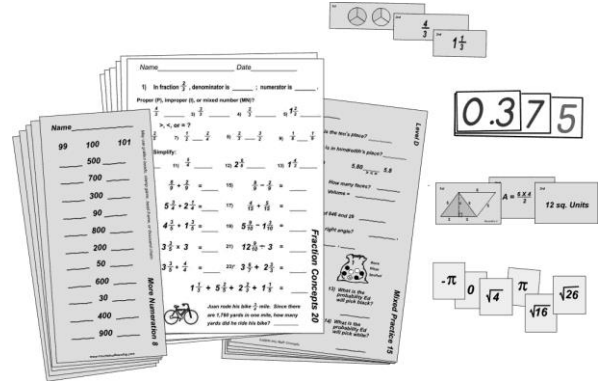


Insights into Math Concepts

A Bridge between the Concrete and Abstract

"Insights into Math Concepts" was developed to maximize the use of math manipulatives and to bridge the gap between concrete and abstract. Rather than focusing on calculations, exercises solidify and extend concepts through series of short, thought-provoking exercises. By building math intuition and number sense, "hard math becomes easy."

- Designed by experienced Montessori teacher
- Encourages critical thinking skills
- Requires little teacher direction
- Easy to implement and monitor
- Addresses state standards
- Loved by children



*Early Math Place Value Number Lines Sequencing Numeration Problem Solving Mixed Skills Money Time
Geometry Fractions Decimals Percent Algebra/Pre-algebra Discounted Sets Digital Downloads*

Exercises have a simple, uncluttered format. Most students find the steady progression through various series rewarding and motivating. Inviting success and confidence, the material soon nudges them into concepts considered quite challenging.

Cardstock Manipulatives

Cardstock manipulatives are the favorite of students of all ages. Given a choice, students choose the colorful matching cards, number lines with movable tags, sequencing cards, and other manipulatives over other materials. Cost-effective cardstock manipulatives are printed on colorful, heavy-weight cover stock. All exercises are sized for easy storage in available containers or cabinets after lamination and cutting.

Taskcards (cardstock, blackline, PDF)

Taskcards are available in cardstock, blackline, and digital PDF formats. Because they are free-response, exercises are typically more abstract than those in cardstock manipulatives. Cardstock taskcards are visually appealing free-response exercises that are placed on classroom shelves for students to access. Blackline and digital formats are used to make work pages students can write on.

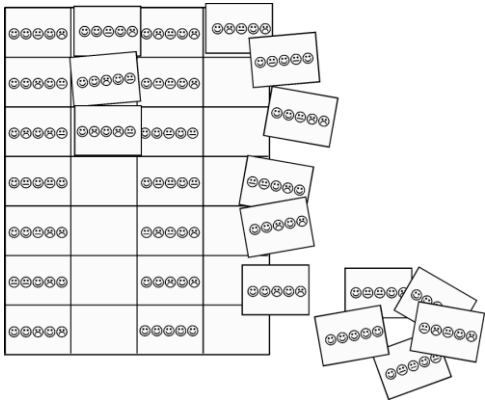
Blackline of a Manipulative

Blackline of a manipulative is a free-response worksheet version of its cardstock manipulative counterpart. Digital downloads are also available for some of these blacklines series.

Digital Downloads

Digital download options are available for all taskcards, as well as for work page variations of many cardstock manipulatives. They are accessible online through the dropdown format menus on respective product pages.

Insights into Math Concepts



Perception Workpages

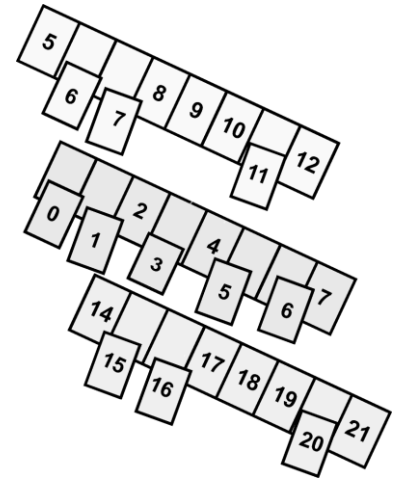
PreK through first grade

Series of graphic representations are paired with identical graphics on full-page taskcards. Each taskcard has 14 "matches." Exercises refine visual perception, left-to-right tracking, and attention to detail. Set of 10 taskcards can be stored in plastic envelopes or sheet protectors, along with appropriate cutouts.

Missing Numbers

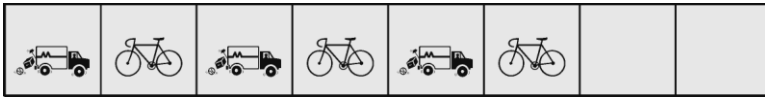
PreK through first grade

Strips that have numerals missing from sequence. Child selects numerals from group of cutouts and places appropriately. Each exercise consists of five sequences. Set includes ten exercises that can be stored in zip lock bags or 5 x 8 inch plastic envelopes. Bags or envelopes then fit nicely into a plastic organizer. Reproducible blackline masters or digital downloads can also be purchased for student worksheets if desired.



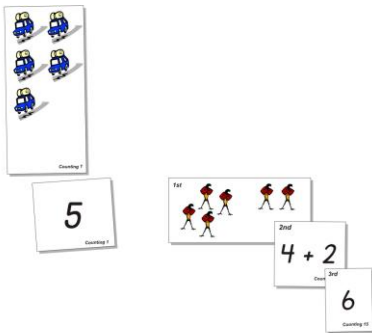
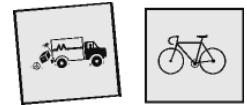
Patterns

PreK through first grade



Cutouts that complete a logical sequence. Each exercise consists of full-page taskcard with five incomplete series. Child selects appropriate

graphic cutouts and completes pattern. Hardest exercises are challenging. Set is comprised of ten exercises that can be stored in plastic envelope or sheet protector, along with appropriate cutouts.



Counting

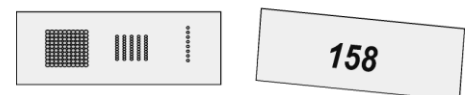
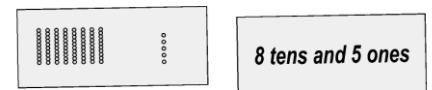
PreK through first grade

Two-way and three-way matching cards with color images printed on white cardstock. Each exercise deals with numbers from one through 10. Hardest exercises introduce number sentences with addition and subtraction symbols. Set of fifteen exercises may be stored in 15-drawer hardware cabinet. Labels for organization included. Blackline masters and digital downloads for student worksheets are also available.

Golden Beads

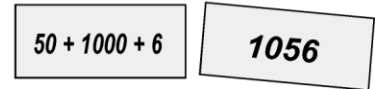
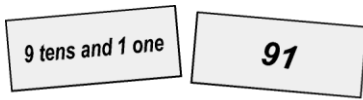
PreK through second grade

Pictures of golden beads (base ten blocks) that are matched to place value, expanded form, and number words. Young children can also pair with actual golden beads or numeral cards. Each exercise includes six matches. Includes 10 two-digit (blue), 10 three-digit (pink), and 10 four-digit (green). Four-digit exercises can be challenging. 1.75 by 4.25 inch cards. Entire set may be stored in 30-drawer hardware cabinet. Blackline masters and digital downloads for student worksheets are available if desired.



Place Value

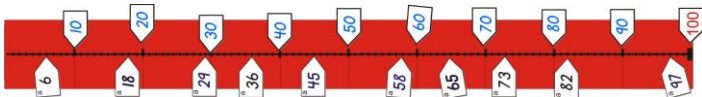
K- 3rd Grade



Predictable as well as challenging matching exercises that may be used in conjunction with Montessori manipulatives, particularly numeral cards. Includes place value words, expanded form, and reading numerals. 1.75 x 4.25 inch matching cards may be organized in a variety of ways: Depending on how the teacher organizes the exercises, there are 5 or 10 two-digit exercises (blue); 6 or 12 three-digit exercises (pink); 8 or 16 four-digit exercises (green). Store in hardware drawers. Blackline extensions available.

Hundred Line and Tags

K - 2nd Grade

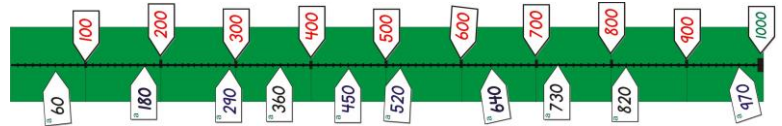


Hundred Line and Thousand Line are similar and can be purchased separately. The purpose is to give the student practice pinpointing random numbers from one to a hundred or one to a thousand. Sets of tags can also be used with appropriate Montessori chains. Tags are arranged in a series of exercises that also help the child, transition between decades/hundreds and round to the nearest ten or hundred.

Includes color-coded numerals printed on white cardstock, as well as vibrant color line. Each set consists of nine exercises that can be stored in hardware drawers. Lamination and cutting required. Blackline extensions available.

Thousand Line and Tags

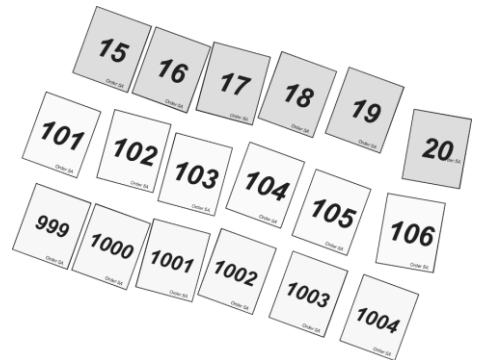
K - 3rd Grade



Order

K - 3rd grade

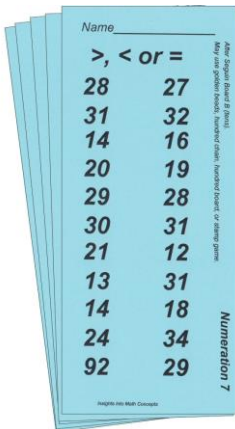
1.75-inch x 2-inch cards that can be manipulated to sequence numerals. Each exercise consists of four sequences of comparable difficulty. Concepts include sequencing by increments of one; even and odd; transitioning to the next decade, hundred, or thousand; and sequencing random numerals from least to greatest. 15 two-digit exercises (blue); 8 three-digit exercises (pink); 8 four-digit exercises (green). Entire set may be stored in 30-drawer cabinet. Reproducible blacklines or digital downloads available as workpage extensions.



Numeration (Blue)

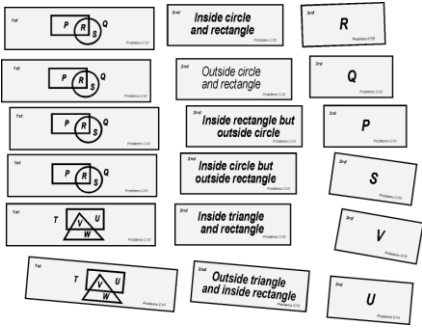
K - 3rd Grade

Free-response task cards requiring application of numeration concepts involving one and two-digit numbers: odd and even, relationship symbols, number patterns, ordering, rounding to nearest ten. Use with Montessori manipulatives encouraged for younger students. Can be used as abstract work for older students. Includes answer keys so child may self-check work. Set is comprised of 18 one-third page task cards which may be stored in 9 inch x 2.5 inch plastic organizer. Also available in blackline reproducible masters and digital downloads.



Problem Solving Levels A, B, and C

K - 4th grade

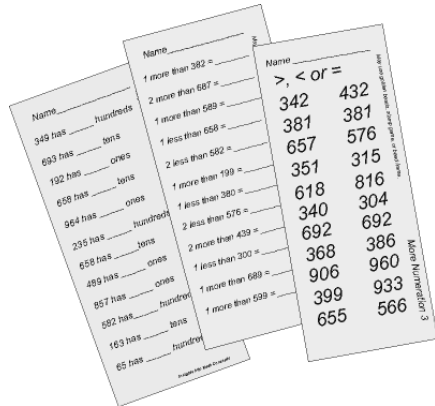
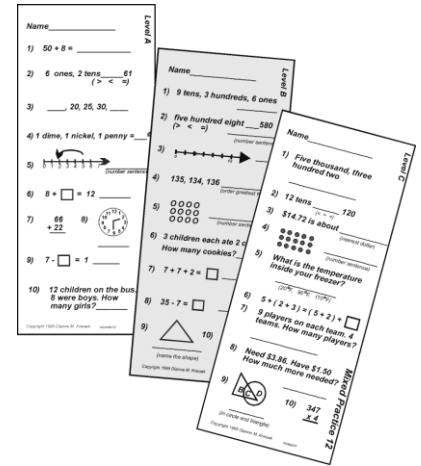


Compilation of concepts requiring critical thinking skills: place value, expanded form, patterns, rounding, applications, equations from pictures/number lines, vocabulary, single and multistep word problems, time, money, fractions, estimating, properties, geometry, and logic. Each exercise addresses a separate concept. Teacher may organize as either matching or free response exercise. Answer sheets included. Great to prepare for standardized tests. Each level has 15-20 exercises. May be stored in hardware drawers. Reproducible blackline and digital workbook extensions available.

Mixed Practice Levels A, B, and C

K - 4th grade

Mixed skills on free-response task cards encompassing numeration, equations with unknowns in any position, operations, time, money, fractions, geometry, measurement, reasonableness, and word problems. Third-page free response task cards may be stored in 9 x 2.5 inch plastic organizer. Answer sheets included. Each level is comprised of 15-18 taskcards. Also available as reproducible blacklines and digital downloads.



More Numeration (Pink)

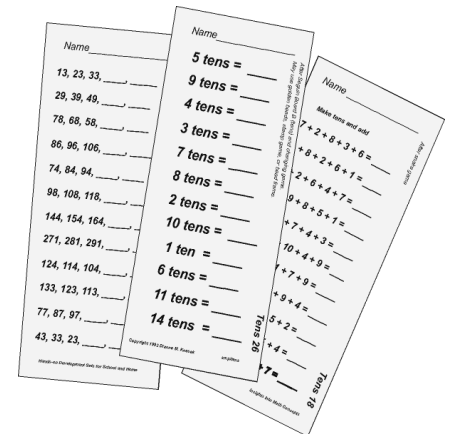
Grades 1- 3

Numeration concepts involving three-digit numbers: relationship symbols, place value, expanded form, "before and after," number patterns, reading numerals, ordering, rounding to the nearest hundred. Answer sheets included so child may self-check his/her work. Third page free response taskcards may be stored in 9 X 2.5 inch plastic organizer. 15 taskcards. Also available as reproducible blackline masters and digital downloads.

Tens (Gold)

Grades 1 - 3

Children learn that ten is a "magic number" and can make operations easy. Ten as an addend and subtrahend, nine as an addend, increasing or decreasing in ten's place, making tens to add, number patterns, multiples of ten, rounding. Third page free response task cards may be stored in 9 x 2.5 inch plastic organizer. 30 taskcards and answer sheets. Also available as reproducible blacklines and digital downloads.

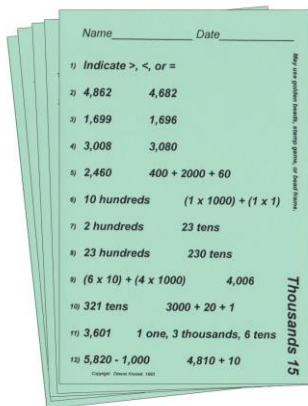


Exchange

Grades 1-3



Renaming groups of ten ones, ten tens, or ten hundreds. Introduces regrouping notation for addition and subtraction. Young students do with manipulatives; older children may do as abstract exercise. Hardest exercises are challenging. Two and three-part matching cards which may be stored in hardware drawers.



Thousands

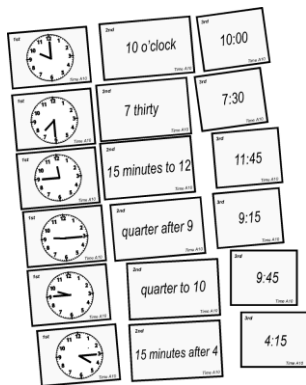
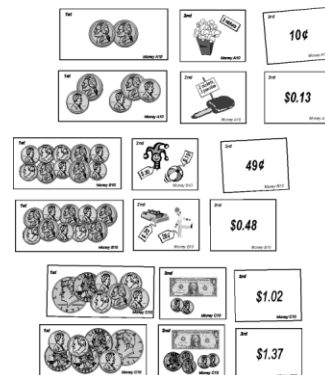
Grades 2-4

Challenging sequence of exercises exploring 4-digit numeration concepts: relationship symbols, place value, expanded form, "before and after," number patterns, zero in minuend, reading numerals, ordering rounding to nearest thousand, hundred, and ten. Half-page taskcards and answer sheets. 25 exercises. Also available as reproducible blacklines and digital downloads.

Money Match Levels A, B, C

Grades 1-4

Three-part matching exercises covering money concepts. Level A includes identification of all coins, counting quantities with dimes and pennies, introduction of nickels as well as dollar, five-dollar, ten-dollar, and twenty-dollar bills. Level B emphasizes larger number of nickels, alone and in combination with dimes and pennies. Also includes equivalent groups of coins, association of coins and price tags, as well as change from one quarter, half dollar, or a dollar bill. Level C involves a large number of coins and bills, pricing a combination of items, and more challenging change exercises.



Time Match Levels A, B, C

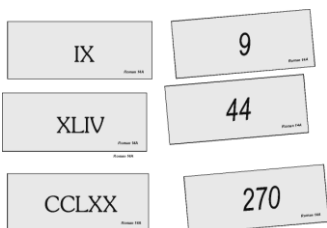
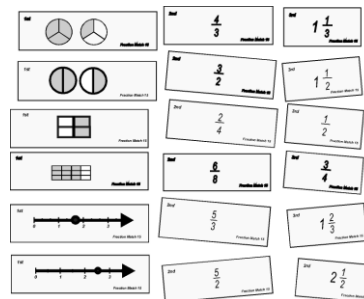
Grades 1-4

Systematic series of matching exercises for reading analog clocks. Difficulty increases in successive levels. Level A reinforces time to the hour, half hour and quarter hour. Level B involves time in five-minute intervals, as well as a given number of hours before or after. Level C reinforces time to the minute as well as time intervals involving minutes before or after a given time. 10 exercise in each level. Reproducible blackline and digital workpage extensions available.

Fraction Match

Grades 2-4

Matching cards involving fractions with a numerator of one, fractions with numerator greater than one, fraction of a set, improper fractions, mixed numbers, fractions on a number line, equivalencies, and simple addition of fractions. Good bridge between fraction manipulatives and "Fraction Concepts." Fifteen exercises in set; blackline extensions also available.



Roman Numerals

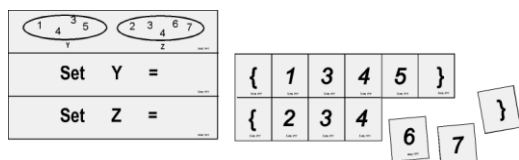
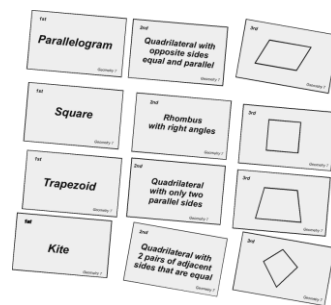
Grades 3 - 5

Systematic series of matching exercises for learning Roman numerals from 1 - 3000. Set of 15 exercises for moderate pace; 30 exercises for slower pace. Answer sheets included. May store in 15 or 30-drawer hardware cabinet. Blackline workpage extensions also available.

Geometry Introduction

Grades 3 - 5

Three-part matching cards reinforce basic geometric concepts: undefined terms (e.g., point, line, ray); types of lines; angles; plane figures; polygons; triangles; quadrilaterals; perimeter; area, circles; solid figures; volume. Fifteen exercises and answer sheets. May store in 15-drawer cabinet. Reproducible blacklines and digital downloads are also available for webpage extensions.



Sets (Introduction)

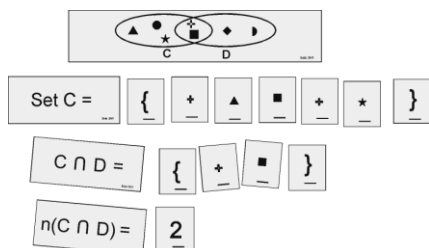
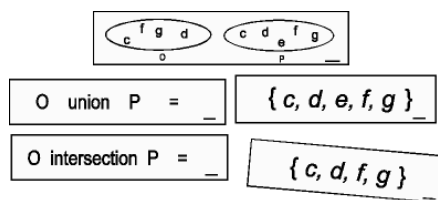
Grades 3-6

"Fun" introduction to set theory. Small cards that can be manipulated to learn set notation, term "element," empty set, and cardinal number. Most teachers organize to form about nine separate exercises. Answers included. May be stored in 4 x 8 inch zip bags or vinyl envelopes.

Sets (Union & Intersection)

Grades 3-8

Continuation of Sets (Introduction) previously described. Matching exercise on set notation, union & intersection, and Venn Diagrams. Answers included. May store in zip bags or vinyl envelopes.



Sets (Cumulative)

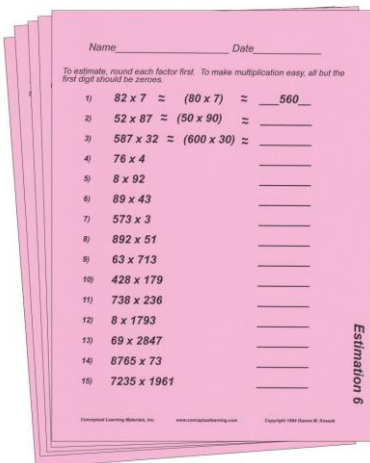
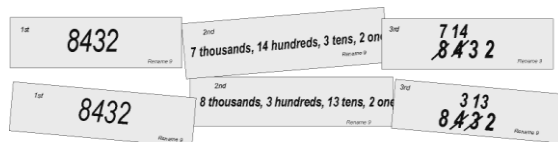
Grades 4 - 8

Small cards that be manipulated for cumulative exercises on set theory: elements, cardinal number, empty set, union, intersection, Venn diagrams. Older students can do as free response exercise. Answers included. May be stored in 4 x 8 inch zip bags or vinyl envelopes.

Rename

Grades 4-6

Challenging exchanging exercises involving multiple regroupings, with and without zeroes as place holders. Two and three-part matching cards that can be stored in hardware drawers. Answers included. Ten exercises.



Estimation

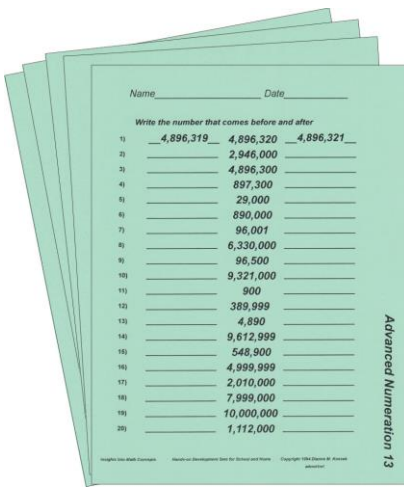
Grades 4 - 6

Free-response exercises on estimation of sums, differences, products, and quotients involving whole numbers, mixed numbers, and dollars/cents. Concepts heavily emphasized by National Council of Mathematics and standardized tests. Ten full-page task cards and answers. Store in large sorter or portable file. Also available as reproducible blacklines and digital downloads.

Advanced Numeration

Grades 4-6

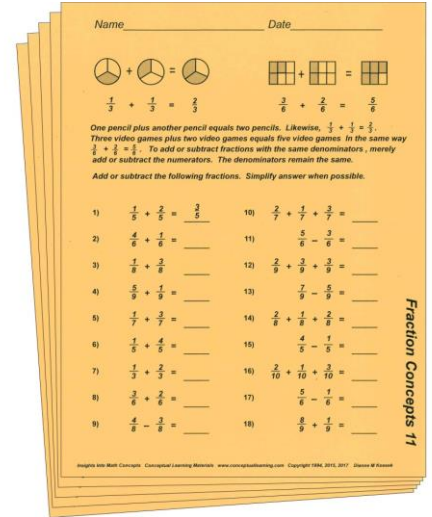
Full-page exercises involving numbers up to nine digits: place value, expanded form, comparisons, adding powers of ten, reading large numerals, rounding, cumulative reviews. 20 free-response taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blackline masters and digital downloads.



Fraction Concepts

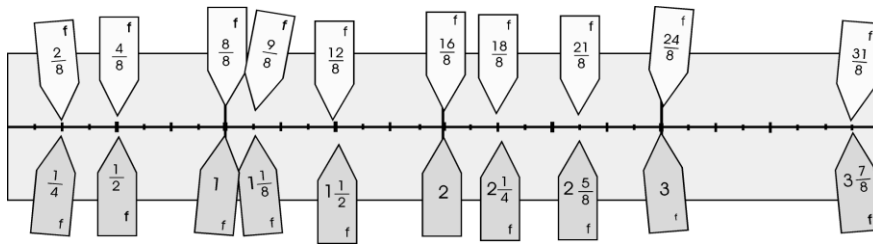
Grades 3-8

Completely revised Fraction Concepts significantly expands the concepts in the original version. Introduction of key fraction concepts: equivalency, comparisons, reducing, improper fractions to mixed numbers, mixed numbers to improper fractions, renaming, fraction of a group, addition and subtraction with the same denominator as well multiplication and division of a fraction by a whole number. Also word problems and cumulative exercises. Young students use in conjunction with Montessori fraction materials. Older students may do abstractly. 20 full-page taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as blackline masters and digital download.



Fraction Number Lines and Tags

Grades 4-8

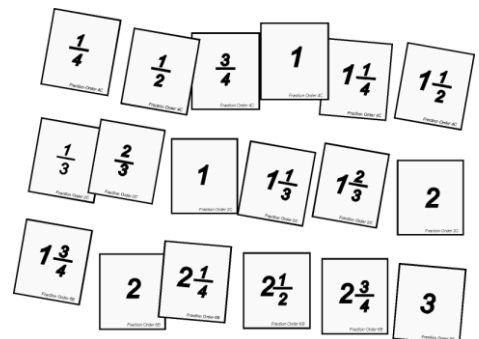


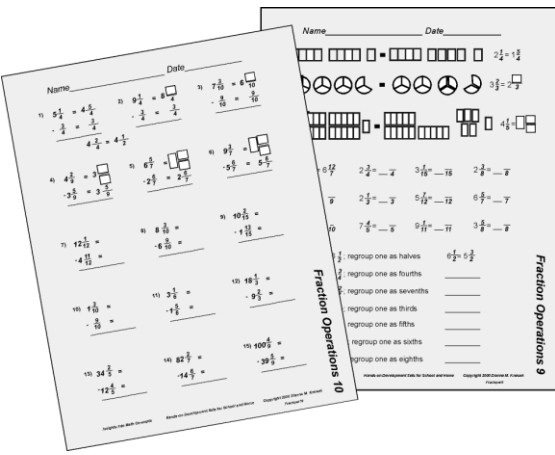
Helps the child visualize the relationship between proper fractions, improper fractions, and mixed numbers and acquire an intuitive understanding of their value. Also aids understanding of linear measurement to sixteenths of an inch. Included are ten color-coded number lines divided into various fractional parts. For example, a bright green line is divided into halves; pink lines are divided into thirds, etc. A set of ivory tags represents proper and improper fractions; white tags include simplified mixed numbers. As an extension, students may place fraction tags on the decimal line (p. 9). Additional tags are included for replacement parts. Store tags in ten hardware drawers. Reproducible blackline masters for student worksheets also available.

Order Fractions

Grades 4 - 8

Ordering fractions from least to greatest; includes like denominators, like and unlike fractions, improper fractions, mixed numbers. Each exercise consists of 4 sequences, with 6 fractions per sequence. Ten exercises, comprised of 1.75 x 2 inch cards, may be stored in hardware drawers. Answer sheets included. Reproducible blacklines or digital downloads for student worksheets are also available.





Fraction Operations

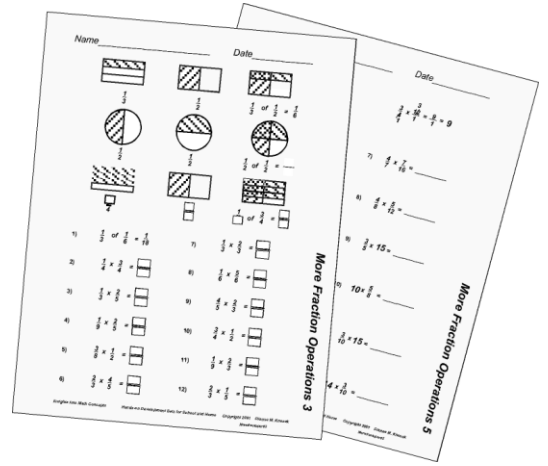
Grades 4 - 8

Full-page taskcards pick up where "Fraction Concepts" left off. Step-by-step sequence of skills required in addition and subtraction of unlike fractions: common denominators, addition & subtraction of unlike fractions, unlike mixed numbers, regrouping of fractional minuend, multistep subtraction, and mixed addition and subtraction of fractions and mixed numbers. 13 taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blacklines and digital downloads.

More Fraction Operations

Grades 4 - 8

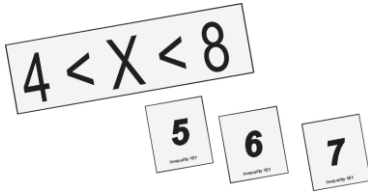
Full-page taskcards refining multiplication and division of fractions, whole numbers, and mixed numbers. Culminates in several mixed exercises requiring all four fraction operations. 20 taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blackline masters and digital downloads.



Inequalities

Grades 4 - 8

Comfortable introduction to algebraic notation. Also develops logic and critical thinking skills. Algebraic representations of open and closed intervals are solved by selecting cards from a given replacement set. Introduces variables as well as symbols $>$, \geq , $<$, and \leq . Format is 3.7 X 1.5 inch cards that can be manipulated. Solution cards are 1.2 by 1.3 inches. Store in hardware drawers. Six problems per exercise; 15 exercises with answers in the entire set.



Number Theory

Grades 4 - 8

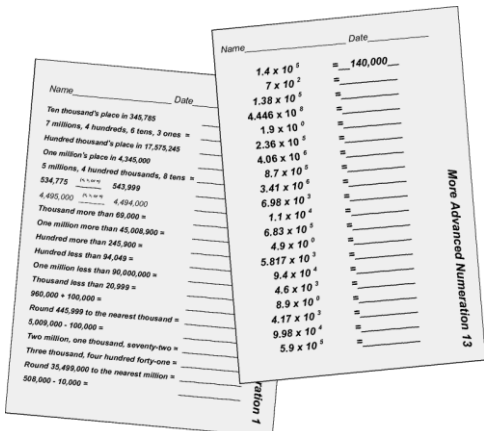
Full-page taskcards on number theory: prime and composite numbers, laws of divisibility, factors, prime factors, greatest common factor, multiples, least common multiple, exponents, simple radicals. 20 taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blacklines and digital downloads.



More Advanced Numeration

Grades 5-8

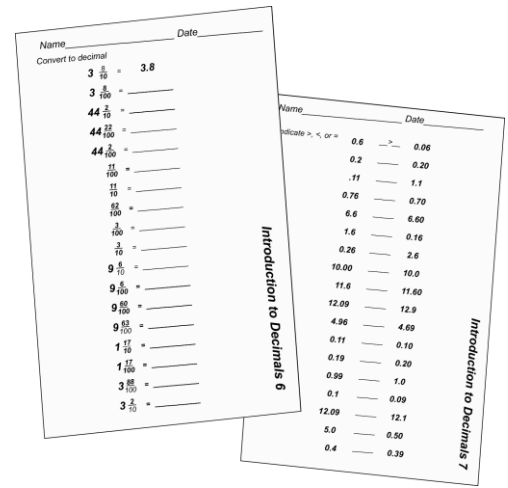
Challenging full-page numeration taskcards for the older student: place value of large numbers, expanded form, powers of ten, decimal concepts, scientific notation with positive and negative exponents. 20 taskcards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blacklines and digital downloads.



Decimal Introduction

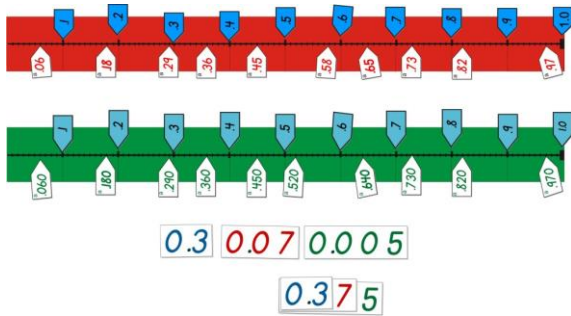
Grades 4 - 8

Series expanded from 10 to 20 full-page taskcards. Full-page taskcards focusing on one and two-place decimals: fraction to decimal, decimal to fraction, comparisons, rounding, and simple operations. Store in large plastic sorter or portable file. 20 exercises and answer sheets. Also available as reproducible blacklines and digital downloads.



Decimal Line and Labels

Grades 4 - 8

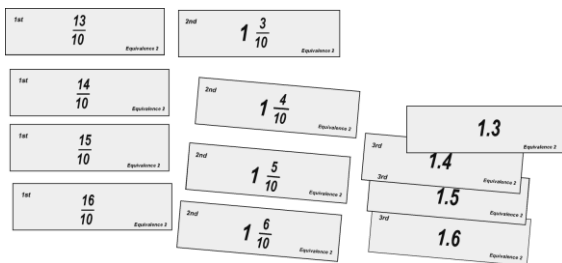
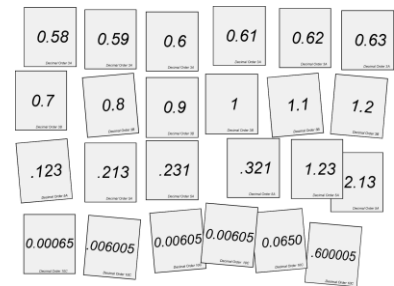


Two "units" divided into hundredths and thousandths respectively. Beginning students use the line divided into hundredths; older students use the line divided into thousandths. Helps students visualize the differences in decimals (for example 0.9, 0.09, and 0.009). As an extension, fraction tags (detailed on p. 7) may also be used on the decimal line. Nine exercises for each line: may be stored in hardware drawers. Reproducible blacklines for worksheet extensions also available.

Order Decimals

Grades 4 - 8

Ordering decimals with varying number of places from least to greatest. Hardest exercises are challenging. Skill stressed by National Council of Teachers of Mathematics. 1.75 x 2 inch cards may be stored in hardware drawers. Each exercise has four sequences of six. 10 exercises with answers. Blackline extensions also available.



Decimal/Fraction Equivalence

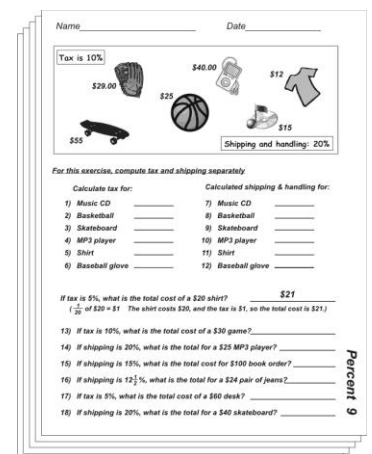
Grades 5 - 8

Three-part matching cards that match fraction and decimal equivalents, with emphasis on commonly used percents. Older children do abstractly and use "match" as a check. May store in hardware drawers. Eight problems per exercise. Ten exercises with answer sheets. Reproducible blacklines and digital download for workpage extensions also available.

Percent

Grades 5 - 8

Free-response exercises that introduce concept of percent and encourage intuition in its application. First 10 exercises emphasize fractional equivalents through conversions, percent of a number, estimation, probability, tax, and shipping costs. Second half of the set introduces decimal conversions, comparison of values in different formats, percent of a number, simple interest, selecting easier approach to applications, word problems, and cumulative exercises. 20 exercises in set. Also available as reproducible blackline masters and digital downloads.



Problem Solving Levels D and E

Grades 3-6

Compilation of concepts requiring critical thinking skills: advanced numeration, number patterns, rounding, properties, measurement, geometry, graphing, ordered pairs, single and multi-step word problems involving all four operations. Store in hardware cabinet. Each level has 20 exercises and answer sheets. Reproducible blacklines also available for workpages.

1st	Number of cups in two and a half gallons	2nd	$16 + 16 + 8 = \square$	3rd	40
1st	Number of days in two and a half months	2nd	$30 + 30 + 15 = \square$	3rd	75
1st	Number of seconds in one and a half minutes	2nd	$60 + 30 = \square$	3rd	90
1st	Number of inches in one and a fourth yards	2nd	$36 + 9 = \square$	3rd	45

Mixed Practice

Levels D and E
Grades 3-6


Free-response exercises stressing mixed concepts and cumulative computational skills: numeration, comparisons, rounding, and estimating; measurement and reasonableness; operations with whole numbers, fractions, and decimals; logic, single and multistep problem solving; and geometry, perimeter, area, volume, probability, combinations. Half-page taskcards may be stored in plastic sorter. Twenty exercises in each set. Also available as reproducible blackline masters and digital downloads.

Name _____

1) In 4.78, what digit is in the tenth's place? _____

2) In 86.79, what digit is in hundredth's place? _____

3) $.02 > < = .2$ $.60 > < = .6$

4)  How many faces? _____
How many edges? _____
How many vertices? _____

5) Average of 12, 21, and 18 _____

6) How many sides on a pentagon? _____

7) 100, 150, 200, _____, _____

8) $\frac{1}{2} + \frac{1}{4} = \square$

9) $\frac{24}{3} = \square$

10) $\frac{9080}{18750}$

11) $\frac{62}{34}$

12) $\frac{31}{2} = \square$

13) How much for 3 slices of pizza and a drink? _____





14) How much more for 2 slices of pizza than 1 sandwich? _____

Mixed Practice 14

Geometry (Intermediate)

Grades 5 - 8

Three-part matching cards reinforce geometric concepts: angles in a triangle; perimeter, area, and volume; circle terminology, circumference, and area; parallel lines, transversal, and angle measurements, solid figures, prisms, surface area, Pythagorean theorem. Fifteen exercises and answer sheets. May store in 15-drawer cabinet. Reproducible blackline masters and digital downloads also available for student workpages.

	2nd	$A = \frac{b \times h}{2}$	3rd	12 sq. Units
	2nd	$A = \frac{b \times h}{2}$	3rd	9 sq. units
	2nd	$A = l \times w$	3rd	24 sq. units
	2nd	$A = \frac{b_1 + b_2}{2} \times h$	3rd	30 sq. Units

Name _____ Date _____

Indicate >, <, or =.

0.004	0.4
1.7	1.698
0.257	0.26
0.6	0.60
2.07	2.70
9.8	9.80
2.5	$2\frac{5}{10}$
$5\frac{1}{10}$	5.07
0.680	.6800
$\frac{1}{10}$.01
$\frac{9}{1000}$.002
.00030	.003
$9\frac{1}{2}$	8.2
$\frac{1}{5}$	$\frac{1}{5}$
$\frac{18}{100}$	9.9
$\frac{5}{100}$.0005

Advanced Decimals 10

Name _____ Date _____

7894

What digit is in the ten thousandth's place? _____

What place is the 7? _____

Round to standard decimal

$\frac{7}{10}$	=	_____
$\frac{7}{100}$	=	_____
$\frac{7}{1000}$	=	_____
5×10^{-3}	=	_____
2.48×10^{-4}	=	_____
82.5 %	=	_____
.25	=	_____
.0003	=	_____

Convert to fraction and simplify

8693 to nearest hundredth	=	_____
8997 to nearest thousandth	=	_____
Calculate $8.93 + 7 =$	=	_____
$5.2 - 1.86 =$	=	_____
$3.2 \times 1000 =$	=	_____
$4.8 \div .006 =$	=	_____
$.3 \times 2 =$	=	_____
$.14 \div 1000 =$	=	_____

Advanced Decimals 20

Advanced Decimals

Grades 5 - 8

Place value of decimals with multiple places, more difficult decimal and fraction equivalents, negative powers of ten, ordering decimal/fraction combinations, rounding, decimal placement in operations, percent. 20 full-page free response task cards and answer sheets. Store in large plastic sorter or portable file. Also available as reproducible blackline masters and digital downloads.

Advanced Geometry

Grades 5 - 8

Culmination of geometry exercises is presented in the form of 30 free-response exercises. Greater emphasis on geometric notation and application prepares students for high school geometry. Concepts include transversals, angles, triangles, quadrilaterals, perimeter, area, composite area, surface area, volume, and composite volume of most plane and solid figures. Applications also include Pythagorean Theorem, similar figures, proportion, all four quadrants of coordinate system, translations, reflections, and problem solving. Also available as reproducible blacklines and digital downloads.

Name _____ Date _____

closed figure composed of line segments

Polygon: quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, decagon, hendecagon, dodecagon

Quadrilateral: parallelogram with opposite sides equal and/or parallel

Rectangle: parallelogram with right angles

Rhombus: parallelogram with four equal sides

Square: rhombus with right angles

Trapezoid: quadrilateral with two parallel sides

Isosceles trapezoid: quadrilateral with two pairs of adjacent sides that are equal, but opposite sides that are not equal

Area of each figure is _____

1) Perimeter _____ 2) Quadrilateral _____

3) Rectangle _____ 4) Rhombus _____

5) Square _____ 6) Trapezoid _____

7) Area _____ 8) Classify _____

9) Kilos _____

Answer always, sometimes or never

10) Squares are rectangles _____

11) Rectangles are squares _____

12) Trapezoids are parallelograms _____

13) Parallelograms are rectangles _____

14) _____

Surface area of prism and cylinder can be found by adding the area of each face and the combined area of the ends.

The area of each figure is _____

1) Area of top triangle (A) = _____

2) Area of bottom triangle (B) = _____

3) Perimeter of triangle (P) = _____

4) Lateral area (L.A.) = _____

5) Surface area (S.A.) = _____

6) Area of top circle (C) = _____

7) Area of bottom circle (D) = _____

8) Perimeter of circle (P) = _____

9) Lateral area (L.A.) = _____

10) Surface area (S.A.) = _____

11) _____

12) _____

13) _____

14) _____

15) _____

16) _____

17) _____

18) _____

19) _____

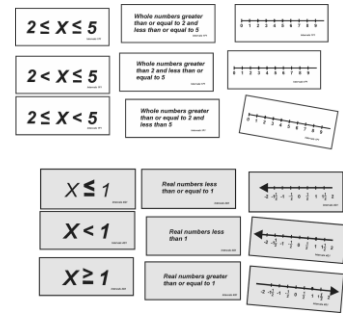
20) _____

Advanced Geometry 17

Intervals

Grades 5 - 8

Verbal, algebraic, and numberline expressions depicting open and closed intervals. "Wholes" focuses on discrete whole numbers; "Positive Reals" stress continuous points including fractions; "Integers" include discrete positive and negative integers; "All Reals" emphasize continuous positive and negative values, including fractions. Younger students may do as match; older student do abstractly and use "match" as a check. May be stored in hardware drawers. 10 exercises with answer sheets in each set. Reproducible blacklines also available for student workpages.



negative integer, for that reason, a number line or integers has an arrow.

Positive and negative numbers may be written as positive 4, -4 or $^+4$.

Name _____

Using exponents with negative numbers:
Do calculations inside the () or | first, front of the () or | last.

Tell whether the following

1) Positive 2 _____ $2^2 = 2 \times 2 = 4$ $(-2)^2 = 4$
 4) $^{-}19$ _____ Find the following values.
 7) $+10,235$ _____

Which is more?

10) 5 or $+4$ _____ 3) $(-2)^2$ _____
 13) 0 or -1 _____ 5) $^{-}(-2)^2$ _____
 7) $\frac{-18}{-3}$ _____
 9) $|^{-}3 - 2|$ _____
 11) $(4 - ^{-}3)^2$ _____

$>$, $<$, or $=$

16) -3 _____ 0

Operations with Negatives

Grades 6 - 8

Introduction of negative integers and rationals with number line and counters. Addition, subtraction, multiplication, and division with counters and number line. Division as inverse of multiplication. Absolute value, rules for all four operations, logic, order of operations, mixed practice, and word problems. 20 free-response task cards. Also available as reproducible blacklines and digital downloads.

Order of Operations

Grades 6 - 8

Order of operations based on absolute value, grouping symbols, exponents, multiple grouping symbols, mixed operations without grouping symbols, variables representing specific values, numerators and denominators, and word problems. 10 free response taskcards. Also available as reproducible blacklines and digital downloads.

13) $\frac{5(2+3^0+6)}{3^2-2 \cdot 3}$ _____ 14) _____

Evaluate the following if $m = 2$, $n = ^{-}1$, and $p =$ _____

15) $m + n \cdot p =$ _____

16) $n[m p (1 - n^0) - 3] =$ _____

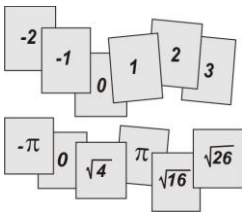
17) $\frac{p^2 - |m + n \cdot 2|}{mnp^2} =$ _____

18) Add 3 and 2. Square the result and then add
 $[(3 + 2)^2 + 5] 4 =$ _____

Order Reals

Grades 6 - 8

Sequencing integers with emphasis on negatives. Last several exercises feature sequencing positive and negative fractions, decimals, and radicals as well. Each exercise consists of four sequences of six. Ten exercises and answer sheets in the set. Store in hardware drawers. Blackline extensions also available.



Algebra Concepts

Grades 6 - 9

Prerequisites for solving algebraic equations: Classification of numbers as reals, rational or irrational, integers, whole numbers, and/or natural numbers. Variables, constants, verbal and algebraic equivalents, and computing value of algebraic expressions. Distributive property, combining like-terms, multiplying and dividing terms with exponents. 10 free-response task cards. Also available as reproducible blacklines and digital downloads.

3) 0.3 R _____ Q _____ I _____ Z _____

Consider the expression $4a^2 + 5b + 8$.

5) How many terms are there? _____ 6) List t
 7) What are the constants? _____ 8) List t
 9) List the exponents. _____ 10) What

If $x = 3$, $y = -2$, and $z = 1$, find the value of each of the fx

11) $x^2 + y^2 - yz =$ _____ 12) $x^2(y - yz) =$ _____

Write a verbal expression for the following algebraic exp

14) $\frac{cd}{4}$ _____
 15) $5(a + b)$ _____

Write an algebraic expression for the following:

16) Eight more than two times the square of some numb
 17) Five less than the ratio of p to q _____

Simplify by distributing or dividing to remove the pare

1) $2y^2 - 3(y - 2) + y - 4$ 2) 4



Solve and check the following equations on separate p

6) $y + 3.4 = 2(5)$ 7) $p \cdot \frac{1}{2} = \frac{1}{4}$

9) $5x = 12$ 10) $3x + x = 24$

12) $2(2q - 1) = q + 1$ 13) $\frac{5x - 2}{3} = 6$

15) Based on the function rule (equation), input values t y value. Then plot the function on the graph.

$y = 2x + 1$

What are t
 What is th
 What is th

Algebra Equations

Grades 6 - 9

Concept of equations, properties of equality, testing solutions, one-step equations involving addition, subtraction, multiplication, and division properties. Multi-step equations with variables on one side as well as on two sides. Solving proportions algebraically. Introduction of functions and linear equation graphs. 15 free-response taskcards. Also available as reproducible blacklines and digital downloads.



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To order, indicate quantity. Circle or highlight classroom sets.

Classroom Sets	Cardstock	Blackline	Complete
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Revised June 2019

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