

*Exploring Key Ideas Across the Number &
Operations in Base Ten Standard*

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Goals for Session

- 1). To deeply examine the development of key mathematical ideas in the CCSS-M Number & Operations in Base Ten standard.
- 2). To model and discuss inquiry-based instructional strategies.

Inquiry-based Instruction

- What is it:

Students solve problems and in the process engage in mathematical reasoning.

Students have opportunities to examine other students' solution strategies and mathematical ideas to enhance their mathematical knowledge.

Students make sense of mathematical ideas as a member of a community of learners (in contrast to working competitively in isolation).

Why is being able to decompose a number important?

$$16 - 7 = ?$$

$$10 + 6 - 7 = ?$$

$$10 - 7 + 6 = ?$$

$$3 + 6 = 9$$

What property allows one to interpret $6 - 7$ as $-7 + 6$?

Importance of equal sign

- What do many students believe the value of X is in the following:

$$7 + 13 = X + 1$$

- Canonical equation:

$$5 + 4 = 9$$

Associative Property

- $9 \times 80 = 9 \times (8 \times 10) = (9 \times 8) \times 10 = 72 \times 10 = 720$
- $7 + 16 + 4 = 7 + (16 + 4) = 7 + 20 = 27$

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