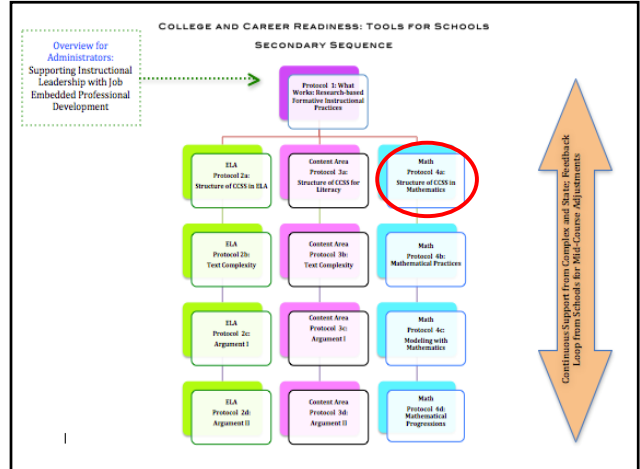


CCR Grades 6 - 8 Math Protocol 4a

Structure of Common Core State Standards for Grades 6-8 Mathematics



Formative Instructional Practices

Where am I going?

How do we make learning targets clear to students so that they have the same understanding of quality as teachers do?

Where am I now?

How does feedback allow students to self assess and set goals?

How do I close the gap?

What opportunities allow students to close the learning gap?



3

Desired Outcomes

- ▶ Understand the structure and design of the CCSS for Mathematics Grades 6-8
- ▶ Discuss the implications for instruction

All Means All

- ▶ The Common Core State Standards articulate rigorous expectations to prepare **all** students to be college and career ready, including English language learners and Special Education Students.
- ▶ These students likely will require additional instructional support.

**Common
Core:
Mathematics
Standards**

**Standards for
Mathematical
Practice
And
Content**

Standards for Mathematical Practices (K-12) Key for Identifying the Components

 Standard Title

{ } Narrative Description

Turn to Standards for Mathematical
Practices (Page 6)

Standards for Mathematical Practice

Follow along with the *Standards for
Mathematical Practice* document –
Practice 1 (page 6)

- ▶ Underline the Standard Title
- ▶ Bracket the Narrative Description

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “mathematical mindsets” that inform effective teaching and learning. Practices that are central to the work of mathematics education in the 21st century include: making sense of problems and persevering to solve them; reasoning abstractly and quantitatively; constructing viable arguments and critiquing the reasoning of others; modeling with mathematics; using appropriate tools strategically; attending to precision; looking for and making use of structure; and recognizing patterns in mathematics.

1. Make sense of problems and persevere in solving them.

Mathematical problems present opportunities for students to demonstrate the meaning of a problem and learning to write solutions to its solution. They analyze goals, conditions, constraints, and data. They make sense of what the text and meaning of the problem and what is asked of them. They think about the problem and what they can do to solve it. They make sense of the problem and what is asked of them. They think about the problem and what they can do to solve it. They think about the problem and what they can do to solve it.

2. Reason abstractly and quantitatively.


Mathematical problems present opportunities for students to demonstrate the meaning of a problem and learning to write solutions to its solution. They analyze goals, conditions, constraints, and data. They make sense of what the text and meaning of the problem and what is asked of them. They think about the problem and what they can do to solve it. They think about the problem and what they can do to solve it.

3. Construct viable arguments and critique the reasoning of others.

Mathematical problems present opportunities for students to demonstrate the meaning of a problem and learning to write solutions to its solution. They analyze goals, conditions, constraints, and data. They make sense of what the text and meaning of the problem and what is asked of them. They think about the problem and what they can do to solve it. They think about the problem and what they can do to solve it.

Underline: Standard title

Bracket: Narrative Description

Standards for Mathematical Practice 

Review the Standards for Mathematical Practice document. Complete the process for Practices two through eight (page 6 – 8)

- ▶ Underline the Standard Title
- ▶ Bracket the Narrative Description

Standards for Mathematical Content

Grade Level Domains	High School Conceptual Categories
<p>K – 5</p> <ul style="list-style-type: none"> ▶ Counting and Cardinality ▶ Operations and Algebraic Thinking ▶ Number and Operations in Base Ten ▶ Number and Operations – Fractions ▶ Measurement and Data ▶ Geometry 	<ul style="list-style-type: none"> ▶ Number and Quantity ▶ Algebra ▶ Functions ▶ Modeling ▶ Geometry
<p>6-8</p> <ul style="list-style-type: none"> ▶ Ratios and Proportional Relationships ▶ The Number System ▶ Expressions and Equations ▶ Functions ▶ Geometry ▶ Statistics and Probability 	<ul style="list-style-type: none"> ▶ Statistics and Probability

K-8 Grade Level Standards for Mathematical Content

Introduction

- ▶ Provides important contextual information and calls out and describes critical areas of focus

Domains

- ▶ Larger groups of related standards

Cluster Headings

- ▶ Overview / quick summary of the mathematical ideas within a domain

Standards

- ▶ Define what students should understand and be able to do

Math **Grade K Overview**

Counting and Cardinality

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

- Work with numbers 11-19 to gain foundations for place value.

Measurement and Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Components: K-8 Mathematics

CLUSTER HEADINGS

Standards within the CLUSTER

FOOTNOTES

Algebraic Thinking

Represent and solve problems involving addition and subtraction


- Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹

Add and subtract within 20.

- Fluently add and subtract within 20 using mental strategies.² By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication

¹See Glossary, Table 1.
²See standard 1.OA.6 for a list of mental strategies.
³Explanations may be supported by drawings or objects.

Turn and Talk 

- How might knowing codes and how they are written help teachers?
- What are some reasons that you came up with?

How to read a Common Core K-8 Mathematics Grade Level Standard

GRADE LEVEL → **3.NBT.1** ← **1ST STANDARD IN THE CLUSTER**

Number & Operations in Base Ten
3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.⁴

- Use place value understanding to round whole numbers to the nearest 10 or 100.


Some standards have subparts that must be taken in conjunction with one another

Footnotes can appear at the Cluster Heading

Code: 3.NF.2a

Footnotes can appear at the Domain

Commitment to Action



As a department:

- Review the deconstructed standards from Arizona
 - What should students know and be able to do?
 - What is the level of rigor?
- What can you do in your classroom to implement the Common Core State Standards in the next month? Year?

RESOURCES

Common Core State Standards
<http://www.corestandards.org/the-standards>

Hawaii Standards Toolkit
http://wetserver.net/hcpsv3_staging/cc/common-core.isp

Unpacked Math Standards (Arizona):
<http://www.azed.gov/standards-practices/mathematics-standards/>

HIDOE Online community
www.edmodo.com

Join the HIDOE Grades 6-8 group [z7cwcc]

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PDE³ Survey Reminder: <https://pde3.k12.hi.us>

Survey

Use any comments section - Rate to the five (5/5/17)

Questions: 1 Rate your satisfaction level on this protocol.

Rate your satisfaction level on this protocol.

Not at all satisfied

Slightly satisfied

Moderately satisfied

Very satisfied

Extremely satisfied

Questions: 2 Rate the level of understanding learned or gained from this protocol.

Rate the level of understanding learned or gained from this protocol.

Not at all

A little

Somewhat

Quite a bit

A lot

Questions: 3 Rate the level of impact this protocol will have on your practice, not at all, A little, Somewhat, Quite a bit, A lot.

Rate the level of impact this protocol will have on your practice.

Not at all

A little

Somewhat

Quite a bit

A lot

Questions: 4 What other resources would be helpful?

What other resources would be helpful?

Feedback

Questions: 5 Any other questions or comments about the material in this protocol.

Any other questions or comments about the material in this protocol.

Thank you for your feedback