

Idaho Core Instructional Shifts: Mathematics

3 Shifts: Student Achievement Partners

1: Focus: Teachers use the power of the eraser and significantly **narrow and deepen** the **scope** of how time and energy is spent in the math classroom. They do so in order to **focus deeply** on only the **concepts** that are **prioritized in the standards** so that students reach **strong foundational knowledge** and **deep conceptual understanding** and are able to **transfer mathematical skills** and understanding **across concepts and grades**.

=

1: Focus strongly where the Standards focus

2: Coherence: Principals and teachers **carefully connect** the **learning within and across grades** so that, for example, fractions or multiplication spiral across grade levels and **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**.

=

2: Coherence: Think across grades, and link to major topics within grades

3: Fluency: Students are expected to have **speed and accuracy** with simple calculations; teachers structure class time and/or homework time for students to **memorize**, through repetition, **core functions** (found in the attached list of fluencies) such as multiplication tables so that they are **more able to understand** and **manipulate more complex concepts**.

4: Deep Understanding: Teachers teach more than “how to get the answer” and instead 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. Students **demonstrate deep conceptual understanding** of **core math concepts** by **applying** them to **new situations** as well as **writing and speaking about their understanding**.

5: Application: Students are expected to use math and **choose the appropriate concept for application** even when they are not prompted to do so. Teachers provide opportunities at all grade levels for students to **apply math concepts in “real world” situations**. Teachers in **content areas** outside of math, particularly science, ensure that students are using math – at all grade levels – to **make meaning of and access content**.

6: Dual Intensity: Students are **practicing and understanding**. There is more than a balance between these two things in the classroom – both are occurring with intensity. Teachers create opportunities for students to participate in “drills” and make use of those skills through **extended application of math concepts**. The amount of time and energy spent **practicing and understanding** learning environments is driven by the specific **mathematical concept** and therefore, varies throughout the given school year.

=

3: Rigor: Require fluency, application, and deep understanding