

# Conceptual Learning Materials

## *Insights into Math Concepts*

[www.conceptuallearning.com](http://www.conceptuallearning.com)

### Sample 4-5 Packet

1. \*Thousands Green
2. Geometry Introduction
3. Money C
4. Time C
5. Fraction Match
6. Roman Numerals
7. Problem Solving D
8. \*Mixed Practice D
9. \*Fraction Concepts
10. \*\*Decimal Cards
11. \*Decimal Introduction
12. Rename
13. \*Estimation
14. Advanced Numeration
15. Fraction Line Instructions
16. Order Fractions
17. Fraction Operations
18. More Fraction Operations
19. Inequalities
20. \*Number Theory
21. Decimal Line Instructions
22. Order Decimals

\*Actual free-response workpage

\*\*Manipulative for student use

4	5	6	7	8	<a href="http://www.conceptuallearning.com">www.conceptuallearning.com</a>
					Thousands (green)
					Problem Solving C
					Mixed Practice C
					Geometry Introduction
					Money C
					Time C
					Fraction Match
					Roman Numerals
					Problem Solving D
					Mixed Practice D
					Fraction Concepts
					Decimal Introduction
					Rename
					Estimation
					Advanced Numeration
					Fraction Number Lines
					Sets (Cumulative)
					Order Fractions
					Fraction Operations
					More Fraction Operations
					Inequalities
					Number Theory
					Decimal Line & Labels
					Order Decimals
					Problem Solving E
					Mixed Practice E
					More Advanced Numeration
					Decimal Fraction Equivalence
					Percent
					Geometry Intermediate
					Advanced Decimals
					Advanced Geometry
					Intervals (Whole numbers)
					Intervals (Positive reals)

***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 “Roman Numerals” would be on-level for fourth grade and reinforcement for fifth grade.

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.

## Thousands (Green)

Exercise 25 of 25

Name \_\_\_\_\_ Date \_\_\_\_\_

1) Rounded to the nearest hundred, 5,263  $\approx$  \_\_\_\_\_

2) Rounded to the nearest ten, 6,437  $\approx$  \_\_\_\_\_

3) Rounded to the nearest thousand, 3,747  $\approx$  \_\_\_\_\_

4) Rounded to the nearest thousand, 5,499  $\approx$  \_\_\_\_\_

5) Rounded to the nearest ten, 6,523  $\approx$  \_\_\_\_\_

6) Rounded to the nearest hundred, 7,567  $\approx$  \_\_\_\_\_

7) Rounded to the nearest ten, 9,347  $\approx$  \_\_\_\_\_

8) Rounded to the nearest thousand, 6,638  $\approx$  \_\_\_\_\_

9) Rounded to the nearest hundred, 2,122  $\approx$  \_\_\_\_\_

10) Rounded to the nearest hundred, 8,500  $\approx$  \_\_\_\_\_

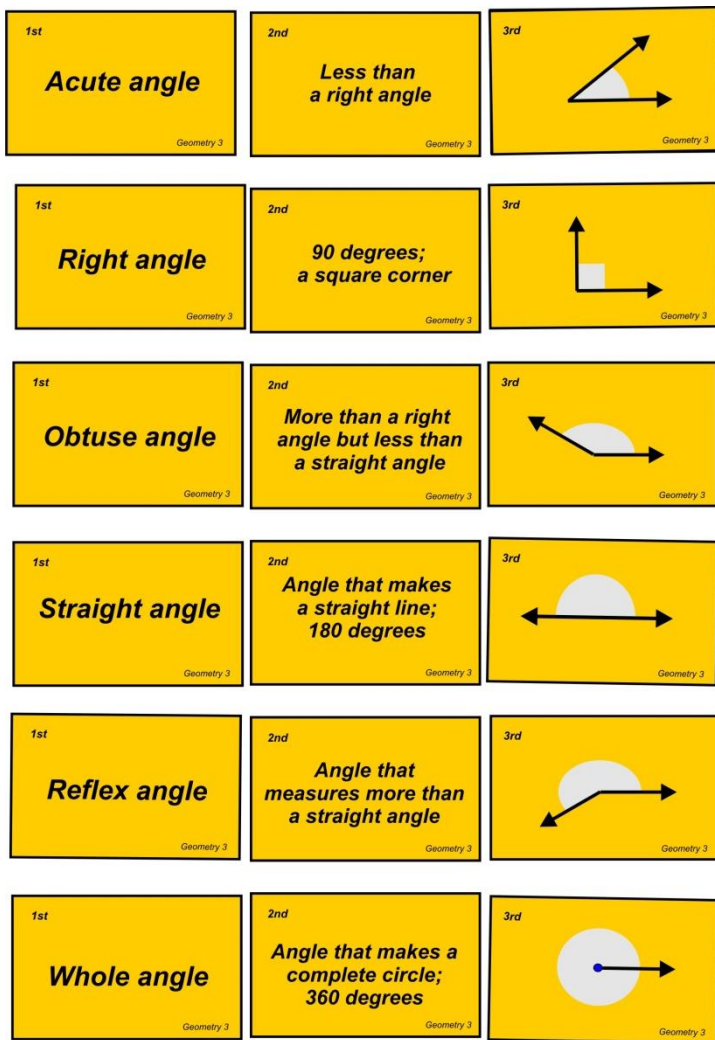
11) Rounded to the nearest thousand, 6,432  $\approx$  \_\_\_\_\_

12) Rounded to the nearest ten, 8,998  $\approx$  \_\_\_\_\_

**Thousands 25**

# Geometry Introduction

## (3 of 15)



### Cardstock version

Appropriate for grades 3, 4, and 5, *Geometry Introduction* matching cards cover a wide range of skills including undefined terms (point, line and ray, etc.), types of lines, angles, plane figures, polygons, triangles, quadrilaterals, perimeter, area, solid figures, and volume. The 15-exercise set also includes answer keys and organization labels for containers.

### Reproducible Blackline or Digital PDF Download

*Geometry Introduction* reproducible blackline masters and digital PDF downloads are free-response workpages that correspond to the cardstock counterparts.

Name \_\_\_\_\_ Date \_\_\_\_\_

**Word bank:** segment, whole angle, straight angle, acute angle, ray, obtuse angle, reflex angle, acute angle, right angle

<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><i>Less than a right angle</i></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>
<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><b>90 degrees; a square corner</b></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>
<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><i>More than a right angle but less than a straight angle</i></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>
<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><b>Angle that makes a straight line; 180 degrees</b></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>
<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><i>Angle that measures more than a straight angle</i></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>
<p>1st</p> <p>-----</p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>2nd</p> <p style="text-align: center;"><b>Angle that makes a complete circle; 360 degrees</b></p> <p style="text-align: right; font-size: small;">Geometry 3</p>	<p>3rd</p> <p style="text-align: right; font-size: small;">Geometry 3</p>

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# Money Match A, B, and C

1st  Money C14	2nd  Money C14	3rd \$10.50 Money C14
1st  Money C14	2nd  Money C14	3rd \$6.50 Money C14
1st  Money C14	2nd  Money C14	3rd \$2.74 Money C14
1st  Money C14	2nd  Money C14	3rd \$6.25 Money C14
1st  Money C14	2nd  Money C14 How much change?	3rd \$5.00 Money C14
1st  Money C14	2nd  Money C14 How much change?	3rd \$1.50 Money C14

## Cardstock version

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

Name _____		Date _____	
1st  Money C14	2nd  Money C14	3rd \$10.50 Money C14	
1st  Money C14	2nd  Money C14	3rd _____ Money C14	
1st  Money C14	2nd  Money C14	3rd _____ Money C14	
1st  Money C14	2nd  Money C14	3rd _____ Money C14	
1st  Money C14	2nd  Money C14 How much change?	3rd _____ Money C14	
1st  Money C14	2nd  Money C14 How much change?	3rd _____ Money C14	

Insights Into Math Concepts Hands-on Development Sets for School and Home Copyright 2004 Dianne M. Knesek Money C14



### 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.



# Time Match A, B, and C

## Cardstock version

Time C is printed on solar yellow cover stock in black ink. Each level contains 15 incremented exercises, and the entire 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.

	2nd ← 9 o'clock 35 minutes earlier →	3rd 
---	--	--

1st 	2nd ← 3 o'clock 45 minutes earlier →	3rd 
--	--	--

1st 	2nd ← 10:20 30 minutes later →	3rd 
--	--------------------------------------	--




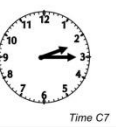

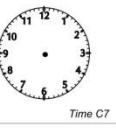

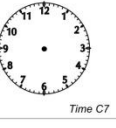
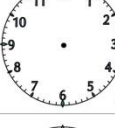

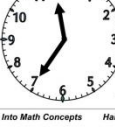
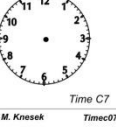
1st 	2nd ← 1:20 Half hour earlier →	3rd 
---	--------------------------------------	---

1st 	2nd ← 4:30 45 minutes later →	3rd 
--	-------------------------------------	--

1st 	2nd ← 11:35 50 minutes later →	3rd 
--	--------------------------------------	--







## 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.



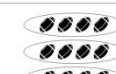



Name _____ Date _____		
1st 	2nd ← 9 o'clock 35 minutes earlier →	3rd 
1st 	2nd ← ____ o'clock ____ minutes earlier →	3rd 
1st 	2nd ← 10:20 30 minutes later →	3rd 
1st 	2nd ← ____ Half hour earlier →	3rd 
1st 	2nd ← 4:30 ____ minutes later →	3rd 
1st 	2nd ← ____ 50 minutes later →	3rd 
<small>Insights Into Math Concepts Hands-on Development Sets for School and Home Copyright 2001 Dianne M. Knesek TimeC07</small>		

# 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.

1st  Fraction Match 14	2nd $\frac{1}{3}$ of 12 Fraction Match 14	3rd <b>4</b> Fraction Match 14
1st  Fraction Match 14	2nd $\frac{2}{3}$ of 12 Fraction Match 14	3rd <b>8</b> Fraction Match 14
1st  Fraction Match 14	2nd $\frac{3}{3}$ of 12 Fraction Match 14	3rd <b>12</b> Fraction Match 14
1st  Fraction Match 14	2nd $\frac{3}{5}$ of 15 Fraction Match 14	3rd <b>9</b> Fraction Match 14
1st  Fraction Match 14	2nd $\frac{2}{5}$ of 15 Fraction Match 14	3rd <b>6</b> Fraction Match 14
1st  Fraction Match 14	2nd $\frac{3}{4}$ of 20 Fraction Match 14	3rd <b>15</b> Fraction Match 14

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.

Name _____		Date _____	
1st  Fraction Match 14	2nd $\frac{1}{3}$ of 12 Fraction Match 14	3rd <b>4</b> Fraction Match 14	
1st  Fraction Match 14	2nd $\frac{2}{3}$ of 12 Fraction Match 14	3rd _____ Fraction Match 14	
1st  Fraction Match 14	2nd $\frac{3}{3}$ of 12 Fraction Match 14	3rd _____ Fraction Match 14	
1st  Fraction Match 14	2nd $\frac{3}{5}$ of ____ Fraction Match 14	3rd _____ Fraction Match 14	
1st  Fraction Match 14	2nd ____ of 15 Fraction Match 14	3rd _____ Fraction Match 14	
1st  Fraction Match 14	2nd ____ of ____ Fraction Match 14	3rd _____ Fraction Match 14	

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# 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).

8 <small>Roman 12A</small>	VIII <small>Roman 12A</small>	119 <small>Roman 12B</small>	CXIX <small>Roman 12B</small>
36 <small>Roman 12A</small>	XXXVI <small>Roman 12A</small>	148 <small>Roman 12B</small>	CXLVIII <small>Roman 12B</small>
49 <small>Roman 12A</small>	XLIX <small>Roman 12A</small>	232 <small>Roman 12B</small>	CCXXXII <small>Roman 12B</small>
65 <small>Roman 12A</small>	LXV <small>Roman 12A</small>	250 <small>Roman 12B</small>	CCL <small>Roman 12B</small>
93 <small>Roman 12A</small>	XCIII <small>Roman 12A</small>	349 <small>Roman 12B</small>	CCCXLIX <small>Roman 12B</small>
105 <small>Roman 12A</small>	CV <small>Roman 12A</small>	380 <small>Roman 12B</small>	CCCLXXX <small>Roman 12B</small>

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 _____
<small>Write the Roman numeral that corresponds with the standard numeral given. The first one is done for you.</small>	
8	VIII
36	
49	
65	
93	
105	
119	
148	
232	
250	
349	
380	







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Name _____	Date _____
<small>Write the Arabic (standard) numeral that corresponds with the Roman numeral given. The first one is done for you.</small>	
VIII	8
XXXVI	
XLIX	
LXV	
XCIII	
CV	
CXIX	
CXLVIII	
CCXXXII	
CCL	
CCCXLIX	
CCCLXXX	

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# Problem Solving Match

Levels A, B, C, D, and E

<p>1st</p>  <p>48 owls got fitted for glasses. How many lenses?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>48 \times 2</math></p> <p>Problems D11</p>	<p>3rd</p> <p>96</p> <p>Problems D11</p>
<p>1st</p>  <p>How many octopi would be supplied with 48 slippers?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>48 \div 8</math></p> <p>Problems D11</p>	<p>3rd</p> <p>6</p> <p>Problems D11</p>
<p>1st</p>  <p>If Fido slept from 8:00 pm to 11:00 am. How many hours did he sleep?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>4 + 11</math></p> <p>Problems D11</p>	<p>3rd</p> <p>15</p> <p>Problems D11</p>
<p>1st</p>  <p>Monkey Hear, Monkey See and Monkey Do shared 48 bananas. How many each?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>48 \div 3</math></p> <p>Problems D11</p>	<p>3rd</p> <p>16</p> <p>Problems D11</p>
<p>1st</p>  <p>96 fleas shared 8 dogs. How many fleas on each dog?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>96 \div 8</math></p> <p>Problems D11</p>	<p>3rd</p> <p>12</p> <p>Problems D11</p>
<p>1st</p>  <p>Charlotte bought Reeboks for her 96 children. How many shoes?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>96 \times 8</math></p> <p>Problems D11</p>	<p>3rd</p> <p>768</p> <p>Problems D11</p>

Problem Solving Matching cards are printed with black ink on colored cardstock. The "1<sup>st</sup> card" can be placed in any order, but the "2<sup>nd</sup>" and "3<sup>rd</sup>" cards must be placed with the appropriate question cards. Level D is printed on blue cardstock which is to be laminated and cut. Another option is to use the 1<sup>st</sup> card as a free-response exercise and the remaining cards as a control. Problem Solving D has 20 exercises, an answer key, and organization labels for containers.

Problem Solving reproducible masters 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 which will be available in fall 2019 may be printed either in black and white or in color depending on the user's printer.

Name _____		Date _____	
<p>1st</p>  <p>48 owls got fitted for glasses. How many lenses?</p> <p>Problems D11</p>	<p>2nd</p> <p><math>48 \times 2</math></p> <p>Problems D11</p>	<p>3rd</p> <p>96</p> <p>Problems D11</p>	
<p>1st</p>  <p>How many octopi would be supplied with 48 slippers?</p> <p>Problems D11</p>	<p>2nd</p> <p>Problems D11</p>	<p>3rd</p> <p>Problems D11</p>	
<p>1st</p>  <p>If Fido slept from 8:00 pm to 11:00 am. How many hours did he sleep?</p> <p>Problems D11</p>	<p>2nd</p> <p>Problems D11</p>	<p>3rd</p> <p>Problems D11</p>	
<p>1st</p>  <p>Monkey Hear, Monkey See and Monkey Do shared 48 bananas. How many each?</p> <p>Problems D11</p>	<p>2nd</p> <p>Problems D11</p>	<p>3rd</p> <p>Problems D11</p>	
<p>1st</p>  <p>96 fleas shared 8 dogs. How many fleas on each dog?</p> <p>Problems D11</p>	<p>2nd</p> <p>Problems D11</p>	<p>3rd</p> <p>Problems D11</p>	
<p>1st</p>  <p>Charlotte bought Reeboks for her 96 children. How many shoes?</p> <p>Problems D11</p>	<p>2nd</p> <p>Problems D11</p>	<p>3rd</p> <p>Problems D11</p>	

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**Mixed Practice**  
**A, B, C, D, & E**

*Incremental overview of all level-appropriate skills. Great as diagnostic assessment or as cumulative review.*

Name \_\_\_\_\_

**Level D**

1) 2 hundredths  $\frac{\quad}{\quad}$   $\frac{\quad}{\quad}$   
*fraction* *decimal*

2) Eight and 2 hundredths  $\frac{\quad}{\quad}$   $\frac{\quad}{\quad}$   
*fraction* *decimal*

3) Estimate the product of 82 and 69 \_\_\_\_\_

4) How many feet in 48 inches? \_\_\_\_\_

5)  $\square + 97 = 341$  \_\_\_\_\_

6) 3 weeks and 6 days = \_\_\_\_\_ days

7) Greatest common factor of 12 and 15 \_\_\_\_\_

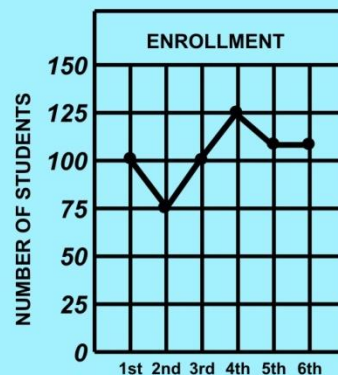
8)  $\frac{1}{4}$  of 9 = \_\_\_\_\_  
*Mixed number*

9)  $9112 - 6881 =$  \_\_\_\_\_

10) 
$$\begin{array}{r} 21 \\ \times 30 \\ \hline \end{array}$$

11)  $4\frac{7}{8} - 3\frac{2}{8} = \square$

12) 
$$2 \overline{)16381}$$



13) How many more students in grade 4 than grade 2?  
 \_\_\_\_\_

14) How many students in 1st, 2nd, and 3rd grades combined?  
 \_\_\_\_\_

**Mixed Practice 10**

*Mixed Practice D & E each have 20 half-page task-cards.*

*All taskcards are available in colorful cardstock, reproducible blackline masters, or digital PDF downloads.*

# Fraction Concepts (20 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 \_\_\_\_\_

1) In the fraction  $\frac{2}{3}$ , the denominator is \_\_\_\_\_, and the numerator is \_\_\_\_\_.

Proper (P), improper (I), or mixed number (MN)?

2)  $\frac{4}{3}$  \_\_\_\_\_ 3)  $\frac{3}{3}$  \_\_\_\_\_ 4)  $\frac{2}{3}$  \_\_\_\_\_ 5)  $1\frac{2}{3}$  \_\_\_\_\_

>, <, or = ?

6)  $\frac{3}{5}$  \_\_\_\_\_  $\frac{2}{5}$  7)  $\frac{1}{2}$  \_\_\_\_\_  $\frac{2}{4}$  8)  $\frac{2}{3}$  \_\_\_\_\_  $\frac{3}{2}$  9)  $\frac{1}{8}$  \_\_\_\_\_  $\frac{1}{9}$

Simplify:

10)  $\frac{3}{9}$  \_\_\_\_\_ 11)  $\frac{5}{4}$  \_\_\_\_\_ 12)  $2\frac{6}{8}$  \_\_\_\_\_ 13)  $1\frac{4}{3}$  \_\_\_\_\_

Work the problems & simplify answers if possible. (\*Hint, sometimes it helps to simplify first too.)

14)  $\frac{8}{9} + \frac{2}{9} =$  \_\_\_\_\_ 15)  $\frac{8}{9} - \frac{2}{9} =$  \_\_\_\_\_

16)  $5\frac{3}{4} + 2\frac{1}{4} =$  \_\_\_\_\_ 17)  $\frac{4}{15} + \frac{5}{15} =$  \_\_\_\_\_

18)  $4\frac{3}{5} + 1\frac{3}{5} =$  \_\_\_\_\_ 19)  $5\frac{9}{10} - 1\frac{3}{10} =$  \_\_\_\_\_

20)  $3\frac{3}{5} \times 3 =$  \_\_\_\_\_ 21)  $12\frac{9}{10} \div 3 =$  \_\_\_\_\_

22)\*  $3\frac{3}{5} + \frac{4}{4} =$  \_\_\_\_\_ 23)\*  $3\frac{6}{7} + 2\frac{3}{3} =$  \_\_\_\_\_

24)\*\*  $1\frac{1}{3} + 5\frac{2}{5} + 2\frac{2}{3} + 1\frac{1}{5} =$  \_\_\_\_\_

25)



Juan rode his bike  $\frac{3}{4}$  mile. Since there are 1,760 yards in one mile, how many yards did he ride his bike? \_\_\_\_\_

Fraction Concepts 20

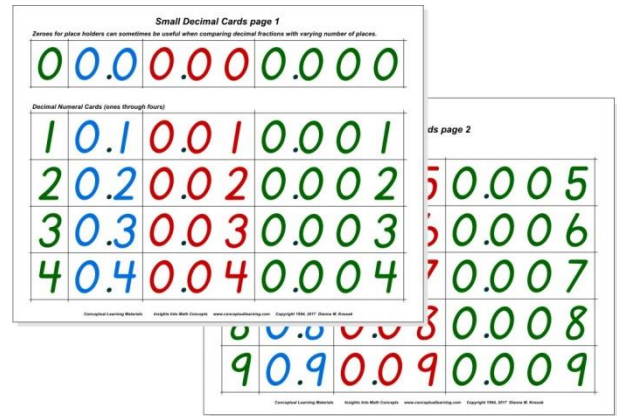
## Montessori Three-Place Decimal Cards

Our color-coded decimal cards include units, tenths, hundredths, and thousandths. As in other Montessori materials, units and thousandths are signified by the color green, tenths are blue, and hundredths are red.

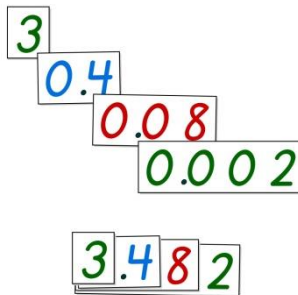
Your set includes an introduction, one set of large cards and three separate sets of small cards. Also included are two reproducible decimal grids for extensions.

### Preparation

- Laminate all pages except for the instructions and decimal grids which are to be photocopied for children to write on.
- Cut the cards that you need and save the rest for spare parts. Organize sequentially by size and color. Stack and secure with rubber bands. The entire set can be stored in a 9-inch plastic sorter.



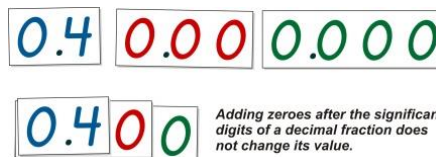
The introduction is used to introduce the place values concepts of one unit, tenth, hundredth, and thousandth. This set of cards is larger than the others.



Decimal cards are extremely helpful in discovering the meaning and value of decimal fractions.

### Decimal equivalencies

In advance of challenging exercises, it would be helpful to guide the student in discovering decimal equivalence. An example is that 0.4, 0.40, 0.400, and all have the same value. Also stress that zeros before the decimal point have no value. For example  $0.4 = .4$  because zero and four tenths means the same thing as four tenths.



As with the regular Montessori numeral cards, the decimal cards are often used in conjunction with manipulatives for operations. The large cards may be used to represent the large values such as sums, minuends, products, and dividends. Small cards are used to represent smaller values such as addends, factors, subtrahends, differences, and quotients.

Decimal grids can be used for decimal numbers of various decimal places on both sides of the decimal point -- from whole numbers through hundred thousands to decimal numbers through millionths.

## Small Decimal Cards page 1

Zeroes for place holders can sometimes be useful when comparing decimal fractions with varying number of places.

0

0.0

0.00

0.000

Decimal Numeral Cards (ones through fours)

1

0.1

0.01

0.001

2

0.2

0.02

0.002

3

0.3

0.03

0.003

4

0.4

0.04

0.004

## Small Decimal Cards page 2

Decimal Numeral Cards (fives through nines)

5	0.5	0.05	0.005
6	0.6	0.06	0.006
7	0.7	0.07	0.007
8	0.8	0.08	0.008
9	0.9	0.09	0.009

## Decimal Introduction (20 of 20)

(cardstock, reproducible blackline masters, & digital downloads)

Decimal Introduction is full-page taskcard set encompassing two- and three-place decimals. The sample depicts the cumulative exercise for the entire set, with each of the included skills addressed in an earlier page. All taskcard series are available in all three formats.

Name \_\_\_\_\_ Date \_\_\_\_\_

### In 24.18

- 1) What digit is in the tenths' place? \_\_\_\_\_
- 2) What digit is in the tens' place? \_\_\_\_\_

### Change to a decimal

- 3)  $\frac{5}{10} =$  \_\_\_\_\_
- 4)  $3\frac{14}{100} =$  \_\_\_\_\_
- 5)  $9\frac{3}{100} =$  \_\_\_\_\_
- 6)  $3\frac{6}{10} =$  \_\_\_\_\_
- 7)  $17\frac{32}{100} =$  \_\_\_\_\_

### Change to a fraction

- 8)  $3.3 =$  \_\_\_\_\_
- 9)  $4.67 =$  \_\_\_\_\_
- 10)  $19.07 =$  \_\_\_\_\_

11) Round 23.46 to nearest tenth \_\_\_\_\_

12) Round 165.51 to nearest whole \_\_\_\_\_

### Work the following problems:

- 13)  $4.65 + 0.2 =$  \_\_\_\_\_
- 14)  $5.86 - 3 =$  \_\_\_\_\_
- 15)  $2.4 \times 7 =$  \_\_\_\_\_
- 16)  $2.84 \div 4 =$  \_\_\_\_\_
- 17)  $\$5 - \$2.46 =$  \_\_\_\_\_
- 18)  $3.5 \times 3 =$  \_\_\_\_\_

Introduction to Decimals 20

# Rename

## Exercise 7 of 10

1st step <b>862</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 5\ 12 \\ 8\ 6\ 2 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 7\ 15\ 12 \\ 8\ 6\ 2 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>430</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 2\ 10 \\ 4\ 3\ 0 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 3\ 12\ 10 \\ 4\ 3\ 0 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>382</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 7\ 12 \\ 3\ 8\ 2 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 2\ 17\ 12 \\ 3\ 8\ 2 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>283</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 7\ 13 \\ 2\ 8\ 3 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 1\ 17\ 13 \\ 2\ 8\ 3 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>918</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 0\ 18 \\ 9\ 1\ 8 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 8\ 10\ 18 \\ 9\ 1\ 8 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>350</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 4\ 10 \\ 3\ 5\ 0 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 2\ 14\ 10 \\ 3\ 5\ 0 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>655</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 4\ 15 \\ 6\ 5\ 5 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 5\ 14\ 15 \\ 6\ 5\ 5 \\ \hline \end{array}$ <small>Rename 7</small>
1st step <b>565</b> <small>Rename 7</small>	2nd step $\begin{array}{r} 5\ 15 \\ 5\ 6\ 5 \\ \hline \end{array}$ <small>Rename 7</small>	3rd step $\begin{array}{r} 4\ 15\ 15 \\ 5\ 6\ 5 \\ \hline \end{array}$ <small>Rename 7</small>

### **“Rename” Matching Cards**

Each Rename exercise is printed on a full page. It entails matching regrouped values with the original. More advanced than its predecessor Exchange, Rename prepares the student for multiple regroupings required in multi-digit addition and subtraction operations.

Frequently, Rename 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 couple of exercises prepare for subtraction with zeroes in the minuend.

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

## Estimation (10 of 10)

(cardstock, reproducible blackline masters, & digital downloads)

Estimation is a full-page 10-exercise taskcard set to develop estimation skills. Featured is rounding to estimate sums, differences, products, and quotients involving whole numbers, mixed numbers, and dollars and cents. The sample depicts the cumulative exercise for the entire set, with each of the included skills addressed on an earlier page. Answer sheets are included. All taskcard series are available in all three formats.

Name \_\_\_\_\_ Date \_\_\_\_\_

Estimate the following.

1)  $5893 + 1758 \approx 6000 + 2000 \approx 8000$

2)  $629 \times 78$  \_\_\_\_\_

3)  $5\frac{2}{3} + 9\frac{1}{10}$  \_\_\_\_\_

4)  $\$8.23 - \$1.68$  \_\_\_\_\_

5)  $8756 + 165$  \_\_\_\_\_

6)  $5\frac{8}{9} \times 1\frac{2}{15}$  \_\_\_\_\_

7)  $518 - 175$  \_\_\_\_\_

8)  $586 \times 21$  \_\_\_\_\_

9)  $\$98.99 + \$2.99$  \_\_\_\_\_

10)  $\frac{1}{8}$  of 79 \_\_\_\_\_

11)  $5263 - 29$  \_\_\_\_\_

12)  $\$19.99 + \$4.06$  \_\_\_\_\_

13)  $8632 - 173$  \_\_\_\_\_

14)  $\frac{1}{5}$  of 44 \_\_\_\_\_

15)  $8419 \div 3$  \_\_\_\_\_

Estimation 10



# Advanced Numeration

(cardstock, reproducible blackline masters, & digital downloads)

Advanced Numeration is a full-page 20-exercise taskcard set involving numeration concepts of whole numbers up to 9 digits: place value, expanded form, comparisons, adding powers of 10, reading large numerals, rounding, cumulative review, and answer key. All taskcard series are available in all three formats.

## Advanced Numeration 3

Name \_\_\_\_\_

Date \_\_\_\_\_

- 1) 4 hundred thousands, 1 million, 4 ones, 7 hundreds, 2 tens = 1,400,724
- 2) 3 hundreds, 9 tens, 2 millions, 6 hundred thousands, 4 thousands, = \_\_\_\_\_
- 3) 2 thousands, 3 hundreds, 9 millions, 3 ten thousands, 8 tens = \_\_\_\_\_
- 4) 4 tens, 8 ones, 1 hundred thousand, 6 ten thousands, 2 hundreds = \_\_\_\_\_
- 5) 4 hundreds, 1 ten, 6 ones, 4 ten thousands, 5 thousands = \_\_\_\_\_
- 6) 3 thousands, 2 hundreds, 4 tens, 9 millions, 4 hundred thousands = \_\_\_\_\_
- 7) 3 millions, 4 hundred thousands, 5 ten thousand = \_\_\_\_\_
- 8) 2 tens, 4 millions, 8 ten thousands, 1 thousand = \_\_\_\_\_
- 9) 2 ten thousands, 3 hundred thousands, 3 hundred = \_\_\_\_\_
- 10) 7 tens, 3 millions, 3 hundreds, 2 ones = \_\_\_\_\_
- 11) 3 ones, 5 millions, 9 tens = \_\_\_\_\_
- 12) 3 hundred thousands, 4 tens, 4 millions, = \_\_\_\_\_
- 13) 3 hundreds, 8 tens, 3 ones, 7 millions, 4 thousand = \_\_\_\_\_
- 14) 3 thousands, 5 hundreds, 1 ten, 6 hundred = \_\_\_\_\_
- 15) 3 millions, 4 tens, 9 hundreds = \_\_\_\_\_

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Name \_\_\_\_\_ Date \_\_\_\_\_

- 1) Ten thousand's place in 18,721,345 ? \_\_\_\_\_
- 2) One million's place in 18,721,345 ? \_\_\_\_\_
- 3) Hundred thousand's place in 18,721,345 ? \_\_\_\_\_
- 4) 3 millions, 7 hundreds, 2 tens, 8 ones = \_\_\_\_\_
- 5) 8 millions, 6 hundred thousands, 2 tens = \_\_\_\_\_
- 6) 867,987  $(<, >, \text{ or } =)$  876,999 \_\_\_\_\_
- 7) 3,345,000  $(<, >, \text{ or } =)$  3,344,999 \_\_\_\_\_
- 8) One million more than 19,000,000 = \_\_\_\_\_
- 9) Thousand more than 4,599,000 = \_\_\_\_\_
- 10) Hundred more than 267,988 = \_\_\_\_\_
- 11) One million less than 1,000,000 = \_\_\_\_\_
- 12) Hundred less than 2,049 = \_\_\_\_\_
- 13) Thousand less than 100,999 = \_\_\_\_\_
- 14)  $2,960,000 + 100,000 =$  \_\_\_\_\_
- 15)  $408,000 - 10,000 =$  \_\_\_\_\_
- 16)  $1,009,000 - 100,000 =$  \_\_\_\_\_
- 17) Three million, one thousand, eighty-two = \_\_\_\_\_
- 18) Six thousand, three hundred forty-one = \_\_\_\_\_
- 19) Round 9,499,000 to the nearest million = \_\_\_\_\_
- 20) Round 345,999 to the nearest thousand = \_\_\_\_\_

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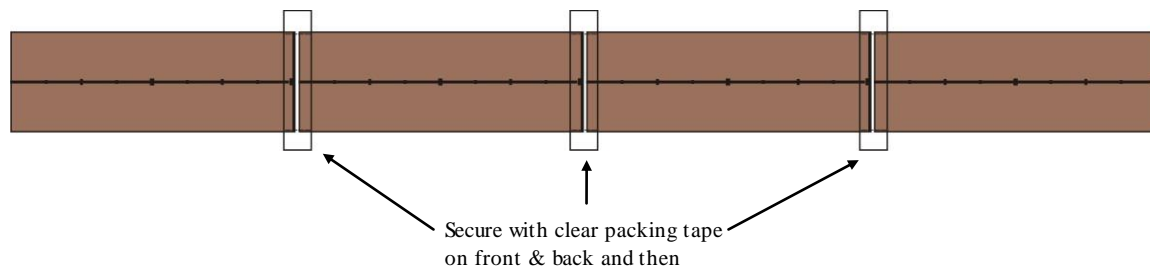
## Fraction Line and Tags

**Purpose:** to visualize the relationship between proper fractions, improper fractions, and mixed numbers and to acquire an intuitive understanding of their value.

### Contents

- Ten color-coded fraction lines. For the most part, colors correspond to Montessori short-bead-stair colors. For example, halves correspond to the green “two” beads, thirds correspond to the pink “three” beads, and so on.
- Two identical sheets of ivory tags that include un-simplified proper and improper fractions (one sheet is to use, and the second is for spare parts).
- Two identical sheets of white tags representing simplified and mixed-number versions that correspond to the respective ivory tags (again, one sheet is for use, and the second set is for spare parts).

**Preparation of lines:** Laminate the colored lines as well as the four pages of labels before cutting. Cut each set of colored lines along the dashed lines. Butt the four sections end-to-end and secure on both the front and back with clear packing tape. Trim the tape so it is even with the rest of the line. You will have created lines that are each four units long and subdivided into various fractional parts. If desired, you may fold “accordion-style” and place all fraction lines together in a 3 x 9 organizer for storage.



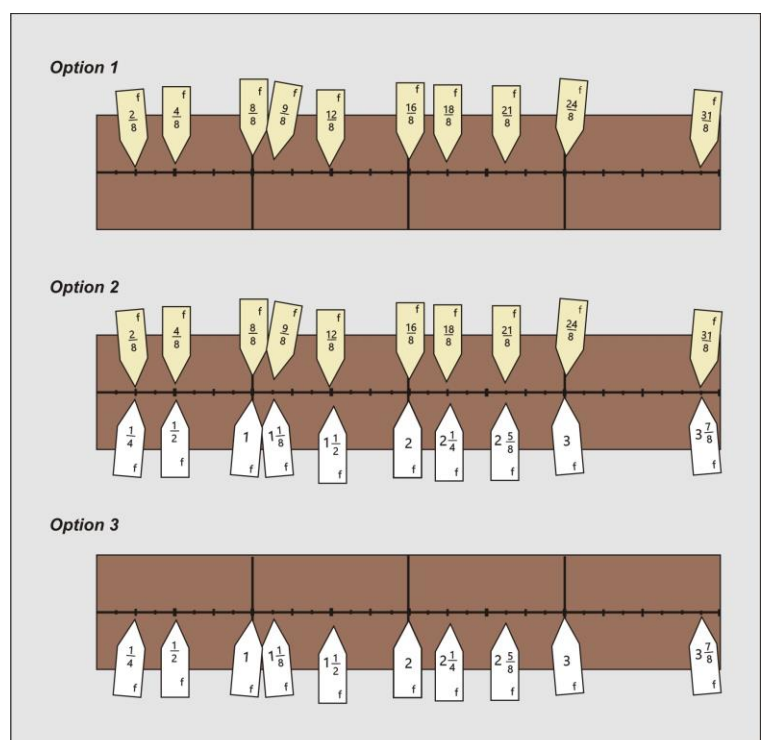
**Preparation of tags:** The four pages of tags should be laminated before cutting. Set one page of ivory tags and one page of white tags aside and save for future replacement parts.

Systematically cut the “half” tags on the ivory sheet and the “half” tags on the white sheet and store them in the same hardware drawer, box, or zip-lock envelope. The “half” tags are all designated with the letter “a” on the edge. Systematically do the same for thirds (b), fourths (c), fifths (d), and so on. When you have finished, you will have eleven different containers, each with about 10 ivory tags and 10 white tags. You may label the containers with the appropriate adhesive label which was included in your set.

**Presentation:** The child uses a specific number line with the appropriate tags. For examples, the “halves” number line is green, and it goes with the “halves” tags in the container with the letter “a”. Each number line is intended for a specific fractional part and is used with corresponding tags.

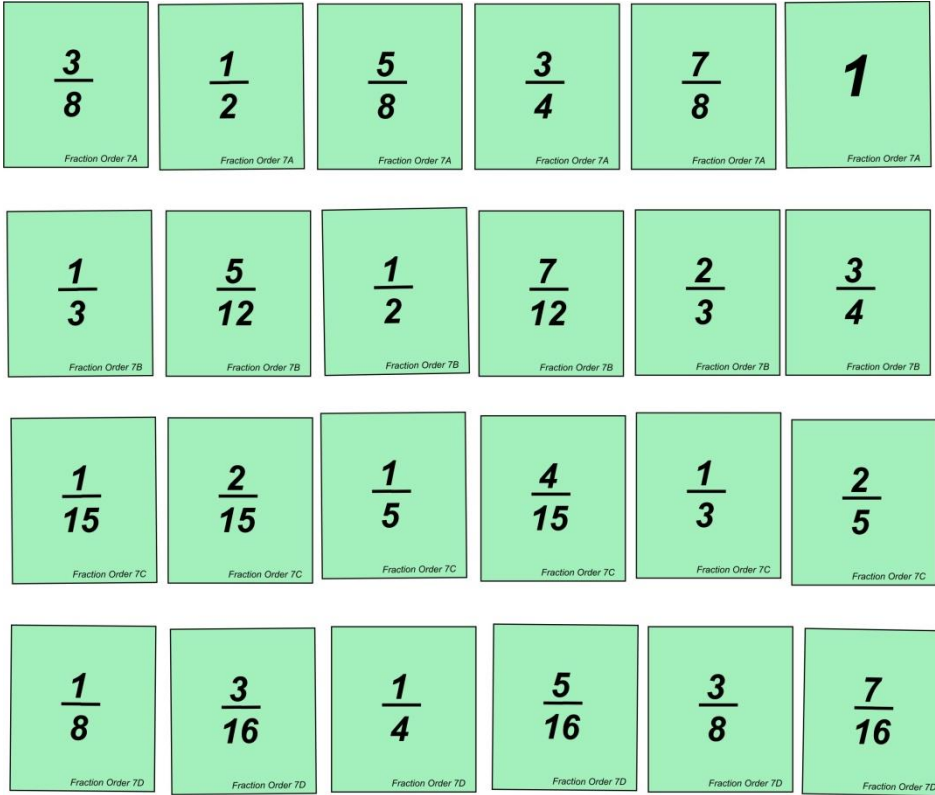
It is recommended that younger students progress through the set sequentially until it becomes challenging. Older children may relate to their previous knowledge of equivalent fractions.

The child opens the appropriate line and places it on a table or rug. He or she places the ivory tags along the top of the line (Option 1). The next phase would be to start with the ivory tags on the top and immediately place the white tags in the corresponding position along the bottom (Option 2); this phase can be valuable in discovering the relationship of the two versions. The final and most abstract phase is placement of the white tags first (Option 3). For this phase the ivory tags may be used as a control to self-check the work.



# Fraction Order

(7 of 10)



Fraction sequencing cards are four separate sequences of six fractional values ordered from least to greatest: like denominators, like and unlike fractions, improper fractions, and mixed numbers. Initially students can use fraction manipulatives or charts as aids, but when ready to abstract they can rely on the intuition gained through hands-on work or through finding common denominators. Incremented by level of difficulty, the set includes 10 separate exercises – each printed on a separate sheet. Organizational labels for containers and answer keys are included. All manipulative cardstock work requires lamination and cutting.

Fraction Order 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.

Name _____		Date _____				
Student is to select appropriate fraction (left of each row) to sequence fractions from least to greatest.	$\frac{3}{4}$ $\frac{7}{8}$ $\frac{1}{2}$ $\frac{5}{8}$	$\frac{3}{8}$				<b>1</b>
	$\frac{1}{2}$ $\frac{1}{3}$ $\frac{7}{12}$ $\frac{5}{12}$				$\frac{2}{3}$	$\frac{3}{4}$
	$\frac{2}{15}$ $\frac{2}{5}$ $\frac{1}{15}$ $\frac{1}{3}$		$\frac{1}{5}$	$\frac{4}{15}$		
	$\frac{5}{16}$ $\frac{3}{16}$ $\frac{1}{4}$	$\frac{1}{8}$			$\frac{3}{8}$	$\frac{7}{16}$
		Fraction Order 7A	Fraction Order 7A	Fraction Order 7A	Fraction Order 7A	Fraction Order 7A
		Fraction Order 7B	Fraction Order 7B	Fraction Order 7B	Fraction Order 7B	Fraction Order 7B
		Fraction Order 7C	Fraction Order 7C	Fraction Order 7C	Fraction Order 7C	Fraction Order 7C
		Fraction Order 7D	Fraction Order 7D	Fraction Order 7D	Fraction Order 7D	Fraction Order 7D

# Fraction Operations

(cardstock, reproducible blackline masters, & digital downloads)

Fraction Operations is a step-by-step 13-exercise series focusing on addition and subtraction of unlike fractions: equivalent fractions, common denominators, unlike proper fractions, unlike mixed numbers, regrouping of fractional minuends, multi-step subtraction requiring common denominators and regrouping, cumulative review, and answer key. All taskcards are available in all three formats.

Name \_\_\_\_\_ Date \_\_\_\_\_

1)  $\frac{1}{3} = \frac{2}{6}$     2)  $\frac{2}{3} = \frac{4}{6}$     3)  $\frac{3}{8} = \frac{9}{24}$   
 $+\frac{1}{2} = \frac{3}{6}$      $-\frac{1}{4} = \frac{3}{12}$      $+\frac{5}{6} = \frac{20}{24}$   
 $\frac{5}{6}$

4)  $\frac{5}{12} = \frac{10}{24}$     5)  $\frac{5}{8} = \frac{15}{24}$     6)  $\frac{9}{10} = \frac{27}{30}$   
 $+\frac{3}{8} = \frac{9}{24}$      $-\frac{2}{5} = \frac{8}{20}$      $-\frac{2}{3} = \frac{14}{30}$

7)  $\frac{3}{4} = \frac{9}{12}$     8)  $\frac{9}{10} = \frac{18}{20}$     9)  $\frac{4}{5} = \frac{8}{10}$   
 $-\frac{1}{3} = \frac{4}{12}$      $+\frac{3}{4} = \frac{15}{20}$      $+\frac{1}{2} = \frac{4}{8}$

10)  $\frac{2}{3} = \frac{4}{6}$     11)  $\frac{5}{6} = \frac{10}{12}$     12)  $\frac{7}{10} = \frac{14}{20}$   
 $+\frac{1}{4} = \frac{3}{12}$      $-\frac{3}{4} = \frac{9}{12}$      $-\frac{1}{3} = \frac{2}{6}$

13)  $\frac{7}{8} = \frac{14}{16}$     14)  $\frac{5}{12} = \frac{10}{24}$     15)  $\frac{2}{9} = \frac{4}{18}$   
 $-\frac{5}{6} = \frac{10}{12}$      $+\frac{3}{8} = \frac{9}{24}$      $+\frac{5}{6} = \frac{15}{18}$

Fraction Operations 5

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Name \_\_\_\_\_ Date \_\_\_\_\_

1)  $5 = 4\frac{2}{2}$     2)  $9 = 8\frac{1}{4}$     3)  $7 = 6\frac{1}{10}$   
 $-\frac{1}{2} = \frac{1}{2}$      $-\frac{3}{4} = \frac{3}{4}$      $-\frac{9}{10} = \frac{9}{10}$   
 $4\frac{1}{2}$

4)  $4 = 3\frac{1}{8}$     5)  $6 = 5\frac{1}{7}$     6)  $9 = 8\frac{1}{7}$   
 $-3\frac{1}{8} = 3\frac{1}{8}$      $-2\frac{3}{7} = 2\frac{3}{7}$      $-5\frac{6}{7} = 5\frac{6}{7}$

7)  $12 =$     8)  $8 =$     9)  $10 =$   
 $-4\frac{11}{12} =$      $-6\frac{9}{10} =$      $-1\frac{13}{15} =$

10)  $1 =$     11)  $3 =$     12)  $18 =$   
 $-\frac{9}{10} =$      $-1\frac{5}{6} =$      $-9\frac{1}{2} =$

13)  $34 =$     14)  $82 =$     15)  $100 =$   
 $-12\frac{2}{5} =$      $-14\frac{6}{7} =$      $-39\frac{5}{9} =$

Fraction Operations 8

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Date \_\_\_\_\_

1)  $3\frac{3}{4} = 3\frac{3}{4}$     2)  $8 =$     3)  $9\frac{1}{2} =$   
 $+2\frac{1}{2} = 2\frac{2}{4}$      $+2\frac{3}{4} =$      $-3\frac{1}{4} =$   
 $5\frac{5}{4} = 6\frac{1}{4}$

4)  $4$     5)  $7\frac{3}{4}$     6)  $8\frac{11}{12}$   
 $-1\frac{3}{4}$      $+2\frac{2}{3}$      $-4\frac{1}{3}$

7)  $3\frac{2}{3}$     8)  $7\frac{5}{12}$     9)  $9\frac{3}{4}$   
 $+8\frac{7}{8}$      $-1\frac{7}{12}$      $+7\frac{5}{6}$

10)  $7 + 3\frac{1}{5} + 6\frac{3}{4}$     11)  $9 + 4\frac{3}{4}$     12)  $7\frac{1}{4} - 3\frac{5}{6}$

13)  $5\frac{3}{4} + 2\frac{1}{4} + 3\frac{3}{8}$     14)  $5 - 1\frac{3}{4}$     15)  $7\frac{1}{3} - 4\frac{2}{3}$

Fraction Operations 13

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# More Fraction Operations

(cardstock, reproducible blackline masters, & digital downloads)

More Fraction Operations is an illustrated, step-by-step 20-exercise series focusing on multiplication & division of fractions, whole numbers, and mixed numbers. After practice with initial presentations, shortcuts such as cancelling are also presented. Multiplication and division are presented in vertical steps much as algebra is. More Fraction Operations 18 is a cumulative review of all multiplication & division of fractions, while 19 and 20 are cumulative reviews of all four fraction operations. All taskcards & answers are available in all three formats..

Name \_\_\_\_\_ Date \_\_\_\_\_

1)  $\frac{1}{3}$  of  $\frac{1}{6} = \frac{1}{18}$

2)  $\frac{1}{4} \times \frac{3}{4} = \frac{\quad}{\quad}$

3)  $\frac{1}{3} \times \frac{2}{5} = \frac{\quad}{\quad}$

4)  $\frac{1}{9} \times \frac{2}{5} = \frac{\quad}{\quad}$

5)  $\frac{3}{8} \times \frac{1}{2} = \frac{\quad}{\quad}$

6)  $\frac{1}{3} \times \frac{2}{3} = \frac{\quad}{\quad}$

7)  $\frac{1}{6} \times \frac{5}{6} = \frac{\quad}{\quad}$

8)  $\frac{4}{5} \times \frac{2}{3} = \frac{\quad}{\quad}$

9)  $\frac{3}{4} \times \frac{1}{2} = \frac{\quad}{\quad}$

10)  $\frac{1}{9} \times \frac{2}{3} = \frac{\quad}{\quad}$

More Fraction Operations 3

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Name \_\_\_\_\_ Date \_\_\_\_\_

A reciprocal is the fraction that gives a product of one.

$\frac{3}{4} \times \frac{4}{3} = \frac{12}{12} = 1$

$8 = \frac{8}{1}$   
 $\frac{8}{1} \times \frac{1}{8} = \frac{8}{8} = 1$

$1\frac{3}{4} = \frac{7}{4}$   
 $\frac{7}{4} \times \frac{4}{7} = \frac{28}{28} = 1$

Find the reciprocal

1)  $\frac{1}{2}$  \_\_\_\_\_

2)  $\frac{1}{8}$  \_\_\_\_\_

3) 3 \_\_\_\_\_

4)  $6\frac{1}{3}$  \_\_\_\_\_

9)  $3\frac{2}{9}$  \_\_\_\_\_

10)  $6\frac{1}{5}$  \_\_\_\_\_

11)  $2\frac{3}{4}$  \_\_\_\_\_

12)  $6\frac{4}{5}$  \_\_\_\_\_

13)  $2\frac{4}{5}$  \_\_\_\_\_

14)  $1\frac{5}{6}$  \_\_\_\_\_

15)  $1\frac{1}{3}$  \_\_\_\_\_

16)  $7\frac{1}{2}$  \_\_\_\_\_

More Fraction Operations 13

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\_\_\_\_\_ Date \_\_\_\_\_

3)  $\frac{1}{2} \div 3\frac{1}{2} = \frac{\quad}{\quad}$

4)  $6 \times \frac{5}{6} = \frac{\quad}{\quad}$

5)  $6 \div \frac{5}{6} = \frac{\quad}{\quad}$

6)  $3\frac{1}{4} \div 4 = \frac{\quad}{\quad}$

7)  $2\frac{1}{2} \div 3 = \frac{\quad}{\quad}$

8)  $2\frac{1}{2} \times 3 = \frac{\quad}{\quad}$

9)  $5 \div 1\frac{1}{2} = \frac{\quad}{\quad}$

10)  $5 \times 1\frac{1}{2} = \frac{\quad}{\quad}$

11)  $2\frac{1}{4} \div 4\frac{1}{2} = \frac{\quad}{\quad}$

12)  $3\frac{1}{5} \times 10 = \frac{\quad}{\quad}$

13)  $7\frac{1}{2} \div 7\frac{1}{2} = \frac{\quad}{\quad}$

14)  $3\frac{1}{3} \times 2\frac{1}{4} = \frac{\quad}{\quad}$

More Fraction Operations 18

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# Inequalities

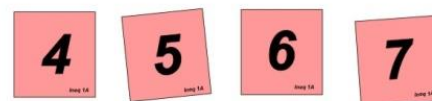
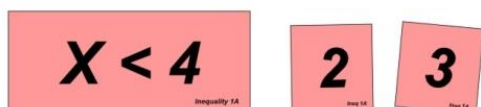
(1 of 15)

Developing logic and critical thinking skills, *Inequalities* is a comfortable introduction to basic algebraic notation. Algebraic representations of open and closed intervals are solved by selecting solution cards from a given replacement set. The series introduces variables as well as the relationship symbols  $>$ ,  $\geq$ ,  $<$ , and  $\leq$ . *Inequalities* is printed in black ink on salmon cardstock and includes a paper answer key. There are 15 separate exercises, each with six problems. The cardstock manipulative exercise requires lamination and cutting. Organizational labels for containers are included.

Put the cards that solve the inequality next to it.

Put cards from the replacement set that do not solve the inequality to the side.

"A" cards



"B" cards



"C" cards



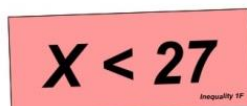
"D" cards



"E" cards



"F" cards



## Number Theory (12 of 20)

(cardstock, reproducible blackline masters, & digital downloads)

Number Theory is a 20-exercise free-response taskcard series that includes prime and composite numbers, laws of divisibility, factors, prime factors, greatest common factor, multiples, least common multiple, exponents, simple radicals, and answer keys. All taskcards are available in all three formats.

Name \_\_\_\_\_

Date \_\_\_\_\_

- |     |                             |                  |
|-----|-----------------------------|------------------|
| 1)  | <b>Prime factors of 36</b>  | $2^2 \times 3^2$ |
| 2)  | <b>Prime factors of 48</b>  | _____            |
| 3)  | <b>Prime factors of 12</b>  | _____            |
| 4)  | <b>Prime factors of 49</b>  | _____            |
| 5)  | <b>Prime factors of 75</b>  | _____            |
| 6)  | <b>Prime factors of 32</b>  | _____            |
| 7)  | <b>Prime factors of 56</b>  | _____            |
| 8)  | <b>Prime factors of 84</b>  | _____            |
| 9)  | <b>Prime factors of 90</b>  | _____            |
| 10) | <b>Prime factors of 96</b>  | _____            |
| 11) | <b>Prime factors of 144</b> | _____            |
| 12) | <b>Prime factors of 125</b> | _____            |
| 13) | <b>Prime factors of 99</b>  | _____            |
| 14) | <b>Prime factors of 112</b> | _____            |
| 15) | <b>Prime factors of 120</b> | _____            |
| 16) | <b>Prime factors of 128</b> | _____            |
| 17) | <b>Prime factors of 200</b> | _____            |
| 18) | <b>Prime factors of 164</b> | _____            |
| 19) | <b>Prime factors of 150</b> | _____            |
| 20) | <b>Prime factors of 16</b>  | _____            |

Number Theory 12

## Decimal Line and Tags

Your set includes two separate sets of decimal lines and tags as well as a set of decimal numeral cards.

Because Montessori hundreds and hundredths are red, the red line and tags with red numerals is for two-place decimals. Because Montessori thousands and thousandths are green, the green line and tags with green numerals is for three-place decimals. There is a set of adhesive organizational labels and a set of blue “tenths” tags for each line. Some teachers store the two sets of tags separately, while other teachers save shelf space and containers by storing them together.

The decimal numeral cards may be used with either set or with any other decimal materials in the classroom.

Also included are two pages of blank tags and a decimal grid for extensions. These are not laminated and can be photocopied when additional copies are needed.

### Preparation

- Laminate all pages except for the blank labels and decimal grid.
- Each of the red pages and green pages has four sections separated by dashed lines. Cut along the dashed markings on each page. For each line, butt 10 sections end-to-end and secure both sides with clear packing tape. Leave a small space between the sections before taping to facilitate folding the lines accordion-style for storage. Retain the two leftover sections for each line for extensions or replacement pieces.
- Eight separate exercises are included for each line (a, b, c ... h) There are enough blue tags to include with each exercise if the teacher so chooses, or she or he may place one of two sets of blue tags in a separate container and use the extras for replacement parts. Cut and sort the tags according to letter. Label the containers or drawers with the appropriate adhesive label included with the sets.
- The unlaminated blank tags and decimal grid may be photocopied as needed for children to write on.

### Decimal Numeral Cards

Decimal are extremely helpful in discovering the meaning and value of decimal fractions.

0.3 0.07 0.005

0.375

0.4 0.00 0.000

0.400

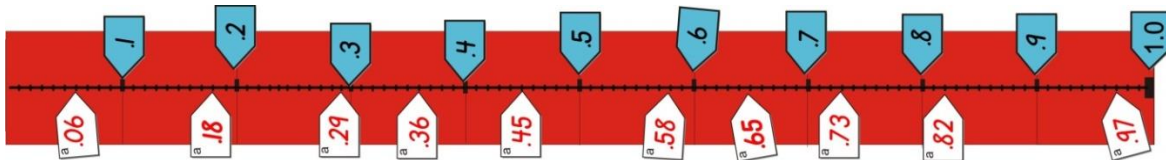
Adding zeros after the significant digits of a decimal fraction does not change its value.

### Decimal equivalencies

In advance of challenging exercises, it would be helpful to guide the student in discovering decimal equivalence. An example is that 0.4, .4, 0.40, .40, 0.400, and .400 all have the same value.

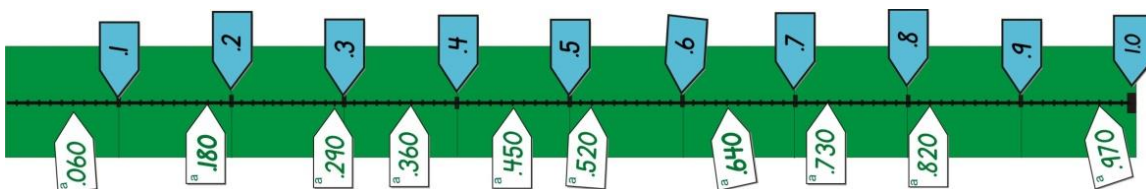
### Hundredth line and tags

The student progresses sequentially through each drawer. It is important for the child to understand that adding a zero to the end of a one-place decimal fraction does not change its value. This concept is helpful when sequencing a mixture of one- and two-place decimals.



### Thousandth line and tags

The student progresses through each drawer. The last several exercises are challenging. It might be helpful for the child to visualize adding enough zeroes to one and two-place decimals to bring them to three digits.





# Decimal Order

(6 of 10)

<b>0.001</b> <small>Decimal Order 6A</small>	<b>0.01</b> <small>Decimal Order 6A</small>	<b>0.1</b> <small>Decimal Order 6A</small>	<b>1</b> <small>Decimal Order 6A</small>	<b>10</b> <small>Decimal Order 6A</small>	<b>100</b> <small>Decimal Order 6A</small>
---	--	---	---	--	---

<b>.005</b> <small>Decimal Order 6B</small>	<b>.05</b> <small>Decimal Order 6B</small>	<b>.5</b> <small>Decimal Order 6B</small>	<b>5</b> <small>Decimal Order 6B</small>	<b>50</b> <small>Decimal Order 6B</small>	<b>500</b> <small>Decimal Order 6B</small>
--	---	--	---	--	---

<b>0.032</b> <small>Decimal Order 6C</small>	<b>0.32</b> <small>Decimal Order 6C</small>	<b>3.2</b> <small>Decimal Order 6C</small>	<b>32</b> <small>Decimal Order 6C</small>	<b>320</b> <small>Decimal Order 6C</small>	<b>3200</b> <small>Decimal Order 6C</small>
---	--	---	--	---	--

<b>.513</b> <small>Decimal Order 6D</small>	<b>5.13</b> <small>Decimal Order 6D</small>	<b>51.3</b> <small>Decimal Order 6D</small>	<b>513</b> <small>Decimal Order 6D</small>	<b>5130</b> <small>Decimal Order 6D</small>	<b>51300</b> <small>Decimal Order 6D</small>
--	--	--	---	--	---

Decimal sequencing cards are four separate sequences of six decimal values ordered from least to greatest. Incremented by level of difficulty, the set includes 10 separate exercises – each printed on a separate sheet. Organizational labels for containers and answer keys are included. All manipulative cardstock work requires lamination and cutting.

Decimal Order reproducible masters have the same problems as the matching cards, but come in a free-response worksheet format on which children record their own answers. Decimal Order workpage digital downloads will be available in fall of 2019.

	Name _____	Date _____			
10 1 0.1	<b>0.001</b>	<b>0.01</b>			<b>100</b>
	<small>Decimal Order 6A</small>	<small>Decimal Order 6A</small>	<small>Decimal Order 6A</small>	<small>Decimal Order 6A</small>	<small>Decimal Order 6A</small>
.5 50 .05	<b>.005</b>		<b>5</b>		<b>500</b>
	<small>Decimal Order 6B</small>	<small>Decimal Order 6B</small>	<small>Decimal Order 6B</small>	<small>Decimal Order 6B</small>	<small>Decimal Order 6B</small>
3200 0.032 320		<b>0.32</b>	<b>3.2</b>	<b>32</b>	
	<small>Decimal Order 6C</small>	<small>Decimal Order 6C</small>	<small>Decimal Order 6C</small>	<small>Decimal Order 6C</small>	<small>Decimal Order 6C</small>
51.3 5.13 5130	<b>.513</b>		<b>513</b>		<b>51300</b>
	<small>Decimal Order 6D</small>	<small>Decimal Order 6D</small>	<small>Decimal Order 6D</small>	<small>Decimal Order 6D</small>	<small>Decimal Order 6D</small>

Student is to select appropriate decimal (left of each row) to sequence numbers from least to greatest.

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