

JUMP

JOURNAL FOR UNDERSTANDING MATHEMATICAL PRINCIPLES

Grade 4

Teacher's Edition

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2nd Edition

Introduction to JUMP

How is JUMP aligned to the Common Core State Standards for Mathematics?

One of the major shifts in the Common Core State Standards (CCSS) for Mathematics is the call for rigor. JUMP is designed to meet the rigor of the standards by focusing on students' conceptual understanding and application of the mathematical principles. The authors have analyzed and interpreted each standard to provide journal prompts that reflect what students need to know and be able to do at each grade level. A CCSS information table is provided for each prompt in the Teacher's Edition. (See example below)

How does JUMP address the Critical Areas for each grade level?

The authors have identified Standards we believe address grade level Critical Areas. These Standards are highlighted in the CCSS information tables in the Teacher's Edition. (See example below)

Common Core State Standards for Mathematics 4.OA.1	
Grade:	4
Domain:	Operations and Algebraic Thinking
Cluster:	Use the four operations with whole numbers to solve problems.
Standard:	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

Each student edition also includes prompts for content vocabulary terms that are essential to understanding mathematical concepts at each grade level. The terms that support the grade level Critical Areas identified by the CCSS and are highlighted, as well.

How does JUMP support the Standards for Mathematical Practice?

JUMP deepens students' understanding of mathematical concepts while reinforcing critical processes and proficiencies outlined in the CCSS for Mathematical Practice. JUMP asks students to make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct arguments and critique their work and the work of others, model with mathematics, and use mathematical tools. Most importantly, JUMP asks students to attend to precision while communicating mathematically.

How is **JUMP** different from a workbook?

JUMP is designed to support the rigor of CCSS by promoting a deep conceptual understanding and application of mathematical concepts and principles. For example, a student may be able to mentally multiply 6×7 , but he or she may not be able to explain the concept of multiplication. Unlike workbooks, which are designed for skills practice, **JUMP** is designed for understanding.

How often should I use **JUMP**?

It is recommended that students respond to journal prompts on a regular basis. The frequency of use will depend on the standards that have been taught.

How can **JUMP** be used?

JUMP can be used in a variety of settings:

- Whole group instruction
- Small group instruction
- Peer learning teams
- Partners
- Individually

JUMP can be used for a variety of purposes:

- Pre-assessment
- Formative assessment
- Summative assessment
- Guided practice
- Independent practice
- Homework
- Enrichment
- Intervention
- Evidence for parent/teacher conferences
- Evidence for portfolios

JUMP can be used by a variety of educators:

- General Education Teachers
- Special Education Teachers
- Teachers of English Language Learners
- Math Resource Teachers
- Summer School Teachers
- Intervention Teachers
- Tutors

Write a three-digit number. **Solve** for the product of your number and four.

1 Point

Answers will vary.

1 Point

Answers will vary. Student must accurately multiply the three-digit number by 4.

Draw a rectangular array or an area model to show how you calculated your product.

1 Point

Answers will vary. Student's drawing must include an accurate rectangular array or area model.

CCSS.4.NBT.5—A

11

Total = 3 Points

Common Core State Standards for Mathematics 4.NBT.5	
Grade:	4
Domain:	Number and Operations in Base Ten
Cluster:	Use place value understanding and properties of operations to perform multi-digit arithmetic.
Standard:	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Write an equation that has sum of $2\frac{5}{8}$ using fractions with the same denominator for all of the addends. Draw a model to explain your equation.

1 Point

Answers will vary. All addends must have the same denominator. The sum must equal $2\frac{5}{8}$.

1 Point

Answers will vary. Student must accurately draw fraction models that are the same size and same shape.

CCSS.4.NF.3.b

19

Total = 2 Points

Common Core State Standards for Mathematics 4.NF.3.b

Grade:	4
Domain:	Number and Operations—Fractions
Cluster:	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
Standard:	Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.