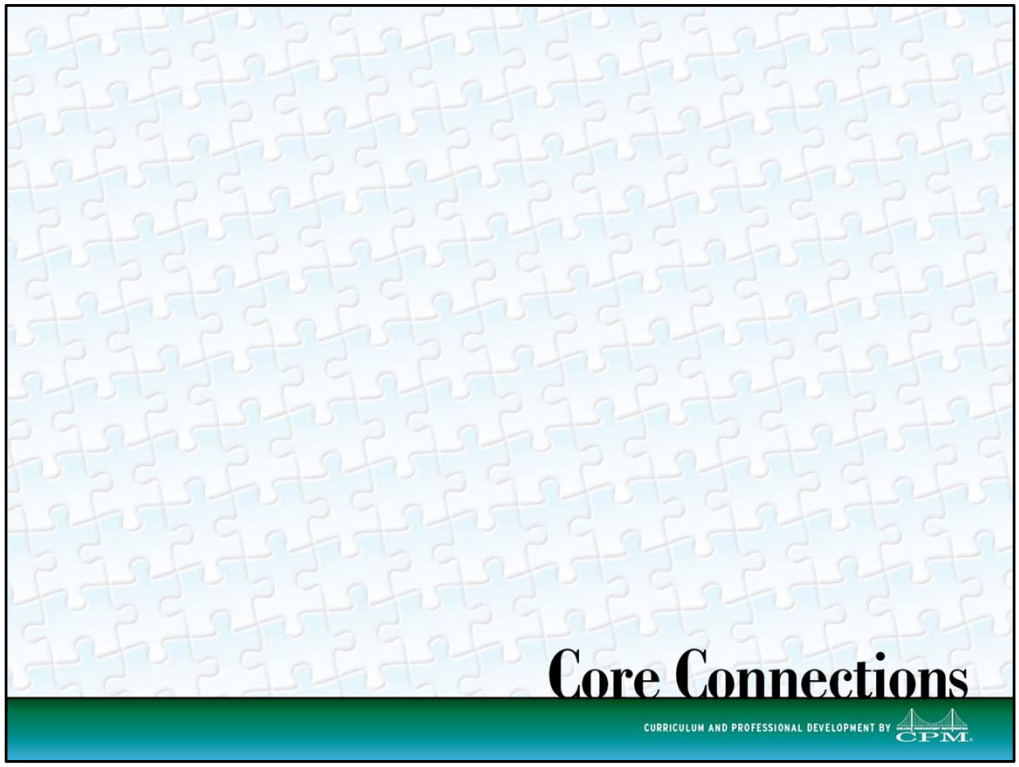
CPM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CPM