



Eight Habits to Develop
CRITICAL Thinkers
and CONFIDENT
Problem-Solvers

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Objectives

1. Understand how the Common Core Standards prepare students for college and career options and align with LAUSD's goals
2. Learn how you can promote positive attitudes about math and help your children think like mathematicians
3. Take back resources and information to use at home to support math learning

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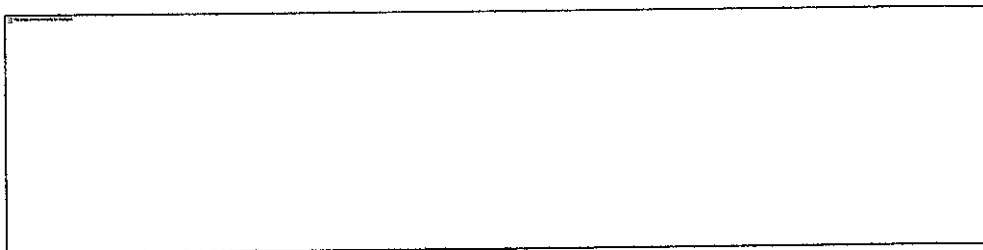
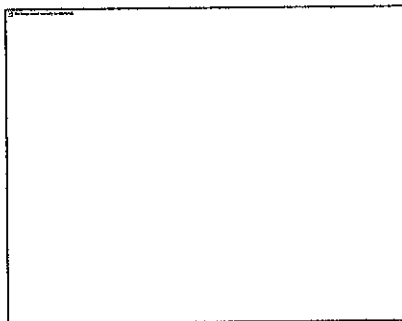
Understand how the Common Core Standards prepare students for college and career options and align with LAUSD's goals

OBJECTIVE 1

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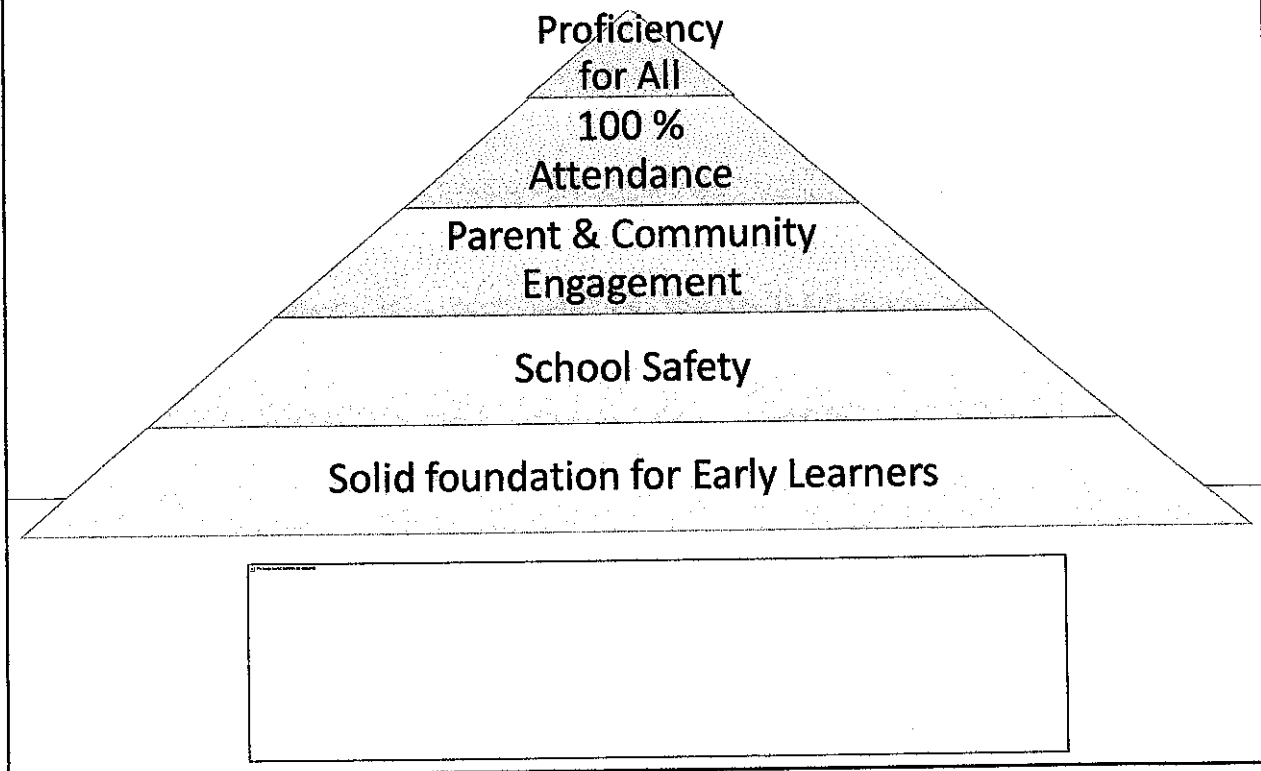
LAUSD Goal

100% Graduation



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LAUSD OBJECTIVES

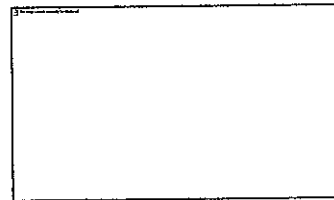


⁷ Common Core State Standards (CCSS) What are they?

✧ The CCSS are the expectations of **what students should know** by the end of each grade level.

✧ The CCSS are relevant, so learning is **linked to the real world** and often across multiple disciplines.

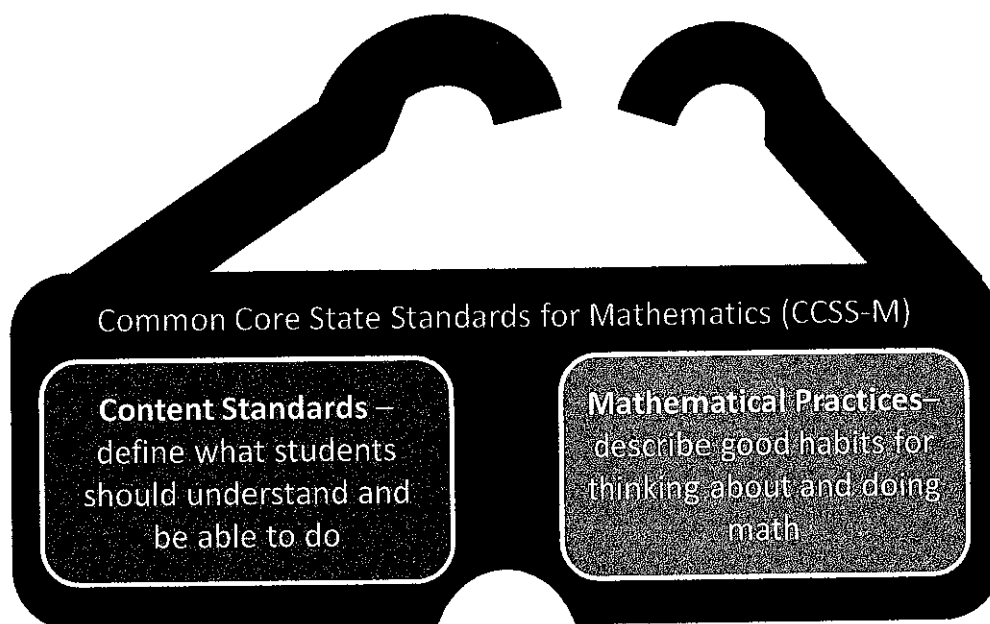
✧ The CCSS ask students to **demonstrate skills and communicate their thinking.**



Learn more at achieve.lausd.net/Page/7532



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Content Standards + Math Practices = CCSS Math

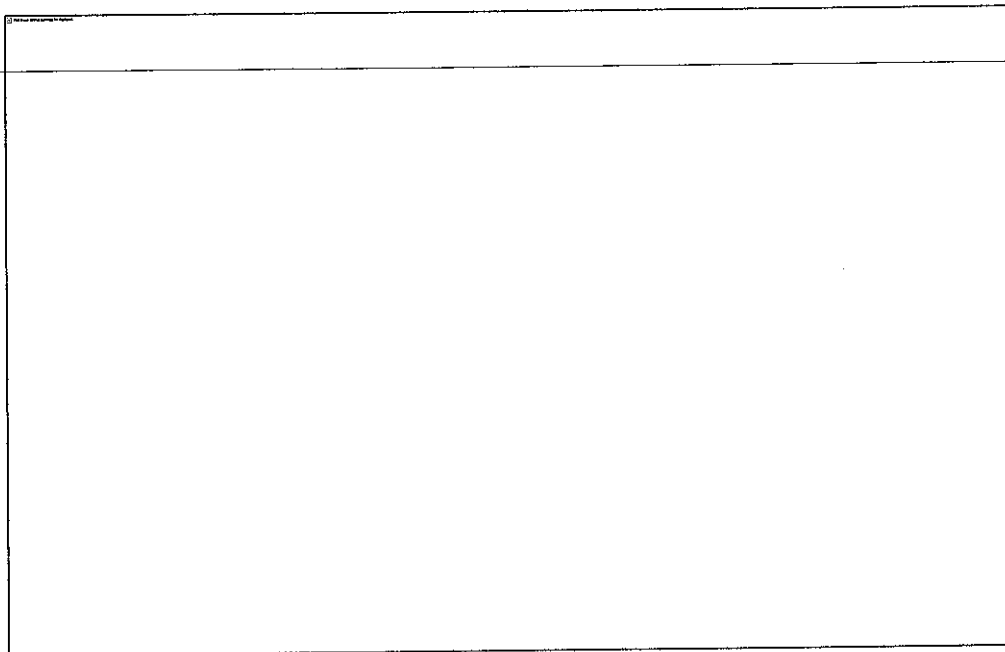
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Learn how you can promote positive attitudes about math and help your children think like mathematicians

OBJECTIVE 2

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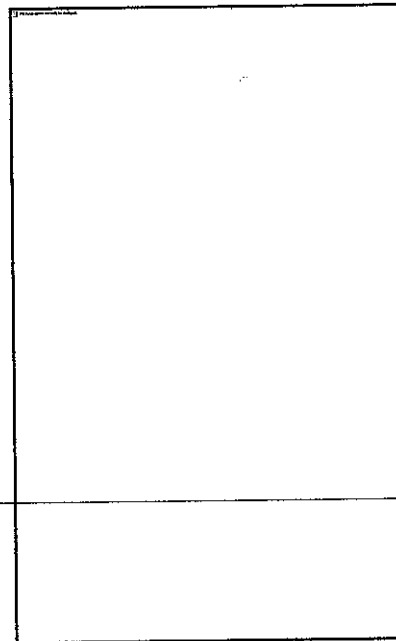
8 Math Practices Gallery Walk



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Math Practice 1

*Mathematically proficient students seek to **FULLY UNDERSTAND** what they're being asked to do and aren't afraid to **TRY AGAIN** if they don't succeed the first time.*



What are some personal ways you can apply this practice?

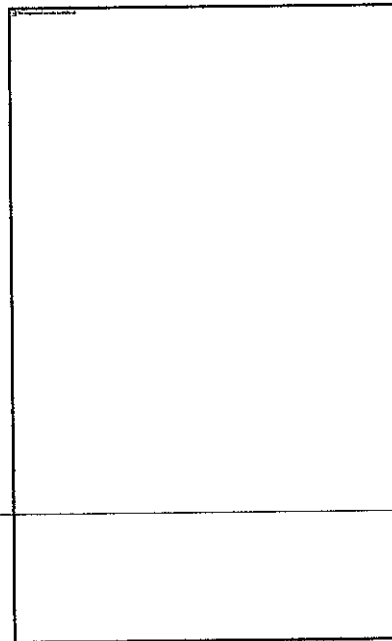
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Math Practice 2

Mathematically
proficient students
MAKE SENSE of
numbers and amounts.
They think about how
the numbers in the
problem **RELATE** to one
another.

$$12 - 2 - 3 = 7$$

$$2x - 2 - 3 = 7$$

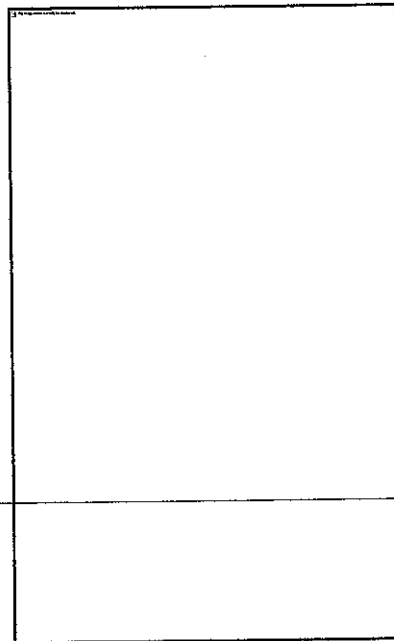


Can you develop a story to go with this equation?

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Math Practice 3

*Mathematically proficient students can **FORM ARGUMENTS** that make sense. They can also **COMPARE** the logic of two competing arguments and identify the one that is correct.*

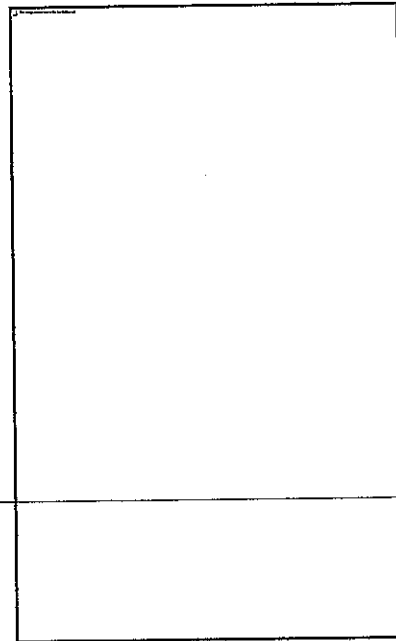


Which of these statements do you think is most useful in real life?

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Math Practice 4

*Mathematically proficient students can **VISUALLY REPRESENT** situations to help them solve problems arising in everyday life, society, and the workplace.*



In which other school subject(s) might students be asked to create or visually represent information?

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Math Practice Problem

Ana can rent a "New Release" DVD for \$2.50 each and a "Movie Classic" DVD for \$1.00 each (including tax).

On Saturday evening, Ana rented 5 DVDs and spent a total of \$8.00.

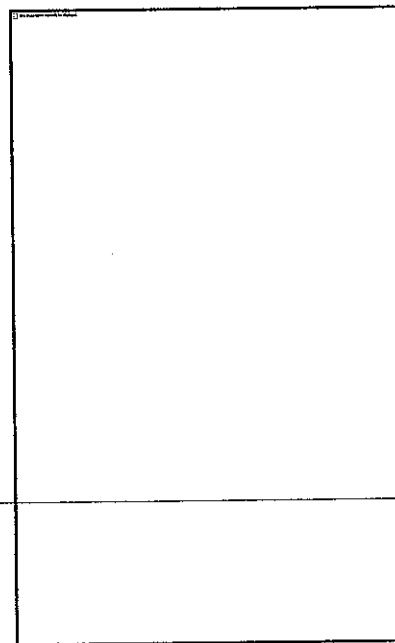
- How many of the 5 rentals were "New Releases" and how many were "Movie Classics"?*

*Adapted from 2011 NAEP Sample Mathematics Problem - Grade 8

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Math Practice 5

*Mathematically
proficient students
consider the available
TOOLS when solving a
mathematical problem.*

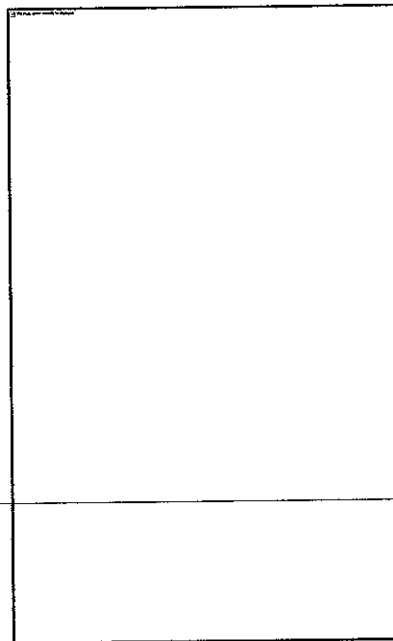


*What are the tools of mathematics? When is it
appropriate to use them?*

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Math Practice 6

*Mathematically proficient students **COMMUNICATE PRECISELY**, using clear definitions and specific units of measure. They calculate accurately and efficiently.*

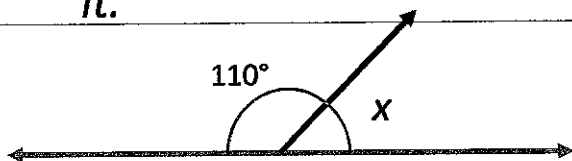


Why is precision a good life-skill?

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Math Practice 7

Mathematically proficient students can view problems from multiple perspectives, **SEEING STRUCTURE** and **MAKING PREDICTIONS** beyond it.



How do students develop their prediction skills?

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Math Practice 8

Mathematically
proficient students
notice if calculations
are **REPEATED**, and look
both for **GENERAL
METHODS** and for
SHORTCUTS.

Example: $\frac{1}{9} = 0.11111111 \dots$ or $.1\bar{1}$

"Ninths shortcut"

$$\frac{2}{9} = 0.22222222 \dots \text{ or } .2\bar{2}$$

What is a benefit of learning a shortcut?

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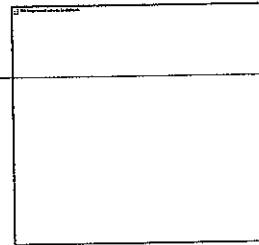
Math Practices in Action

SEAL'S SLEEP

A seal has to breathe even if it is asleep in the water. Martin observed a seal for one hour. At the start of his observation, the seal was at the surface and took a breath. It then dove to the bottom of the sea and started to sleep. From the bottom it slowly floated to the surface in 8 minutes and took a breath again. In 3 minutes it was back at the bottom of the sea again. Martin noticed that this whole process was a very regular one.

After **one hour** the seal was

- a) At the bottom of the ocean floor
- b) On its way up to the surface
- c) Breathing
- d) On its way down to the ocean floor



Source: Adapted from sample PISA Mathematics test question, OCED

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Take back resources and information to
use at home

OBJECTIVE 3