Mathematics 5 – 8
Common Core State Standards
The Background of the Common Core

- Initiated by the National Governors Association (NGA) and Council of Chief State School Officers (CCSSO) with the following design principles:
  - Result in College and Career Readiness
  - Based on solid research and practice evidence
  - Fewer, higher and clearer
What percentage of mathematics educators reported that their students are prepared for college-level work in mathematics?

- High School Mathematics Instructors: 89%
- Postsecondary Mathematics Instructors: 26%

Source: *ACT National Curriculum Survey 2009, Appendix B, Tables B.8 and B.9, page 43*
What does this mean for our students?

- Nationwide, many students in two-year and four-year colleges need remediation in math.
- Remedial classes lower the odds of finishing the degree or program.
- Need to set the agenda in junior high and high school math to prepare more students for postsecondary education and training.
Mathematics

Before Common Core

- Mathematics instruction was often procedural, focusing on computation, OR conceptual, emphasizing problem solving.
- Most students didn’t begin to study algebra until high school.

With Common Core

- Instruction will be balanced so that all students will be both fluent in computation and proficient in problem solving.
- An emphasis on algebra begins in 6th grade, preparing students for higher levels of math in high school. However, the foundation for algebraic problem solving is laid in kindergarten.
CCSS - Mathematics

- The CCSS are designed to help children learn effectively
- The standards are based on scientific evidence and the experiences of the participating states and experts who helped write them
- The standards will make sure that all students nationwide meet the same high expectations
- The standards will make sure graduates are prepared for college and the workplace
How will the new standards help your child?

- Skills outlined in the CCSS build upon on another. They’re designed to help students learn and remember more of what they understand so they’re ready to move on to the next steps. For example, kindergartners learning basic addition will understand it in a way that helps them prepare for algebra several years down the road.

- Students who master the CCSS will be ready for college-level work; that means they won’t need to spend time and money on remediation classes after high school.

- High-school graduates moving directly into the workforce will have the critical reading, thinking, problem solving, and content skills employers are looking for.
Key Shifts in CCSS – Mathematics
Key Shifts

- **Focus:** Focus strongly where the standards focus.
- **Coherence:** *Think* across grades, and *link* to major topics
- **Rigor:** In major topics, pursue conceptual *understanding*, procedural skill and *fluency*, and application
CCSS – Mathematics
Grade Level Strands
New Common Core Domains

Grades 3-5
- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations – Fractions
- Measurement and Data
- Geometry

Grades 6-7
- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations
- Geometry
- Statistics and Probability

Grade 8
- The Number System
- Expressions and Equations
- Functions
- Geometry
- Statistics and Probability
Fluency Math Expectations

- 5th Grade
  - Multiply whole digit numbers using the standard algorithm

- 6th Grade
  - Fluently divide multi-digit numbers using the standard algorithm
  - Fluently add, subtract, and divide multi-digit decimals using the standard algorithm
  - Fluently interpret and compute fractions

- 7th Grade
  - Solve multistep problems with positive and negative rational numbers in any form
  - Fluently write and solve problems involving linear expressions with rational coefficients
  - Add, subtract, multiply, and divide rational numbers

- 8th Grade
  - Fluently work with linear equations requiring algebraic manipulation of properties of operations
  - Fluently solve problems involving, volumes of 3-D shapes, surface area, proportional reasoning and multi-step numerical problem solving
Illinois State Board of Education – CCSS Math

- According to ISBE:
  - Students should not be skipping knowledge due to the depth of knowledge that is covered
  - Unit based curriculum that focuses on going deep
    - ISBE has created units, framework and assessments
Math Offerings

- 5th Grade Math
  - 5th Grade Advanced Math
- 6th Grade Math
  - 6th Grade Advanced Math
- 7th Grade Math
  - 7th Grade Advanced Math
- 8th Grade Math
  - 8th Grade Advanced Math
Additional Resources

- U.S. Department of Education: State Contacts
  - http://www2.ed.gov/about/contacts/state/index.html

- Common Core State Standards
  - www.corestandards.org
    - FAQ & Research regarding CCSS
      - http://www.corestandards.org/resources/frequently-asked-questions
    - More about Development & Research behind CCSS
      - http://www.corestandards.org/assets/Appendix_A.pdf

- National PTA – guides for CCSS Student Success
  - http://pta.org/parents/content.cfm?ItemNumber=2583
Questions?

- Please contact Amanda August, Curriculum Coordinator at august.amanda@d46.org