Conceptual Learning Materials

Insights into Math Concepts

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Sample 2-3 Packet

- 1. Thousand Line Instructions
- 2. *Thousand Line Worksheet (for immediate child use)
- 3. Order Green
- 4. Place Value Match
- 5. *Place Value Workpage
- 6. *Numeration Pink and Tens Gold
- 7. Exchange
- 8. *Thousands Green
- 9. Problem Solving C
- 10. Mixed Practice C
- 11. Geometry Introduction
- 12. Money C
- 13. Time C
- 14. Fraction Match
- 15. Roman Numerals
- 16. **Fraction Chart
- 17. *Fraction Concepts
- 18. *Decimal Introduction

Insights into Math Concepts focuses on concepts rather than on drill and calculations that are readily available from most educational suppliers. Typically, any classroom has students with a wide range of abilities and skill levels, so the levels include work that is on-level, reinforcement, and advanced for the respective grades. For example, the scope and sequence chart shows that "Mixed Practice B" would be challenging for first grade, on-level for second grade, and reinforcement for third grade.

ĸ	1	2	3	4	5	6	7	8	www.conceptuallearning.com
									Golden Beads (blue)
								0.00	Golden Beads (pink)
			200	- 200				6000	Golden Beads (green)
									Hundred Line & Labels
				J.G.	-			de:	Problem Solving A
			0.50						Mixed Practice A
			0.00	0000	100			1000	Money A
					- 6		-		Time A
					Ĭ				Thousand Line & Labels
							9		Order (blue)
					Ţ,				Order (pink)
								203	Order (green)
				002	- 2			149	Place Value (blue)
									Place Value (pink)
				5000	- 6			2000	Place Value (green)
					- 1				Numeration (blue)
									More Numeration (pink)
									Tens (gold)
									Exchange
					3			203	Money B
				002	- 5			346	Time B
									Problem Solving B
				. (6)	- 6	1		305	Mixed Practice B
					- 8				Thousands (green)
	Ĝ								Problem Solving C
	-							0.0	Mixed Practice C
300	2000								Geometry Introduction
	0.00								Money C
92	- 1							:46:	Time C
	100								Fraction Match
945	-					-		1000	Roman Numerals
	- 5	- 5							Problem Solving D
		-							Mixed Practice D
-5									Fraction Concepts
		70.00							Decimal Introduction

Note that the materials come in a variety of formats. All taskcards are available in colorful reusable cardstock, reproducible blackline masters, or more cost-effective digital downloads. Exercises that are manipulated come in colorful cardstock that is to be laminated and cut. Most are also available as a reproducible blackline workpage format and digital workpage PDF downloads as well.

^{*}Actual free-response workpage

^{**}Graphic for child use

Thousand Line and Tags

Note: Child may use either the Montessori thousand chain or the green number line for number line exercises.

Contents

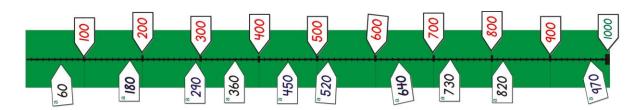
- 1. Instructions & adhesive organizational labels for hardware drawers or other storage containers
- 2. Two identical pages of white tags (one to use and one for replacement of lost tags). To assist in organizing exercises, each "work" is labeled with the same green lower case letter in the upper left-hand corner of the tag (a-h). Colored numerals illustrate how red multiples of 100 and the green 1000 are used as guides.
- 3. One additional page of red multiples of 100
- 4. One page of multiples of ten for optional use
- 5. Three green pages to be cut into "hundreds". Ten sections are combined to make thousand line.
- 6. Two identical pages of blank tags for extensions. These may be photocopied if the teacher wishes.
- 7. Two pages of numeral cards (Page 1 is an introduction and one's through fours, and Page 2 is five's through nine's.)
- 8. Grid for counting or for operations. This may be photocopied for children to write on their own copies as desired.

Preparation

- 1. Reproducible blank tags and operations grid are separated until ready for use.
- 2. Laminate all other cardstock materials.
- 3. Cut green number lines along dashed lines. Butt ten sections end-to-end and secure with packing tape from both front and back. Fold number line accordion-style and store in 12-inch organizer or zip bag.
- 4. Cut and store one set of red tags in separate hardware drawer, box, or zip bag for first presentation.
- 5. Cut and store another set of red tags along with each of the sets of white labels (a-h) in separate hardware drawers, boxes, or zip bags. Save remaining red tags for replacement parts.
- Cut optional set of blue ten tags if desired. A set may be stored in each container, or they may be stored separately for occasional use.

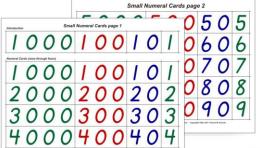
Instructions for use

- 1. In the first presentation, guide the child in discovering that a hundred consists of ten groups of ten and the entire thousand line consists of ten groups of a hundred. Have the child count by hundreds and place the red tags along the top of the line as show below. For a more detailed lesson, the child may place a set of "tens" in the first hundred section or in all hundred sections.
- 2. In the second session, the child places the red tags along the top as in the first presentation, and puts the "a" labels along the bottom.
- 3. In subsequent lessons, the child progresses through drawers "b" through "h".



Numeral Cards

- Also included are two pages of numeral cards. These are to be laminated and cut. If desired, the top portion of Page 1 (the first 1000, 100, 10, and 1) may be used as a separate introductory lesson; otherwise, save these for replacement parts.
- 2. The cut 1000's, 100's, 10's, and 1's may be stacked according to size and secured with a rubber band or placed in a slotted seat chart.
- 3. To use, the child organizes the cards on a table or rug. The appropriate cards may be used to compose numbers as shown.

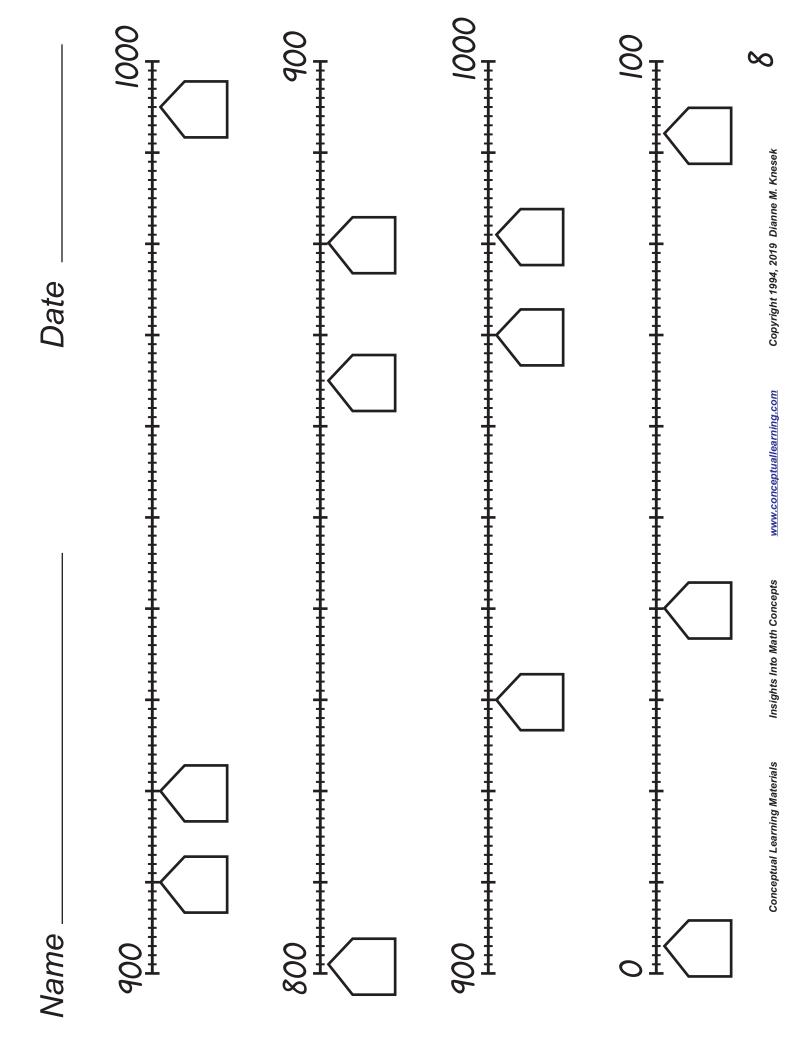




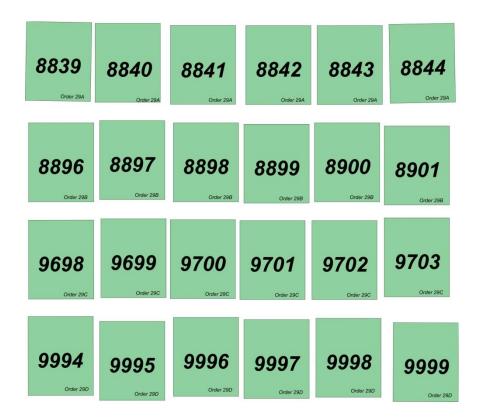
8 thousands, 4 hundreds, 3 tens, and 3 ones means 8000 + 400 + 30 + 3 and can be written as 8,433.

Operations Grid

Also included is a reproducible grid that can be used for counting exercises or operations.



Order Blue, Pink, and Green



Cardstock version

Order denotes a sequencing exercise of various types.
Order Blue (15 exercises)
sequences two-digit numerals, while Order Pink (8 exercises)
sequences three-digit and Order Green (8 exercises)
sequences four-digit numerals.
Each exercise is four separate sequences of six values. The cardstock manipulative version is printed on a full page which is to be laminated and cut.

Reproducible Blackline or Digital PDF Download

Blackline and digital versions are reproducible free-response worksheets that correspond to the cardstock counterparts.

Name			Date		
8839 Order Green 29A	Order Green 29A	Order Green 29A	8842 Order Green 29A	8843 Order Green 29A	8844 Order Green 294
8896	Order Green 29B	8898	8899	Order Green 29B	8901 Order Green 296
9698 Order Green 29C	Order Green 29C	Order Green 29C	Order Green 29C	9702 Order Green 29C	
9994	9995		9997		
Order Green 29D	Order Green 29D	Order Green 29D	Order Green 29D	Order Green 29D	Order Green 29E

Place Value Match (Blue, Pink, and Green)

7 thousands, 8 tens, 2 ones

7082

1230

1 thousand, 2 hundreds, 3 tens

7 thousands, 8 hundreds, 2 ones

7802

1023

1 thousand, 2 tens, 3 ones

7 thousands, 8 hundreds, 2 tens

7820

1 thousands, 2 hundreds, 3 ones

1203

6 thousands, 5 hundreds, 8 tens

6580

1670

1 thousand, 6 hundreds, 7 tens

6 thousands, 8 tens, 5 ones

6085

6805

1607

1 thousand, 6 hundreds, 7 ones

6 thousands, 8 hundreds, 5 ones

1067

1 thousand 6 tens, 7 ones

Name	Date		Green PV 8A
7 thousands, 8 tens, 2 ones	3	7082	
7 thousands, 8 hundreds, 2 or	nes .		
7 thousands, 8 hundreds, 2 te	ens		
6 thousands, 5 hundreds, 8 te	ens		
6 thousands, 8 tens, 5 ones	3		
6 thousands, 8 hundreds, 5 or	nes		
1 thousand, 2 hundreds, 3 ter	15		
1 thousand, 2 tens, 3 ones			
1 thousand, 2 hundreds, 3 one	es		
1 thousand, 6 hundreds, 7 ter	1 s		
1 thousand, 6 hundreds, 7 one	es		
1 thousand, 6 tens, 7 ones			

Name May use golden beads or stamp game 500 + 20 + 3 > 521300 + 60 306 *800 + 5 850* 691 600 + 90 + 10 600 + 30 + 2 600 + 20 + 3400 + 3 +60 400 + 60 + 3 506 500 + 60 300+40+7 20 +1+400 600 + 0 + 5 600 + 5010 tens 110 10 hundreds 1000 www.conceptuallearning.com

Pink Numeration (3-digit)

Exercise 5 out of 15

Tens GoldExercise 25 of 30

Name
13, 23, 33,,
29 , 39 , 49 ,,
78, 68, 58,,
86, 96, 106,,
74, 84, 94, ,
98, 108, 118,,
144, 154, 164,,, e, or beau
144, 154, 164,,, read frame.
124, 114, 104,,
133, 123, 113,,
77, 87, 97,, ਰ
43, 33, 23,, ^{rens} 25
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Exchange

Exercise 8 of 10

1 15 9 % B Exchange 8	983 Ecchange 8	6 10 978 Exchange 8	5 13 9 K Z	9 10 9 1 B Exchange 8	3 11 947 Exchange 8	7 14 9 8 4 Exchange 8
3rd	3rd	3rd	3rd	3rd	3rd	3rd
2nd 9 hundreds 1 ten 15 ones Exchange 8	2 bundreds 7 tens 13 ones	2nd 9 hundreds 6 tens 10 ones Exchange 8	2nd 9 hundreds 5 tens 13 ones	2nd 9 hundreds 0 tens 10 ones Exchange 8	2nd 9 hundreds 3 tens 11 ones Exchange 8	2nd 9 hundreds 7 tens 14 ones Exchange 3
9 hundreds 2 tens 5 ones	9 hundreds 8 tens 3 ones	9 hundreds 7 tens 0 ones	9 hundreds 6 tens 3 ones	9 hundreds 1 ten 0 ones	9 hundreds 4 tens 1 one	9 hundreds 8 tens 4 ones

"Exchange" Matching Cards

Each Exchange exercise is printed on a full page. It entails matching regrouped values with the original. The purpose is to prepare the child for any operation in which regrouping is required.

Normally, it is introduced with place value blocks or other hands-on place value materials, but the child is soon able to abstract the process. The last several exercises are three-part matching exercises that introduce the notation normally used when regrouping two- and three-digit addition and subtraction problems.

Exchange is available only as a cardstock matching exercise. Cardstock manipulatives require lamination and cutting.

3rd

9 hundreds 1 ten 15 ones

9 hundreds 2 tens 5 ones

Thousands (Green)

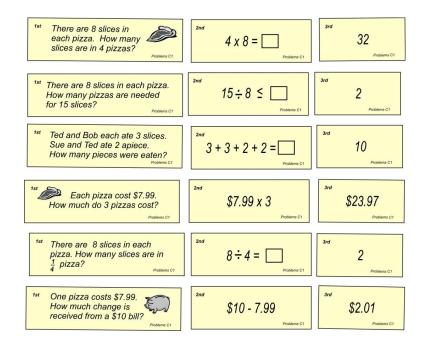
Exercise 2 of 25

Name Date	<u> </u>
1) 8 thousands, 6 hundreds, 5 tens, 3 ones =	May use golden beads, stamp game, or bead frame
2) 9 thousands, 8 hundreds, 4 tens, 2 ones =	olden b
3) 9 thousands, 4 tens, 2 ones =	eads, sta
4) 9 thousands, 4 hundreds, 2 tens =	mp game
5) 9 thousands, 4 hundreds, 2 ones =	, or bead
6) 9 thousands, 2 tens =	frame.
7) 5 tens, 3 ones, 6 thousands, 8 hundreds =	
8) 9 ones, 5 thousands, 6 hundreds, 1 ten =	
9) 7 thousands, 2 ones, 8 tens, 4 hundreds =	Th
10) 6 hundreds, 2 tens, 8 thousands, 9 ones =	senc
11) 6 tens, 8 thousands, 9 ones =	usands
12) 3 ones, 3 thousands = Conceptual Learning Materials www.conceptuallearning.com Copyright Dianne Knesek 1993, 2019	%

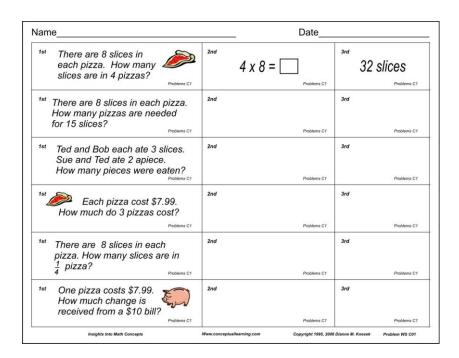
Problem Solving Match

Levels A, B, C, D, and E

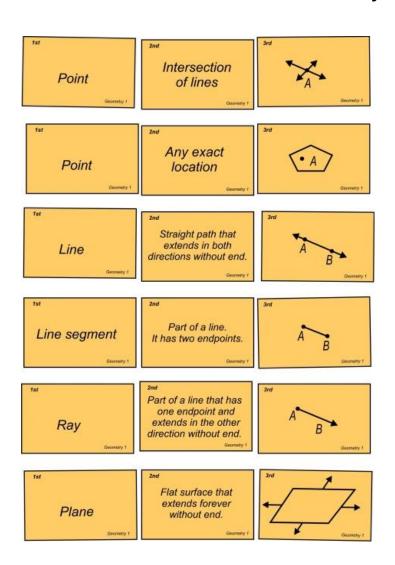
Problem Solving Matching cards are printed with black ink on colored cardstock. The "1st card" can be placed in any order, but the "2^{nd"} and "3^{rd"} cards must be placed with the appropriate question cards. Level C in printed on ivory cardstock which is to be laminated and cut. Another option is to use the 1st card as a free-response exercise and the remaining cards as a control. Problem Solving C has 20 exercises.



Problem Solving reproducible masters and digital downloads have the same problems as the matching cards, but come in a free-response worksheet format on which children record their own answers. Reproducible blacklines come in black ink on white paper, but digital downloads may be printed either in black and white or in color depending on the user's printer.



Geometry Introduction



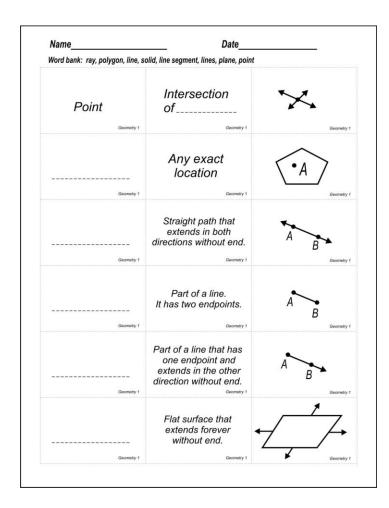
Reproducible Blackline or Digital PDF Download

Blackline and digital versions are reproducible free-response worksheets that correspond to the cardstock counterparts.

Answer key is included.

Cardstock version

Appropriate for grades 3, 4, and 5, Geometry Introduction spans lower and upper elementary levels. The fifteenexercise cardstock version is printed on a full page which is then to be laminated and cut. Labels for containers and answer keys are included.



Money Match A, B, and C





































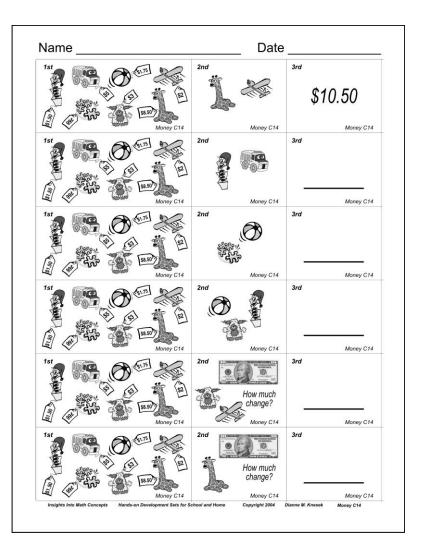
Reproducible Blackline or Digital PDF Download

Money Reproducible blackline masters are free-response workpages that correspond to the cardstock counterparts.

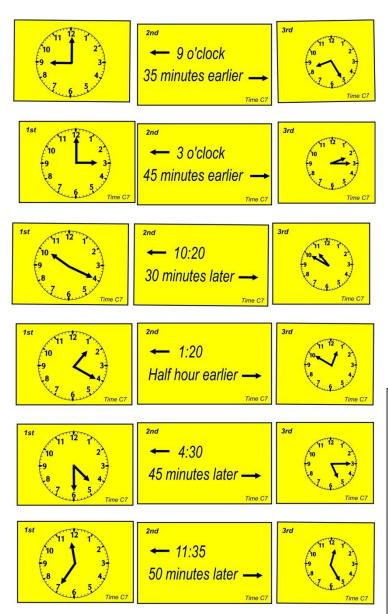
Digital PDF downloads will be available in fall of 2019.

Cardstock version

Money Match C is printed on ivory cardstock in black ink. Each level contains 15 incremented exercises, and the entre set includes all money concepts at the respective levels. The sets also include answer keys and organizational labels for containers.



Time Match A, B, and C

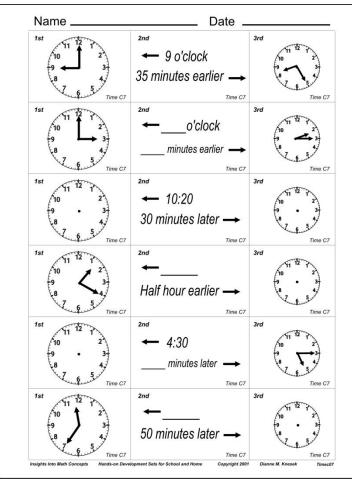


Reproducible Blackline or Digital PDF Download

Time reproducible blackline masters are free-response workpages that correspond to the cardstock counterparts. Digital PDF downloads will be available in fall of 2019.

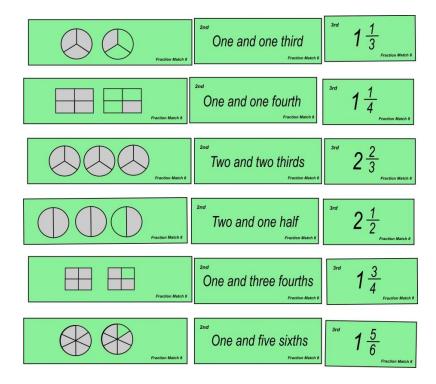
Cardstock version

Time C is printed on solar yellow cover stock in black ink. Each level contains 15 incremented exercises, and the entre set includes all time concepts at the respective levels. Specifically, Time C covers time to the minute, time intervals, and calendar work into previous and subsequent months. The sets also include answer keys and organizational labels for containers.

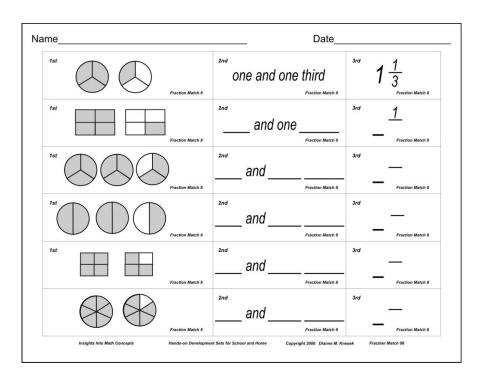


Fraction Match

Fraction Matching cards were created as preparation for more abstract fraction work. Despite previous work with fraction manipulatives, many children do not understand concepts such as improper fractions, equivalent fractions, fraction of a set, and fractions on a number line. Fraction Match addresses these concepts through pictures. The series includes 15 incremented exercises, answer keys, and organizational labels.

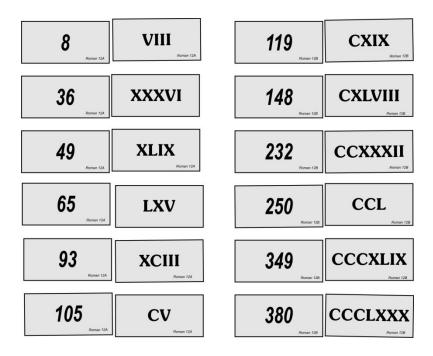


Fraction Match reproducible masters and digital downloads have the same problems as the matching cards, but come in a free-response worksheet format on which children record their own answers.



Roman Numerals Exercise 8 of 15

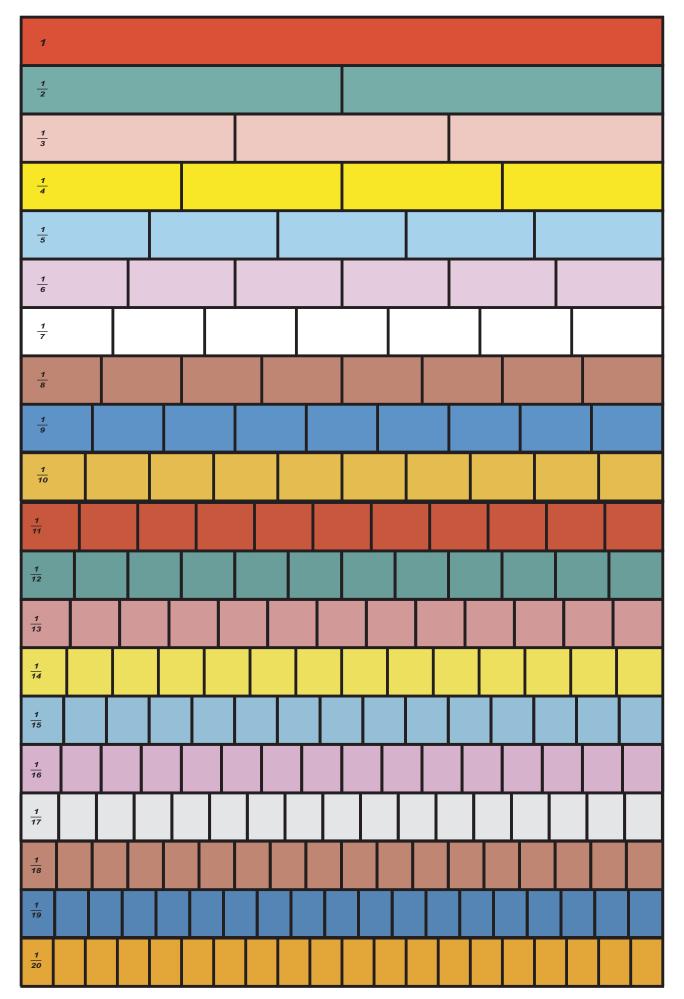
Roman Numerals is an incremented 15-exercise set that covers Roman Numeral—Arabic values up to 3000. Early exercises emphasize basic equivalencies as well as the similarly with base 10 expanded form. For example 139 = 100 + 30 + 9 Arabic and C + XXX + IX Roman (CXXXIX).



Roman Numeral reproducible masters have the same problems as the matching cards, but come in a free-response worksheet format which includes both Arabic to Roman and Roman to Arabic. Digital PDF download worksheets will be available in fall of 2019.

Name		Date
Write the Roman numeral th	at corresponds with the standard nu	meral given. The first one is done for you.
	8	VIII
	36	
	49	
	65	
	93	
	105	
	119	
	148	
	232	
	250	
	349	
	380	

Name		Date	B12
Write the Arabic (standard) n	umeral that corresponds with the Roman num	meral given. The first one is done for ye	u. D12
	VIII	0	
	VIII	8	
	XXXVI		
	XLIX		
	LXV		
	XCIII		
	CV		
	CV		
	CXIX		
	CXIX		
	CXLVIII		
	CCXXXII		
	CCL		
	CCCXLIX		
	CCCLXXX		



Fraction Concepts (11 of 20)

(cardstock, reproducible blackline masters, & digital downloads)

Fraction Concepts is graphic full-page bridging material encompassing all basic fraction concepts: equivalency, comparisons, reducing, improper to mixed numbers, mixed to improper, renaming, fraction of a group, addition and subtraction of like fractions, basic multiplication and division of fraction by whole number, and word problems, and answer keys. It is available in all three formats.

Name Date



One pencil plus another pencil equals two pencils. Likewise, $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$. Three video games plus two video games equals five video games. In the same way $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$. To add or subtract fractions with the same denominators, merely add or subtract the numerators. The denominators remain the same.

Add or subtract the following fractions. Simplify answer when possible.

1)
$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$
 10) $\frac{2}{7} + \frac{1}{7} + \frac{3}{7} =$

$$\frac{4}{6} + \frac{1}{6} = 11$$

3)
$$\frac{1}{8} + \frac{3}{8}$$
 12) $\frac{2}{9} + \frac{3}{9} + \frac{3}{9} =$

4)
$$\frac{5}{9} + \frac{1}{9} = 13$$
 13) $\frac{7}{9} - \frac{5}{9} = 1$

$$\frac{1}{7} + \frac{3}{7} = \underline{\qquad} \qquad 14) \qquad \frac{2}{8} + \frac{1}{8} + \frac{2}{8} = \underline{\qquad}$$

6)
$$\frac{1}{5} + \frac{4}{5} =$$
 15) $\frac{4}{5} - \frac{1}{5} =$

7)
$$\frac{1}{3} + \frac{2}{3} =$$
 16) $\frac{2}{10} + \frac{1}{10} + \frac{3}{10} =$ _____

3)
$$\frac{3}{6} + \frac{2}{6} =$$
 17) $\frac{5}{6} - \frac{1}{6} =$ _____

9)
$$\frac{4}{8} - \frac{3}{8} =$$
 18) $\frac{8}{9} + \frac{1}{9} =$

Decimal Introduction (6 of 20)

(cardstock, reproducible blackline masters, & digital downloads)

Decimal Introduction is full-page bridging material encompassing two- and three-place decimals: fraction to decimal, decimal to fraction, comparisons, rounding, simple operations, and answer keys. It is available in all three formats.

Name				Date	
Convert to	decima	1			
	1)	$3 \frac{8}{10}$	=	3.8	
	2)	$3 \frac{8}{100}$	= _		
	3)	$44\frac{2}{10}$	= _		
	4)	$44\frac{22}{100}$	=		
	5)	$44\frac{2}{100}$	= _		
	6)	<u>11</u> 100			
	7)	<u>11</u> 10	= _		
	8)	<u>62</u> 100	= _		
	9)	3 100	=		
	10)	$\frac{3}{10}$	= _		
	11)	$9\frac{6}{10}$	= _		
	12)	$9\frac{6}{100}$	= _		
	13)	$9\frac{60}{100}$	= _		
	14)	$9\frac{63}{100}$	=_		
	15)	$1\frac{17}{10}$			
	16)	$1\frac{17}{100}$	= _		
	17)	3 <u>88</u>	= _		
	18)	$3\frac{2}{10}$	_		