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## CROSS-OUT NUMBER PUZZLES & GAMES 4/5

## DESCRIBE CROSS-OUT NUMBER PUZZLES & GAMES 4/5.

Each puzzle in Cross-Out Number Puzzles & Games 4/5 consists of 23 questions. The questions in the puzzles are cumulative in nature. However, each group of five puzzles has similar outcomes. This means that the questions in Puzzles 1-5 involve the same outcomes, the questions in Puzzles 6-10 involve the same outcomes and so on. Each group of five puzzles introduces new number concepts, strategies and skills while repeating those introduced in previous puzzles. There are 40 puzzles in all.

New concepts, strategies and skills are often introduced by two questions connected by a bracket. One of the questions is a helper question and can involve models such as number discs, fraction bars or scales. The gradual introduction of new number concepts, together with the reinforcement of those already introduced, helps students gain confidence in their ability to do mathematics.

For each group of five puzzles there is an overview and an assessment sheet. The overview states the outcomes of each new group of five puzzles based on the first puzzle of the group. For example, Overview: Puzzles 1-5 states the outcomes of each question in puzzle 1, while Overview: Puzzles 6-10 states the outcomes of each question in puzzle 6. The assessment sheet states the outcomes of each question in the last puzzle of each group.

For each group of five puzzles there are also accompanying games. These games provide practice in the concepts introduced in each group of five puzzles. The rules for the games are simple and easy to follow. They include games like: 'I have.., Who has..?', card games and bingo games. Each group of five games has an introduction with instructions for the games and explains the learning outcomes it addresses.

## WHAT IS THE INTENDED GRADE LEVEL?

This resource is intended for students in Grades 4 or 5. However, the puzzles are also suitable for students in higher grades who are still working on the concepts introduced in this resource. If students are not ready for this resource, have them work through the puzzles in *Cross-Number Discovery Puzzles & Games 4* or an earlier resource in the series. It is important that students are capable of answering the majority of the questions in any of the puzzles. As there are five resources in the *Cross-Number Discovery Puzzles & Games series*, there is a puzzle in the series to suit every child,

## **ARE THE PUZZLES SELF-CORRECTING?**

Yes, the puzzles are self-correcting. Once the students have answered each question, have them find that answer in the answer key at the bottom of the page. Have them cross-out or shade in that answer as well as the letter that appears above it. As there are 28 answers but only 23 questions, there will be five answers remaining. When they have answered and crossed out all 23 answers, have them write the five letters above the five remaining answers. As the letters appear in two rows, have them start with the letters in the top row from left to right, and then continue with the remaining letters in the bottom row also from left to right. The five letters will form a word.

## **HOW WERE THE QUESTIONS IN THE PUZZLES CHOSEN?**

The questions fall into six categories:

- 1. Place-value to a hundred thousand
- 2. Operations of addition, subtraction, multiplication and division
- 3. Multiplication by a factor of 10
- 4. Fractions
- 5. Decimals of tenths and hundredths
- 6. Algebraic thinking

## HOW CAN I USE THIS RESOURCE IN MY CLASSROOM?

Teachers can use this resource with an entire class, small groups, or individual students. As there are a number of books in the earlier series, Cross-Number Discovery Puzzles & Games, there is a puzzle at the appropriate level for every student. The resource allows teachers to easily differentiate instruction.

The puzzles are also a tool for parental involvement. Through the puzzles, the parents are introduced to models and strategies that can help them support their children with their math learning.

## **HOW CAN THIS RESOURCE HELP MY STUDENTS?**

Because the puzzles and games introduce number concepts one at a time, it is easy to identify how confident students are with a particular number concept and whether they need more support. The puzzles are an excellent diagnostic and assessment tool. Not all students in a class are at the same point in their learning, and these puzzles allow teachers to identify how best to help each student and move him or her forward. The accompanying games provide additional support.

The structure of the puzzles allows students to know what is expected of them and to be successful with little teacher intervention. This is rewarding for students and builds confidence. The puzzles are engaging and fun and help students discover their ability to do mathematics.



# Puzzles

At their own level, at their own place, but at the same time



## **OVERVIEW: PUZZLES 1-5**

Puzzles 1-5 are the first group of puzzles in *Cross-Out Number Puzzles 4/5*. The following number concepts, strategies and skills are introduced in this group of five puzzles. The outcomes below are listed as they appear in Puzzle 1.

01	Extending a pattern that increases by 10, no regrouping
02	Finding the perimeter of a hexagon
	Converting a 4-digit number from expanded form to standard form
	Introducing number discs
05	Comparing 10 tens and 10 x 10
06	Incrementing a 4-digit number by 10, no regrouping
07	Finding the hundred a 3-digit number is closer to
08	Converting a 2-digit number from non-standard form to standard form
C <sup>09</sup>	Combining pairs of numbers that add to 10
L_10	Combining pairs of numbers that add to 100
	Doubling a 2-digit number, modeled with a scale
12	Finding the sum of two 4-digit numbers, with regrouping
13	Finding the difference between two 3-digit numbers, no regrouping
14	Decrementing a 4-digit number by 100, no regrouping
15	Finding the area of a rectangle by counting its unit squares
Г16	Finding the number of cents in 4 quarters
L 17	Finding the number of cents in 8 quarters
18	Solving an equation for a missing term, 4 identical terms on each side of the equation
L <sub>19</sub>	Finding the unit fraction of a bar that is shaded
- 20	Finding the unit fraction of a bar that is shaded
	Comparing two unit fractions
22	Finding the value of an underline digit in a 4-digit number
23	Comparing adding 99 and adding 100

At the end of the puzzles, there are **Outcome Sheets**, which include a checklist for this group of puzzles, The outcomes for this group of puzzles are listed as they appear in Puzzle 5. Refer to section 1-5 of the **Games** section for activities that support the concepts presented in this group of five puzzles.

01	290, 300, 310,	12	1117 + 1024 =
02	The perimeter 5 5 5 of the hexagon. 5 5	13	975 - 674 =
_	HINT: The distance around the hexagon. 5 5	14	100 less than 2222 =
03	Write in standard form. 2000 + 100 + 30 + 2	15	The area of the rectangle.
-04			HINT: Count the unit squares.
_		[16	4 quarters = ¢
05	10 tens 10 × 10 Use <, =, or >.	_	HINT: the number of cents.
		17	8 quarters = 🖉 🖉
06	10 more than 2133 =		HINT: the number of cents.
07	The hundred that 270 is closer to. HINT: Place 270 on the number line.	18	12 + 12 + 12 + 12 = 12 + 12 + 12 +
	200 300	L 19	$=$ $\frac{1}{-}$ shaded
08	Write in standard form. 2 tens and 13 ones.		HINT: Divide the bar into equal parts so the shaded part is one of the equal parts.
- 09	5 + 5 + 3 + 7 + 4 + 6 + 1 =	-20	$=$ $\frac{1}{-}$ shaded
	HINT: Find pairs that add to 10.		HINT: Divide the bar into equal parts so the shaded part is one of the equal parts.
10	50 + 50 + 30 + 70 + 40 + 60 + 10 = HINT: Find pairs that add to 100.	_21	$\frac{1}{3}$ $\frac{1}{4}$ Use <, =, or >.
1	Balance the scale.	22	The value of the underlined digit in the number 53 <u>4</u> 6.
	in the square that balances the scale.	23	45 + 99 45 +100 Use <, =, or >.

D	Q	С	В	G	S	Α	U	x	0	Т	К	E	J
<	=	>	1⁄4	1⁄3	1/2	12	13	20	30	31	32	33	40
F	Р	W	K	Z	I	С	В	E	N	Ν	L	Н	R
100	140	200	300	301	310	320	2122	2131	2132	2132	2141	2143	2144

01	1000 less	than 42	35 =				12	Write ir 4 tens o	n standa and 13 c	ird form. ones				
02	9 + 9 + 9 - HINT: Find	+ 5 + 1 pairs tha	+ 1 + 1 =	10.			13	HINT: Di the sha	vide the ded part	bar into e is one of	= - equal pc f the equ	1 shac arts so val parts.	led	
-03	90 + 90 + HINT: Find	90 + 50 pairs tha	+ 10 + 10	0 + 10 = 100.			-14				=	1 shac	led	
04	Balance HINT: Find in the sque	the scal the num are that	e. ber		3	3		HINT: Di the unsi	vide the haded p	bar into e art is one	equal pc of the e	arts so qual par	ts.	
05	balances The thous	the scale and tha	e. † 2600 is o	closer to.		<u>/</u>	15	1 3	$\frac{1}{5}$	Use <,	, =, or >.			
	HINT: Place 1	e 2600 oi	n the nun	nber line.  3000			16	The va digit in	lue of th the nun	e under nber <u>2</u> 89	lined 97.			
06	The area the recta	of ngle.					17	3732, 3	632, 353	32, 3432,				
_	HINT: Cour unit square	nt the es.					18	18 33 + 33 + 33 + 33 = 33 + 33 + 33 +						
07	42 + 29	42 +	- 30	Use <, =,	or >.		19	10 hun	dreds	10 ×	100	Use <, =	=, or >.	
08	Write in st 3000 + 30	andard 0 + 30 +	form. · 3				20	100 more than 3255 =						
09	1000 100 1000 100 1000 100		=					21 4 quarters = ¢ HINT: the number of cents.						
10	The perim of the oc HINT: The o	neter tagon. distance					22	12 qua HINT: th	rters = [	¢ er of cent	S.			
	896 - 563	=		4			23	3127 +	226 =					
			l			-		6	L		· ·	-		
H	В	P	<b>X</b>	<b>M</b>	<b>W</b>	C	A	<b>S</b>	L 25	0	Z	R	V 100	
			<sup>7/5</sup>	73 T	72 D	30 D	32 N	33 V	<u>ः</u>	52 K	53 E	55		

3

01	1000 less than 2400 =	12	Write in standard form. 2 tens and 24 ones
-02		13	The perimeter of the pentagon. $9 - 9$ 9 - 9 9 - 9 9
-03	Write in standard form. 2000 + 20 + 2	14	25-9 25-10 Use <, =, or >.
04	600, 700, 800, 900,	-15	7 + 6 + 2 + 4 + 3 =
05	4 × 5 5 × 4 Use <, =, or >.	17	Balance the scale.
06	The value of the underlined digit in the number 93 <u>4</u> 2.	18	10 tens =
07	8763 - 3311 =	[19]	8 quarters = ¢
	= shaded	20	8 quarters and 4 dimes = Ø
-09	shaded	21	The area of the rectangle.
10	$\frac{1}{5}$ $\frac{1}{4}$ Use <, =, or >.	22	The thousand that 2400 is closer to.
0	3318 + 2027 + 109 =	23	51 + 51 + 51 + 51 = + 51 + 51 + 51

L	Α	Х	J	N	V	Т	В	Н	S	I	Y	D	К
<	=	>	1⁄5	1⁄4	22	24	40	42	44	45	51	52	54
F	Т	Q	R	С	U	Μ	E	Z	Z	G	E	0	W
100	200	240	500	1000	1400	2000	2020	2022	2022	2200	5254	5452	5454

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01	The value of the underlined digit in the number <u>3</u> 521.	13	Write in standard form. 3 hundreds, 2 tens and 18 ones
02	8813, 8823, 8833, 8843,	14	$\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{4}$
03	70 + 70 + 70 + 50 + 30 + 30 + 30 =		Use <, =, or >. HINT: Shade in each fraction.
04	700 + 700 + 700 + 500 + 300 + 300 + 300 =	15	$\frac{1}{4} \square \frac{1}{5} \square \square \square$ Use <, =, or >.
05	Balance the scale.	-	· · ·
_		16	10 hundreds =
06	200 - 100 200 - 99 Use <, =, or >.	17	1000 more than 2513 =
07	31 + + 31 + 31 = 31 + 31 + 31 + 31	18	9998 - 1143 =
08	$ \begin{array}{c} 1000 \\ 1000 \\ 1000 \\ 1000 \end{array} =  $	19	3 × 8 4 × 6 Use <, =, or >.
-09	100           Write in standard form.           3000 + 500 + 3	20	The area of the rectangle.
10	The perimeter of the triangle.	21	4429 + 4429 =
0	4 quarters = ¢	22	The thousand that 8400 is closer to.
12	12 quarters = ¢	23	100 less than 3601 =

R	R	Α	G	G	I	F	К	0	D	U	Μ	G	w
<	<	=	>	>	30	31	33	35	100	300	330	333	338
V	С	L	В	Р	J	J	Н	Q	E	Т	S	Y	N
350	1000	3000	3500	3501	3503	3503	3508	3513	8000	8833	8853	8855	8858

5

01	100 more than 9844 =	12	The value of the underlined digit in the number <u>9</u> 876.
02	4 quarters = Ø		40 + 70 + 20 + 30 + 60 =
03	16 quarters = ¢	-14	400 + 700 + 200 + 300 + 600 =
04	The perimeter of the hexagon.	15	10 × 5 5 × 10 Use <, =, or >.
05	$4 \times 6 \qquad 5 \times 5 \qquad \text{Use } <, =, \text{ or } >.$	16	Balance the scale.
06	Write in standard form. 2 thousands, 2 hundreds,	17	9876 - 7674 =
_	2 iens and 24 ones	18	9454, 9464, 9474, 9484,
07	$\frac{1}{3} \square \frac{1}{6} \square \square$	19	The area of the square.
08	$\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{1}$	-	
_	Use <, =, or >.	20	10 hundreds =
09	+ 99 + 99 + 99 = 99 + 99 + 99 + 99	21	
10	The thousand that 1820 is closer to.	-22	
	6417 + 3577 =	23	10 less than 9950 =
<b></b>			

F	F	Α	R	R	E	W	I	G	В	V	F	M	P
<	<	=	>	>	49	90	92	94	99	100	200	220	400
0	J	D	Z	С	Х	Т	S	Q	Н	K	U	L	Y
1000	2000	2022	2200	2202	2220	2224	2244	9000	9444	9494	9940	9944	9994

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# Assessment Sheets

Locating any gaps in math understanding



## **OUTCOMES - PUZZLE 5**

#	NUMBER CONCEPTS, STRATEGIES AND SKILLS	~
01	Incrementing a 4-digit number by 100, no regrouping	
<b>-02</b>	Finding the number of cents in 4 quarters	
_ <sub>03</sub>	Finding the number of cents in 16 quarters	
04	Finding the perimeter of a hexagon	
05	Comparing 4 x 6 and 5 x 5	
06	Converting a 4-digit number from non-standard form to standard form	
07	Comparing two unit fractions, modeled with fraction bars	
08	Comparing two unit fractions, modeled with fraction bars	
09	Solving an equation for a missing term, 4 identical terms on each side of the equation	
10	Finding the thousand a 4-digit number is closer to	
11	Finding the sum of two 4-digit numbers, with regrouping	
12	Finding the difference between two 4-digit numbers, no regrouping	
- 13	Combining pairs of numbers that add to 100	
-14	Combining pairs of numbers that add to 1000	
15	Comparing 10 x 5 and 5 x 10	
16	Doubling a 2-digit number, modeled with a scale	
17	Finding the value of an underlined digit in a 4-digit number	
18	Extending a pattern that increases by 10, no regrouping	
19	Finding the area of a square by counting its unit squares	
20	Writing 10 hundreds in standard form	
_ 21	Naming a 4-digit number, modeled with number discs	
22	Naming a 4-digit number, modeled with number discs	
23	Decrementing a 4-digit number by 10, no regrouping	

COMMENTS:

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# Answer Keys

Providing immediate feedback to teachers





D	Q	С	В	G	S	Α	U	Х	0	Т	К	E	J
<	=	>	1⁄4	1⁄3	1/2	12	13	20	30	31	32	33	40
F	Р	W	K	Z	I	С	В	E	Ν	N	L	Н	R
100	140	200	300	301	310	320	2122	2131	2132	2132	2141	2143	2144



01	1000 less than 2400 = <b>1400</b>	12	Write in standard form.442 tens and 24 ones44
-02	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	13	The perimeter of the pentagon. $9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9$
-03	Write in standard form.         2022           2000 + 20 + 2         2	14	25-9 > 25-10 Use <, =, or >.
04	600, 700, 800, 900, <b>1000</b>	15	7 + 6 + 2 + 4 + 3 = <b>22</b> 700 + 600 + 200 + 400 + 300 = <b>2200</b>
05	4 × 5 = 5 × 4 Use <, =, or >.	17	Balance the scale. <b>52</b> 26 26
06	The value of the underlined digit in the number 9342.40	18	10 tens = <b>100</b>
07	8763 – 3311 = <b>5452</b>	19	8 quarters = <b>200</b> ¢
-08	= 1 4 shaded	20	8 quarters and 4 dimes = $240  \text{¢}$
-09	$=$ $\begin{bmatrix} 1\\5 \end{bmatrix}$ shaded	21	The area of the rectangle. 54
10	$\frac{1}{5}$ < $\frac{1}{4}$ Use <, =, or >.	22	The thousand that 2400 is closer to. 2000
1	3318 + 2027 + 109 = <b>5454</b>	23	51 + 51 + 51 + 51 = <b>51</b> + 51 + 51 + 51

L	Α	X	J	N	V	Т	В	н	S	I	Y	D	К
<	=	>	1⁄5	1⁄4	22	24	40	42	44	45	51	52	54
F	Т	Q	R	С	U	Μ	E	Z	Z	G	E	0	W
100	200	240	500	1000	1400	2000	2020	2022	2022	2200	5254	5452	5454



R	R	Α	G	G	I	F	К	0	D	U	Μ	G	W
<	<	=	>	>	30	31	33	35	100	300	330	333	338
V	С	L	В	Р	J	J	н	Q	E	Т	S	Y	N
350	1000	3000	3500	3501	3503	3503	3508	3513	8000	8833	8853	8855	8858

01	100 more than 9844 = <b>9944</b>	12	The value of the underlined digit in the number <u>9</u> 876.
02	4 quarters = <b>100</b> ¢	13	40 + 70 + 20 + 30 + 60 = <b>220</b>
03	16 quarters = <b>400</b> ¢	14	400 + 700 + 200 + 300 + 600 = <b>2200</b>
04	The perimeter of the hexagon. 15 15 90	15	$10 \times 5 = 5 \times 10$ Use <, =, or >.
05	$4 \times 6$ <b>&lt;</b> $5 \times 5$ Use <, =, or >.	16	Balance the scale.
06	Write in standard form. 2 thousands, 2 hundreds, 2 tens and 24 ones	17	9876 – 7674 = <b>9000</b>
_		18	9454, 9464, 9474, 9484, <b>9494</b>
07	$\frac{1}{3} > \frac{1}{6}$ Use <, =, or >. HINT: Shade in each fraction.	19	The area of the square. 49
08	$\frac{1}{4} > \frac{1}{8}$		
_	Use <, =, or >.	20	10 hundreds = <b>1000</b>
09	<b>99</b> + 99 + 99 + 99 = 99 + 99 + 99 + 99	21	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
10	The thousand that 1820 is closer to. 2000	-22	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
11	6417 + 3577 = <b>9994</b>	23	10 less than 9950 = <b>9940</b>

F	F	Α	R	R	E	W	I	G	В	V	F	Μ	Р
<	<	=	>	>	49	90	92	94	99	100	200	220	400
0	J	D	Z	С	Х	Т	S	Q	Н	K	U	L	Y
1000	2000	2022	2200	2202	2220	2224	2244	9000	9444	9494	9940	9944	9994



# Games

A good and easy way to learn, and it's fun!



## **CROSS-OUT NUMBER GAMES 4/5**

Cross-Out Number Games 4/5 consists of over sixty games. The games are intended to support and reinforce the concepts, strategies and skills introduced in the puzzles. The order of these games follows the same order as the puzzles, as they are presented in the same groups of five. The first group of games, the games of 1-5 support the concepts introduced in puzzles 1-5, while the second group of games, the games of 6-10 support the concepts in puzzles 6-10, and so on. Each group of games begins with an Introduction which includes detailed instructions of how to play each game and an explanation of the learning outcomes the game addresses.

Although the concepts in each group of games may be different, many of the games in each group have the same rules and are played the same way. More particularly, each group has an 'I have...Who has' game consisting of 30 cards. The questions in the 'I have...Who has' game offer practice with the concepts introduced in the accompanying puzzles plus reinforce concepts introduced in earlier puzzles. As well, each group of games has an 'Operations' game that offers practice with the addition, subtraction, multiplication and division questions that appear in the accompanying puzzles.

In addition, there are 'Greater or Lesser' card games, where before each round, one student chooses whether the greater or lesser number will win that round. There are 'Make a Match' games where students have to find matches. There are 'Bridge' games where students need to find a missing number. There are also 'Bingo' games where the first player who has four of his/her bingo chips in a row, column or diagonal on a game board wins the game.

In order to keep the games organized, each game comes with a title card. The title card not only states the name of the game but the number of cards it contains. As well, every card has a footer indicating to which game it belongs. It is recommended that each game be photocopied on a different color of card stock.

On the back of this page is a score sheet required for each of the 'Operations' games. As the questions in the 'Operations' games involve operations that the students are not expected to solve mentally, the score sheet has enough space for students to show their work.

## **OPERATIONS SCORE SHEET**

QUESTION	WORK	WINNER

## **INSTRUCTIONS FOR GAMES: 1 - 5**

#### I-5A: NUMBER DISCS TO 1000

This 'Greater or Lesser' game consists of 160 cards. Each card shows a number disc that models one of the numbers 1, 10, 100, or 1000. The game provides practice with modeling 4-digit numbers with number discs.

This is a game for 2-4 players. The cards are scattered face-down on a table. Before each round, one player chooses whether the greatest or least number will win that round. Each player chooses 5 number discs and states the number shown by the discs. The player with the greatest or least numbers scores a point. The player with the greatest number of points at the end of the game wins the game.

### I-5B: PLACE-VALUE CARDS TO THOUSANDS

This 'Greater or Lesser' game consists of 51 place-value cards. In addition to the numbers 0 -9, each card shows a number rounded to the nearest ten, hundred or thousand. These cards support understanding of our decimal number system. The cards are placed one on top of the other forming a 4-digit number.

This is a game for 2 players. The cards are placed face-down on a table in 4 piles; thousands, hundreds, tens and ones. Before each round, one player chooses whether the greater or lesser number will win that round. Players, in turn, choose the top card from each pile, placing the cards one on top of each other and reading their 4-digit number. The player with the greater or lesser 4-digit number scores a point. The player with the greater number of points after 6 rounds wins the game.

### I-5C: PAIRS THAT ADD TO 10, 100, OR 1000

This 'Bingo' game consists of 16 cards and 1 game board. Also required for this game are bingo chips in two colors. Each card consists of two sets of numbers. The first set involves adding five numbers by finding the pairs that add to **10** and helps with the second set that involves finding pairs that add to **100** or **1000**.

This is a game for 2 players. The cards are scattered face-down on the table. Each player in turn chooses a card, finds the sum of each of the two sets of numbers and places bingo chips on these two sums, if they are available on the game board. The first player with just **4** of his/her bingo chips in a row, column or diagonal wins the game. NOTE: Only **4** bingo chips in a row, column or diagonal win, not **5**.

### I-5D: 'I HAVE,...WHO HAS?'

This is the first of eight 'I have ...Who has?' games. One is provided for each group of five puzzles in *Cross-Out Number Puzzles 4/5*. The 'I have ...Who has?' games in this resource are cumulative, meaning that the questions introduced in this first game, will appear in subsequent games. This 'I have ...Who has?' game consists of 30 cards. It provides practice with numbers in the thousands, It also provides practice with tens and ones in both standard and non-standard form. Note that 2 tens and 5 ones is considered to be in standard form while 25 ones is considered to be in nonstandard form.

This game can be played by an entire class, small groups or individual students. When playing this game with an entire class, give each student one or two cards. Ask the student who has the card with the number 1 to begin. The student reads that he/she has the number 1 and asks for the next number on his/her card. The student with that number reads his/her card and asks for the next

### I-5D: I HAVE,....WHO HAS? (continued)

number. The game continues in this manner until all the cards are read. The last card will ask for the number 1.

When small groups or individual students play the game, have them place all the cards face-up on a table. Have them begin with the card reading 'I have 1' and then find the next card with the required 'who has' number. When they find that card, have them then find its 'who has' number. Have them continue in this manner until all the cards are picked up.

Students can use the number discs from Games:1-5A to model the numbers in this game.

### **I-5E: IDENTIFYING UNIT FRACTIONS**

This "Make a Match' game consists of two piles of 20 cards. The first pile consists of 20 fraction bars modeling 5 different unit fractions. The second pile consists of these 20 fractions in fractional notation.

This is a game for 2-4 players. Each of the 2 piles of cards are placed face-down in a pile on a table. The first player turns over the top card from each pile and places them face-up on the table. If the fraction matches the fraction modeled by the fraction bar, the player takes both cards. If there is no match, the player leaves both cards face-up on the table. These cards can now be used by any player. The next player turns over the next cards from the top of each of the two piles. If there are any matches with the fractions and the fraction bar models either in his/her hand or those on the table, the player takes the cards. If not, these two cards are placed face-up on the table and can be used by any player. The turn goes to the next player. Play continues in this manner, each player turning over two cards and trying to find a match with those cards and/or the ones face-up on the table. The player with the greatest number of matches at the end of the game wins the game.

## **I-5F: OPERATIONS OF ADDITION AND SUBTRACTION**

This is the first of eight operations games. One is provided for each group of five puzzles. This 'Greater or Lesser' game consists of 14 cards and a score sheet. The game provides practice with the operations of addition and subtraction that appear in Puzzles 1-5. The operation games are cumulative, meaning that the questions introduced in this first game, will appear in subsequent operation games. The score sheet for the operations games is included in the Introduction to Cross-Out Number Games 4/5.

This is a game for 2 players. Each player is given a score sheet. The cards are scattered facedown on a table. Before each round, one player chooses whether the greater or lesser number will win the round. Each player chooses a card, and completes the number sentence on his/her score sheet. The player with the greater or lesser number wins the round. The player with the greater number of wins after 7 rounds wins the game.

Alternatively, pairs of students can work on the 14 questions co-operatively.

### I-5G: ADDING QUARTERS

This 'Greatest' game consists of 47 cards. Each card has either 1, 2, 3, or 4 quarters on it. This game encourages students to note the relationship between 4 quarters and 100 cents. This relationship can serve as an introduction to thinking proportionally. A question involving quarters appears in each puzzle in *Cross-Out Number Puzzles 4/5*. Encourage students to group the quarters in groups of 4.

This is a game for 2-4 players. The cards are scattered face-down on a table. Each of the players, in turn, chooses a card. The player with the greatest amount of money at the end of the game wins the game.

## I-5A NUMBER DISCS TO 1000

~ 160 CARDS ~

Cross-Out Number Games 4/5 - © Celia Baron 2015

		10	10	100	100	1000	1000
Games 4/5: 1-5A							
					(100)	(1000)	(1000)
Games 4/5: 1-5A							
Games 4/5: 1-5A							
(1)	(1)	(10)	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A							
			10	100	100	1000	1000
Games 4/5: 1-5A							
		10	10	100	100	(100)	1000
Games 4/5: 1-5A							
			10	100	100	1000	1000
Games 4/5: 1-5A							
			10	100	100	1000	1000
Games 4/5: 1-5A							
		10	10	100	100	1000	(1000
Games 4/5: 1-5A							
		10	10	100	100	1000	1000
Games 4/5: 1-5A							

1	(1)	10	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
1	(1)	10	10	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
(1)	(1)	10	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
1	(1)	(10)	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
1	(1)	(10)	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
(1) Games 4/5: 1-5A	6ames 4/5: 1-5A	(10) Games 4/5: 1-5A	(10) Games 4/5: 1-5A	(100) Games 4/5: 1-5A	(100) Games 4/5: 1-5A	(1000) Games 4/5: 1-5A	6ames 4/5: 1-5A
(1)	<b>1</b>	(10)	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
1	(1)	<u>10</u>	(10)	(100)	(100)	(1000)	6ames 4/5: 1-5A
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	
1	<b>1</b>	<u>10</u>	(10)	(100)	(100)	(1000)	(1000)
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A
1	<b>1</b>	<u>10</u>	(10)	(100)	(100)	(1000)	6ames 4/5: 1-5A
Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	Games 4/5: 1-5A	

1-5B PLACE-VALUE CARDS TO THOUSANDS ~ 51 CARDS ~	000	00	0
Cross-Out Number Games 4/5 – © Celia Baron 2015	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B
Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B
Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B
Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B
6ames 4/5: 1-5B	Games 4/5: 1-5B	IU Games 4/5: 1-5B	Games 4/5: 1-5B
2 000 Games 4/5: 1-5B	200 Games 4/5: 1-5B	<b>20</b> Games 4/5: 1-5B	Games 4/5: 1-5B
<u>3000</u> Games 4/5: 1-5B	300 Games 4/5: 1-5B	<b>30</b> Games 4/5: 1-5B	<b>3</b> Games 4/5: 1-5B
<b>4 000</b> Games 4/5: 1-5B	<b>400</b> Games 4/5: 1-5B	<b>40</b> Games 4/5: 1-5B	<b>4</b> Games 4/5: 1-5B
<b>5000</b> Games 4/5: 1-5B	<b>500</b> Games 4/5: 1-5B	<b>50</b> Games 4/5: 1-5B	<b>5</b> Games 4/5: 1-5B
6 000	600 General 4/5: 1-58	60 Comes 4/5: 1-58	6 Comes 4/5: 1-58
7 000	700	70	7
6ames 4/5: 1-5B 8 000	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B
Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B <b>9</b>
Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B	Games 4/5: 1-5B

25	2900	270	2200	28
290	260	2300	24	230
27	2800	22	2700	29
220	2400	250	280	26
2500	23	2600	29	240

Games 4/5: 1-5C

					PA	IRS T	'HA'	ן-ן ד ADD ד	5 <b>C</b> FO 10, 10	00	OR 10	00					
						Cross-O	ut Nur	∼ 16 CA	<b>ARDS ~</b> es 4/5 - © Celio	a Ba	ıron 2015						
4	+	6	÷	2	÷	7	÷	3	4	+	6	+	2	+	7	+	3
40	+	60	+	<b>20</b> 11mes 4/5: 1	+ -5C	70	+	30	400	+	600	+	<b>200</b> ames 4/5: 1-	+ 5C	700	+	300
1	+	8	+	3	+	2	+	9	1	+	8	+	3	+	2	+	9
10	+	80	+	<b>30</b> ames 4/5: 1	<b>+</b> -5C	20	+	90	100	+	800	+	<b>300</b> ames 4/5: 1-1	+ 5C	200	+	900
5	+	7	+	5	Ŧ	3	+	4	5	+	7	+	5	+	3	+	4
50	+	70	+	<b>50</b> ames 4/5: 1	+ -5C	30	+	40	500	+	700	+	<b>500</b>	+ 50	300	+	400
8	+	5	+	4	+	2	+	6	8	+	5	╋	4	╋	2	+	6
80	+	50	+	<b>40</b> ames 4/5: 1	<b>+</b> -5 <i>c</i>	20	+	60	800	+	500	+	<b>400</b>	+ 5c	200	+	600
6	Ŧ	1	÷	7	Ŧ	9	÷	3	6	+	1	+	7	+	9	+	3
60	+	10	+	<b>70</b> ames 4/5: 1	<b>+</b> -5 <i>c</i>	90	+	30	600	+	100	+	<b>700</b>	+ 5C	900	+	300
6	+	5	÷	4	+	7	+	5	6	+	5	+	4	+	7	+	5
60	+	50	+	<b>40</b> ames 4/5: 2	+ 1-5C	70	+	50	600	+	500	+	<b>400</b>	+ 5c	700	+	500
4	+	8	+	1	+	6	+	9	4	+	8	+	1	+	6	+	9
40	+	80	+	<b>10</b> ames 4/5: 1	+ 1-5C	60	+	90	400	+	800	+	<b>100</b> ames 4/5: 1-	+ 5C	600	+	900
8	÷	7	÷	3	÷	9	÷	2	8	+	7	+	3	+	9	+	2
80	+	70	+	<b>30</b> ames 4/5: 1	<b>+</b> -5C	90	+	20	800	+	700	+	<b>300</b> ames 4/5: 1-3	+ 5C	900	+	200

	I-5D	
	I HAVE WHO HAS?	
	~ 30 CARDS ~	
	Cross-Out Number Games 4/5 – © Celia Baron 2015	
I have I.	I have <b>3333</b> .	I have <b>3230</b> .
Who has <b>3</b> thousands, <b>3</b> hundreds, <b>3</b> tens and <b>3</b> ones?	Who has <b>10</b> more than <b>3220</b> ?	Who has <b>2</b> tens and <b>10</b> ones?
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D
I have <b>30</b> .	I have <b>3332</b> .	I have <b>3000</b> .
Who has <b>100</b> less than <b>3432</b> ?	Who has <b>1000</b> more than <b>2000</b> ?	Who has <b>3</b> thousands, <b>3</b> tens and <b>3</b> ones?
Games 4/5: 1-5D	<i>G</i> ames 4/5: 1-5D	<i>G</i> ames 4/5: 1-5D
I have <b>3033</b> .	I have <b>3223</b> .	I have <b>303</b> .
Who has <b>10</b> less than <b>3233</b> ?	Who has <b>100</b> more than <b>203</b> ?	Who has <b>2</b> tens and <b>12</b> ones?
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D
I have <b>32</b> .	I have <b>3001</b> .	I have <b>I3</b> .
Who has <b>1000</b> more than <b>2001</b> ?	Who has <b>10</b> more than <b>3</b> ?	Who has <b>3</b> thousands and <b>3</b> ones?
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D
I have <b>3003</b> .	I have <b>3122</b> .	I have <b>3030</b> .
Who has <b>100</b> less	Who has <b>1000</b> more	Who has <b>2</b> tens
than <b>3222</b> ?	than <b>2030</b> ?	and <b>13</b> ones?
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D

I have <b>33</b> .	I have <b>3031</b> .	I have <b>3100</b> .	
Who has <b>10</b> less than <b>3041</b> ?	Who has <b>100</b> more than <b>3000</b> ?	Who has <b>3</b> thousands, <b>3</b> hundreds and <b>3</b> tens?	
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D	
I have <b>3330</b> .	I have <b>3002</b> .	I have <b>23</b> .	
Who has <b>1000</b> less than <b>4002</b> ?	Who has <b>10</b> more than <b>13</b> ?	Who has <b>3</b> hundreds, <b>2</b> tens and <b>12</b> ones?	
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D	
I have <b>332</b> .	I have <b>3300</b> .	I have <b>3020</b> .	
Who has <b>100</b> less than <b>3400</b> ?	Who has <b>3</b> thousands and <b>2</b> tens? Games 4/5: 1-5D	Who has <b>1000</b> more than <b>2131</b> ?	
I have <b>3131</b> .	I have <b>3</b> .	I have <b>333</b> .	
Who has <b>10</b> less than <b>13</b> ?	Who has <b>3</b> hundreds, <b>2</b> tens and <b>13</b> ones?	Who has <b>100</b> more than <b>3122</b> ?	
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D	
I have <b>3222</b> .	I have <b>3303</b> .	I have <b>3013</b> .	
Who has <b>3</b> thousands, <b>3</b> hundreds and <b>3</b> ones?	Who has <b>10</b> more than <b>3003</b> ?	Who has <b>1000</b> less than <b>1001</b> ?	
Games 4/5: 1-5D	Games 4/5: 1-5D	Games 4/5: 1-5D	



Games 4/5: 1-5F	Games 4/5: 1-5F	Games 4/5: 1-5F	Games 4/5: 1-5F
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E

1-5E.IDENTIFYING UNIT FRACTIONS, PILE 1 Cross-Out Number Games 4/5 - © Celia Baron 2015



1 2 Games 4/5: 1-5E	1 2 Games 4/5: 1-5E	1 2 Games 4/5: 1-5E	1 2 Games 4/5: 1-5E
$\frac{1}{3}$	<u>1</u> <u>3</u>	<u>1</u> <u>3</u>	<u>1</u> <u>3</u>
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E
Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E
Games 4/5: 1-5E 1 10 Games 4/5: 1-5E	Games 4/5: 1-5E	Games 4/5: 1-5E 1 10 Games 4/5: 1-5E	Games 4/5: 1-5E

I-5F			
OPERATIONS OF ADDITION AND SUBTRACTION			

~ I4 CARDS ~

Cross-Out Number Games 4/5 - © Celia Baron 2015

4237 + 2154	6246 + 346	
Games 4/5: 1-5F	Games 4/5: 1-5F	
3003 + 2700 + 1007	6792 + 99	
Games 4/5: 1-5F	Games 4/5: 1-5F	
5508 + 1304	4368 + 2525	
Games 4/5: 1-5F	Games 4/5: 1-5F	
3446 + 3446	<b>8997 - 2605</b>	
Games 4/5: 1-5F	Games 4/5: 1-5F	
9898 - 3307	<b>9489 - 3128</b>	
Games 4/5: 1-5F	Games 4/5: 1-5F	
6891 - 101	<b>9999 - 3118</b>	
Games 4/5: 1-5F	Games 4/5: 1-5F	
6890 - 8	8899 - 2001	
Games 4/5: 1-5F	Games 4/5: 1-5F	

1-5G ADDING QUARTERS ~ 47 CARDS ~ Cross-Out Number Games 4/5 – © Celia Baron 2015	25¢) Games 4/5: 1-56	25¢) Games 4/5: 1-5G	25¢) Games 4/5: 1-56	25¢) Games 4/5: 1-5G	25¢) Games 4/5: 1-5G
(25¢)	(25¢)	(25¢)	(25¢)	(25¢)	(25¢)
6ames 4/5: 1-56	6ames 4/5: 1-56	6ames 4/5: 1-56	6ames 4/5: 1-56	6ames 4/5: 1-56	6ames 4/5: 1-56
(25¢) (25¢) Games 4/5: 1-56	(25¢) (25¢) Games 4/5: 1-56	(25¢) (25¢) Games 4/5: 1-56	(25¢) (25¢) Games 4/5: 1-56	(25¢) (25¢) Games 4/51-56	(25¢) (25¢) Games 4/5: 1-56

1-5G.ADDING QUARTERS.1 Cross-Out Number Games 4/5 - © Celia Baron 2015



1-5G.ADDING QUARTERS.2 Cross-Out Number Games 4/5 - © Celia Baron 2015