

Curriculum Matters: What You Get is What You Teach

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#! eighth grade, however, the U.S. dropped to slightly below average

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%ven our best students did not do &'. &&
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This decline continues so that ! the end of secondary school, our performance is near

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&n! one-third of U.S. graduating seniors can do this
\$roblem, however.
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* A Coherent Curriculum 9 (. 3
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- Our content is not focused :

- Our content is high! re\$etitive 2
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- Our intended content is not ver! demanding
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- Our intended content is incoherent
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The State of State Math Standards

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 Mathematics (CM)

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 \$ Connecting Math Concepts (CMC) Corrective

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<p>&</p> <p>9</p> <p>Memori#ing the \$basic number facts,% i.e., the sums and !roducts of single&digit numbers and the equivalent subtraction and division facts, frees u! working memory to master the arithmetic algorithms and tackle math a! /lications. 'research in cognitive !sychology !oints to the value of automatic recall of the basic facts. Students who do not memori#e the basic number facts will founder as more com!le o!erations are required, and their !rogress will likely grind to a halt by the end of elementary school. There is no real mathematical fluency without memori#ation of the most basic facts.</p> <p>The State of State Math Standards</p>	<p>CMC</p> <ul style="list-style-type: none"> <li>• ?) <li>• @ <li>• <li>• 9 <li>• * 0 A> 4 > 7 <p>CM</p> <ul style="list-style-type: none"> <li>• ?) <li>• @ <li>• @ ; \$ @ \$ A> 4 9
<p>) ?</p> <p>The standard algorithms are !owerful theorems and they are standard for a good reason(They are guaranteed to work for all !roblems of the ty!e for which they were designed.)nowing the standard algorithms, in the sense of being able to use them, is a foundational skill for elementary schools students. Students who master these algorithms gain confidence in their ability to com!ute. They know they can solve any addition, subtraction, multi!ication, or division !roblem without relying on a mysterious black bo , such as a calculator. Moreover, the ability to e ecute the arithmetic o!erations in a routine manner hel!s student to think more conce!tually and are well !ositioned to understand the meaning and uses of other algorithms in later years.</p> <p>The State of State Math Standards</p>	<p>CMC</p> <ul style="list-style-type: none"> <li>• 1 <p>CM</p> <ul style="list-style-type: none"> <li>• 1 <li>• 9

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<p>" @</p> <p>, roblem&solving is an indis/ensable /art of learning mathematics. Children should be able to solve single&ste/ word /roblems in the earliest grades and deal with increasingly more challenging, multi&ste/ /roblems as they /rogress. Too often, /rograms fail to develo/ im./ortant /rerequisites before introducing advanced to/ics.</p> <p>The State of State Math Standards</p>	