

Common Core Instructional Shifts/Emphases in Mathematics

<u>Focus</u>	<u>Coherence</u>	<u>Fluency</u>	<u>Deep Conceptual Understanding</u>	<u>Application</u>
Emphasize depth over breadth. Teach less, Learn better.	Each lesson is not a new event, but builds on the knowledge students bring to each activity/concept/class. Make connections between topics in math.	Students develop mental strategies and flexible thinking to build speed and accuracy in calculations	Students learn more than the trick to get the answer... they learn the math. See concepts from several perspectives. Students see math as more than a set of discrete procedures. Students can write and speak about their understanding	Students can use math and choose appropriate concepts even when they are not prompted to do so. Students apply math in real-world situations. Use math in other content areas to make meaning and access content.

8 Common Core Standards for Mathematical Practices

The 8 MPs serve as a guide for what it means to do math and what it means to be a mathematically proficient student in the Common Core era.

MP1. Make sense of problems and persevere in solving them	MP2. Reason abstractly and quantitatively	MP3. Construct viable arguments and critique the reasoning of others	MP4. Model with mathematics	MP5. Use appropriate tools strategically	MP6. Attend to precision	MP7. Look for and make use of structure	MP8. Look for and express regularity in repeated reasoning
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Depth of Knowledge Levels

The DOK framework is designed to evaluate a task in terms of how deeply a student has to understand the content to be able to successfully complete the task. DOK is not about difficulty, it is about complexity, or depth.

<u>Level 1</u> Recall & Reproduction	<u>Level 2</u> Basic Skills & Concepts	<u>Level 3</u> Strategic Thinking/Reasoning	<u>Level 4</u> Extending Thinking
Requires recall of memorized facts, definitions, simple procedures and rote response. Applying a formula or performing a simple algorithm. Student either knows the answer or does not.	Solve routine problems applying multiple concepts or decision points. Explain thinking/steps. Summarize concepts.	Use concepts to solve non-routine problems. May have more than one answer and/or more than one way to get there. Explain reasoning, especially when more than one way is possible. Key processes: Analyze, explain, support with evidence, generalize & create.	Requires complex reasoning/investigations, often over an extended period of time and with unpredictable outcomes.