



Hands-On Equations®
Making algebra child's play!®

Over 30 years of service!
Hands-On Equations®
Making Algebra Child's Play®



**Developing
Fractions Sense®**



Borenson and Associates, Inc.
www.borenson.com

2022

*Since 1990, over a million students
have enjoyed Hands-On Equations!*

Excellent 3-Hour Webinars for Teachers

Hands-On Equations®

The classic program for introducing students to algebraic linear equations

- 1. Hands-On Equations (3 – 9).** This webinar will enable you to introduce Hands-On Equations to your students and thereby provide them with a concrete and pictorial introduction to algebraic linear equations. In just six lessons they will be solving equations such as $4x + 3 = 3x + 9$ and $2(2x + 3) = 3x + 7$ with comprehension and enjoyment. The concepts learned will also be applied to simple verbal problems. Example: *Sally is 4 years older than Tim. If the sum of their ages is 20, how old is each?*
- 2. Demystifying Verbal Problems (5 - 9).** Apply the methods of Hands-On Equations Level I to the solution of verbal problems, including age, consecutive number, and distance problems. Learn a 5-step approach your students can follow to represent and solve verbal problems concretely and pictorially. Example: *A student was thinking of three consecutive numbers. He said that twice the sum of the first and the second was the same as the third number increased by 9. Find the numbers he had in mind.*

Hands-On Equations® Fractions

Provide your students with an introduction to fractional linear equations and verbal problems

- 3. Hands-On Equations Fractions (5 – 9, and younger gifted kids).** Using fraction blocks and numbered cubes on a laminated scale, students represent and solve fractional linear equations using legal moves. This program will strengthen your students' understanding of unit fractions, fraction equivalence and the algebraic principles used in solving linear equations. Application to verbal problems. Example: *Joseph is four-thirds of Carl's age. In 16 years, Joseph will be 2 years older than twice Carl's present age. How old is each now?*

Developing Fractions Sense®

Learn sense-making approaches to teaching fractions

- 4. Developing Fractions Sense 3 & 4.** Learn to use fraction blocks, rectangular grids and the number line to provide your students with a strong foundation in the grades 3 and 4 fraction standards. Learn the importance of "copies" of a unit fraction. Experience concrete and visual approaches to fraction equivalence, comparing fractions using a benchmark, and subtracting mixed fractions with a common denominator. Example 1: *Use a rectangular grid to show that $4/5 > 2/3$.* Example 2: *Use three different approaches to find the difference, $4\frac{1}{3} - 1\frac{2}{3}$.*
- 5. Developing Fractions Sense 5.** Concretely demonstrate the need for a common denominator to add or subtract two fractions. See how the fundamental principle of fractions leads to the cross-multiplication principle for adding, subtracting, and comparing fractions with different denominators. Distinguish between the multiplier and the multiplicand and provide your students with a concrete and intuitive approach to fraction multiplication, and much more. Example 1: *Use your fraction blocks to find the product $3/5 \times 2\frac{1}{2}$.* Example 2: *Visually demonstrate that $1/3 \div 4 = 1/12$ and $4 \div 1/3 = 12$.*

**Empower your students to conceptualize
mathematics through visualization!**

To schedule a webinar, write to info@borenson.com or call 800-993-6284.

Borenson Math Products

Prices subject to change without notice.

Hands-On Equations® (Grades 3 & Up)



Hands-On Equations provides an intuitive and successful introduction to algebraic linear equations. See how $4x + 3 = 3x + 9$ becomes child's play!

- C-1010: Class Set of Hands-On Equations for 10 Students. **\$145**
- C-1020: Class Set of Hands-On Equations for 20 Students. **\$195**
- C-1030: Class Set of Hands-On Equations for 30 Students. **\$245**
- S-1000: The Hands-On Equations Learning System. **\$34.95**

Hands-On Equations® Fractions (Grades 5 & Up)



Hands-On Equations Fractions provides a concrete introduction to fractional linear equations. Demystify $\frac{2}{3}y + 3 = \frac{1}{6}y + 12$ for your 5th graders and up!

- HF-C1010: Class Set of HOE Fractions for 10 Students. **\$89.50**
- HF-C1020: Class Set of HOE Fractions for 20 Students. **\$149.50**
- HF-C1030: Class Set of HOE Fractions for 30 Students. **\$209.50**
- HF-1000: The HOE Fractions Learning System. **\$29.50**

Developing Fractions Sense® A (Grade 3)



This program consists of 32 short lessons and 5 enrichment lessons. Fraction blocks, rectangular grids, and number lines are used to provide students with a strong foundation for learning the grade 3 CCSS fraction standards.

- DFS-C1010A: Developing Fractions Sense A for 10 Students. **\$54.95**
- DFS-C1020A: Developing Fractions Sense A for 20 Students. **\$99.95**
- DFS-C1030A: Developing Fractions Sense A for 30 Students. **\$144.95**
- DFS-1000A: Developing Fractions Sense A Teacher Set. **\$9.95**

Developing Fractions Sense® B (Grade 4)



This program consists of 45 lessons. Students are provided with a concrete or pictorial introduction to the grade 4 CCSS fraction standards prior to being shown arithmetic approaches. There is a special focus on benchmark fractions.

- DFS-C1010B: Developing Fractions Sense B for 10 Students. **\$59.95**
- DFS-C1020B: Developing Fractions Sense B for 20 Students. **\$109.95**
- DFS-C1030B: Developing Fractions Sense B for 30 Students. **\$159.95**
- DFS-1000B: Developing Fractions Sense B Teacher Set. **\$10.75**

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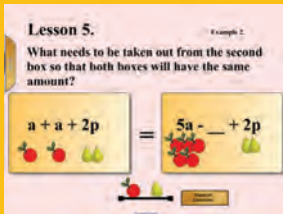
Developing Fractions Sense® C (Grade 5)



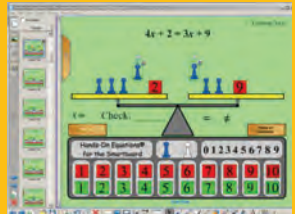
This program consists of 46 short lessons and 3 enrichment lessons. All of the grade 5 CCSS fraction standards are introduced via fraction blocks or rectangular grids. There is a special focus on subtracting mixed fractions using addition and on fraction multiplication.

- DFS-C1010C: Developing Fractions Sense C for 10 Students. **\$64.95**
- DFS-C1020C: Developing Fractions Sense C for 20 Students. **\$119.95**
- DFS-C1030C: Developing Fractions Sense C for 30 Students. **\$174.95**
- DFS-1000C: Developing Fractions Sense C Teacher Set. **\$11.50**

Early Algebra for the SMART Board



Hands-On Equations® for the SMART Board



Hands-On Equations® Fractions for the SMART Board



HOE Introductory Verbal Problems Workbook



Hands-On Equations® Verbal Problems Book



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Dr. Henry Borenson

Inventor of Hands-On Equations®

“Provide your students with the gift of understanding!
Hands-On Equations will empower you to visually simplify abstract algebraic concepts.”



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