



Shifts for Alaska Mathematics Standards

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| <p>1. Focus: In each grade or course, focus deeply on 2 – 4 topics.</p> | <p><i>Focus:</i> The Standards call for a greater focus in mathematics. Rather than racing to cover topics in today’s mile-wide, inch-deep curriculum, teachers use the power of the eraser and significantly narrow and deepen the way time and energy is spent in the math classroom. They focus deeply on the major work* of each grade so that students can gain strong foundations: solid conceptual understanding, a high degree of procedural skill and fluency, and the ability to apply the math they know to solve problems inside and outside the math classroom.</p> |
| <p>2. Coherence: think across grades, and link to major topics within grades.</p> | <p><i>Thinking across grades:</i> The Standards are designed around coherent progressions from grade to grade. Principals and teachers carefully connect the learning across grades so that students can build new understanding onto foundations built in previous years. Teachers can begin to count on deep conceptual understanding of core content and build on it. Each standard is not a new event, but an extension of previous learning.</p> <p><i>Linking to major topics:</i> Instead of allowing additional or supporting topics to detract from the focus of the grade, these topics can serve the grade level focus. For example, instead of data displays as an end in themselves, they support grade-level word problems.</p> |
| <p>3. Rigor: in major topics* pursue:</p> <ul style="list-style-type: none"> - conceptual understanding, - procedural skill and fluency, and - application with equal intensity. | <p><i>Conceptual understanding:</i> The Standards call for conceptual understanding of key concepts, such as place value and ratios. Teachers support students’ ability to access concepts from a number of perspectives so that students are able to see math as more than a set of mnemonics or discrete procedures.</p> <p><i>Procedural skill and fluency:</i> The Standards call for speed and accuracy in calculation. Teachers structure class time and/or homework time for students to practice core functions such as single-digit multiplication so that students have access to more complex concepts and procedures</p> <p><i>Application:</i> The Standards call for students to use math flexibly for applications. Teachers provide opportunities for students to apply math in context. Teachers in content areas outside of math, particularly science, ensure that students are using math to make meaning of and access content.</p> |

Grade *Priorities in Support of Conceptual Understanding and Fluency

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| K-2 | Addition and subtraction – concepts, skills, and problem solving |
| 3-6 | Multiplication and division of whole numbers and fractions – concepts, skills and problem solving |
| 6 | Ratios and proportional relationships; early expressions and equations |
| 7 | Ratios and proportional relationships; arithmetic of rational numbers |
| 8 | Linear algebra |



Shifts for Alaska English Language Arts/Literacy

- 1. Building knowledge through content-rich nonfiction.**

Building knowledge through content rich non-fiction plays an essential role in literacy and in the Standards. In K-5, fulfilling the standards requires a 50-50 balance between informational and literary reading. Informational reading primarily includes content rich non-fiction in history/social studies, science and the arts; the K-5 Standards strongly recommend that students build coherent general knowledge both within each year and across years. In 6-12, ELA classes place much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. In grades 6-12, the Standards for literacy in history/social studies, science and technical subjects ensure that students can independently build knowledge in these disciplines through reading and writing.

To be clear, the Standards do require substantial attention to literature throughout K-12, as half of the required work in K-5 and the core of the work of 6-12 ELA teachers.
- 2. Reading, writing, and speaking grounded in evidence from text—both literary and informational.**

The Standards place a premium on students writing to sources, i.e., using evidence from texts to present careful analyses, well-defended claims, and clear information. Rather than asking students questions they can answer solely from their prior knowledge or experience, the Standards expect students to answer questions that depend on their having read the text or texts with care. The Standards also require the cultivation of narrative writing throughout the grades, and in later grades a command of sequence and detail will be essential for effective argumentative and informational writing.

Likewise, the reading standards focus on students’ ability to read carefully and grasp information, arguments, ideas and details based on text evidence. Students should be able to answer a range of *text-dependent* questions, questions in which the answers require inferences based on careful attention to the text.
- 3. Regular practice with complex text and its academic vocabulary.**

Rather than focusing solely on the skills of reading and writing, the Standards highlight the growing complexity of the texts students must read to be ready for the demands of college and careers. The Standards build a staircase of text complexity so that all students are ready for the demands of college- and career- level reading no later than the end of high school. Closely related to text complexity—and inextricably connected to reading comprehension—is a focus on academic vocabulary: words that appear in a variety of content areas (such as *ignite* and *commit*).