

No More "Menacing Multiplication" and "Laborious Long Division" - Understanding Procedures through Number Sense in Grades 3-5



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Progression for introducing algorithms with manipulatives:

1. Start with manipulatives
2. Introduce and demonstrate the algorithm and have students work with the manipulatives.
3. Students work with both the manipulatives and the computation.
4. Students transition to the computation

$$42 \times 2$$

$$42 \times 4$$

$$3 \times 36$$

$$245 \times 3$$

$$0.4 \times 3$$

$$0.04 \times 3$$

675×8

23×5

399×6

$36 \div 3$

$53 \div 2$

$331 \div 2$

$121 \div 2$

$1.8 \div 3$

$1435 \div 8$

$42 \div 3$

$192 \div 4$

$25.6 \div 8$

0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1

