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# INTRODUCTION

## **DESCRIBE *CROSS-NUMBER DISCOVERY PUZZLES & GAMES 2*.**

Learning math is a lot like doing a jig-saw puzzle. Every well placed jig-saw piece helps you place the next piece, and every well learned math concept helps you learn the next concept. The *Cross-Number Discovery Puzzles and Games* series helps you put the math pieces into place. It begins with the earliest number concepts and follows a developmental framework to grow math understanding one concept at a time. And it does this in a fun way through puzzles and games.

*Cross-Number Discovery Puzzles and Games 2* consists of 40 cross-number puzzles and over 60 corresponding games. The puzzles and games involve early number concepts and are cumulative in nature. Each group of five puzzles and games has similar learning outcomes. This means that the outcomes in 1-5 are the same, the outcomes in 6-10 are the same and so on. Each group of five introduces new pieces of learning. This helps put the math pieces into place.

However, learning math is different than doing a jig-saw puzzle in that once a math concept is introduced, it has to be practiced in order that it stays in place. Each group of five puzzles and games reinforces the number concepts, strategies and skills introduced in earlier puzzles. This helps keep the math pieces in place.

For each group of five puzzles there is an overview and an assessment sheet. For the accompanying games there is an introductory sheet. In the puzzles, 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 a model such as a ten-frame or a number line.

For each group of five puzzles there are accompanying games. These games provide practice on the number concepts introduced in the group of five puzzles. The rules for the games are simple and easy to follow and require little explanation. They include games such as: 'I have.., who has..?', bingo games and card games.

## **WHAT IS THE INTENDED GRADE LEVEL?**

This is the third resource in the *Cross-Number Discovery Puzzles & Games* series, following *Cross-Number Discovery Puzzles & Games 1*. *Cross-Number Discovery Puzzles & Games 2* is intended for children in the second half of their Grade 2 year. However, the puzzles are also suitable for children in higher grades who are still working on the number concepts introduced in this resource.

## **HOW WERE THE PUZZLES & GAMES CHOSEN?**

The puzzles and games are mainly based on the following volume: *Teaching Number: Advancing Children's Skills and Strategies*, 2<sup>nd</sup> edition, Robert J. Wright, James R. Martland, Ann K. Stafford, Garry Stanger, Sage Publications. In this volume, the authors set forth a comprehensive and integrated learning framework for the assessment, learning and teaching of number concepts.

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

Teachers can use this resource with an entire class, small groups, or individual children. As there are a number of books in this series, there is a puzzle at the appropriate level for every child. The resource allows teachers to easily differentiate instruction. Since all puzzles have a similar look, each child in the class can be working on a puzzle that is suitable for him or her. The puzzles as well as the games are all reproducible.

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 a child is with a particular number concept and whether they need more support. The puzzles provide an excellent diagnostic and assessment tool. Not all children in a class are at the same point in their learning, and these puzzles allow teachers to identify how best to help each child and move him or her forward. The accompanying games also provide additional support.

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

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

Because the questions answer both across and down, the puzzles are often self-correcting. Because of this, some questions like 'an even number' will be answered later in the puzzle. While the puzzles are not entirely self-correcting, they are easy and quick for teachers to correct.

# FOREWORD

I am delighted to provide the foreword for this series of challenging, progressive, reinforcement number puzzles. Celia Baron has ingeniously created puzzles at different levels which utilise the key aspects of the Mathematics Recovery Programme. The Mathematics Recovery Programme provides a comprehensive series of work starting with the identification, analysis and reporting on children's numerical knowledge, skills and strategies. The diagnostic assessments lead to the design, implementation and evaluation of teaching interventions both for individuals, small groups and whole classes in differing organizations and contexts.

The lessons in Mathematics Recovery are intensive and challenging, based at the cutting edge of a child's knowledge. There is a great emphasis on problem solving and verbal interaction as the teacher seeks to ascertain the child's strategies. Equally important are the child's explanations as to how they arrived at a solution and how they know they are correct. This leaves little time in the lesson for reinforcement activities.

The bank of number puzzles created by Celia Baron provides teachers, whether of individuals, small groups, or whole classes, with a valuable reinforcing and self-correcting challenge. Careful selection of the range of puzzles will give the child questions that they should be able to meet whilst at the same time providing enjoyment and intrinsic satisfaction. At the same time the puzzles have an in-built logic where the child can see linkages and associations between key topics and the discussion of the completed puzzle with the teacher will reveal these as well as identifying where more work, or practice, is required.

Celia Baron successfully draws upon the concepts of the Mathematics Recovery Programme, and provides educators with exciting tools. The puzzles include number word sequences both forward and backwards, numeral identification, number problems in the four operations, the use of spatial patterns and the employment of empty number line activities.

The puzzles support learning and are a welcome and innovative addition to the field of mathematics education.

James R Martland  
Director, Mathematics Recovery Programme (UK) Ltd

*Jim Martland is a member of the International Board of Mathematics Recovery and Director of the Mathematics Recovery Programme (UK) Ltd. He is Senior Fellow in the Department of Education at the University of Liverpool. In his long career in primary education he has held headships in primary and middle schools and was Director of Primary Initial Teacher Training. In every post he continued to teach and pursue research in early numeracy and deliver professional development courses in the assessment of children's numerical knowledge and strategies.*



SAMPLE.

# 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-Number Discovery Puzzles 2*. The following number concepts, strategies and skills are included in this group of five puzzles. The outcomes are listed below as they appear in Puzzle 1.

### ACROSS:

**A. Counting by twos, up to 20**

**C. Saying the number before a given number**

In this first group of puzzles, the questions involve only counting to the decade not over it.

**E. Naming 3-digit numerals**

**H. Saying two numbers after a given number**

**K. Building numbers 11 – 20**

**L. Building numbers 11 – 20**

Check how children answer this question. Do they recognize that  $10 + 4 = 14$  or are they counting on 4 from 10 to reach 14?

**M. Counting-on with the empty number line**

**P. Saying the number before a given number**

**U. Recognizing patterns that increase by 1**

**V. Saying the number after a given number, to the decade**

### DOWN:

**A. Counting by fives and ones, up to 15**

Encourage the children to note that the tally marks are in groups of 5.

**B. Saying the number after a given number**

**D. Counting by tens**

**E. Counting by tens**

Both ten-blocks and ten-frames are used to model groups of ten.

**G. Ordering 3-digit numerals**

**N. Saying two numbers before a given number**

**P. Saying the number before a given number**

**Q. Counting-back with the empty number line**

**S. Basic addition facts – doubles**

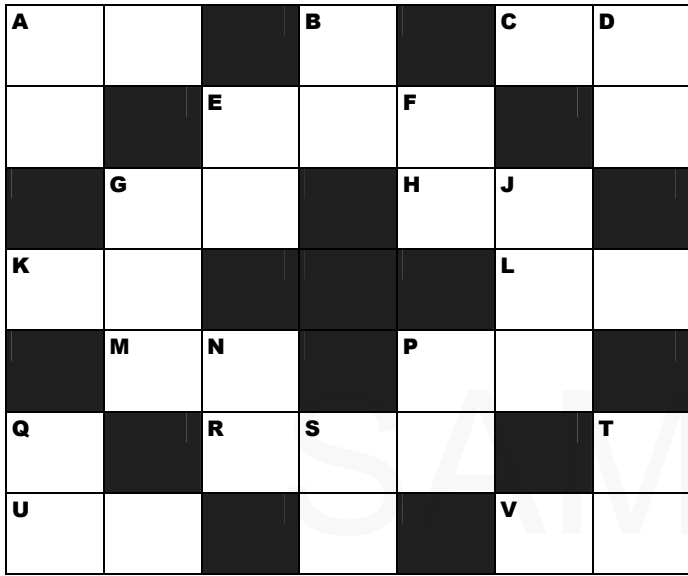
**T. Basic addition facts – doubles**

Check whether children know these addition facts.

At the end of the puzzles, there are **assessment sheets**, which include two checklists for this group of puzzles. The first checklist charts the progress of students as they work through the questions in Puzzle 5, while the second checklist cross-references the questions in Puzzle 5 to the outcomes in *Teaching Number: Advancing Children's Skills and Strategies*, 2<sup>nd</sup> edition. After the **answer keys**, there are the **games**. Refer to section 1-5 of the games for activities that support the learning of the concepts presented in this group of five puzzles.

*Cross-Number Discovery Puzzles 2* focuses on the basic addition facts. These facts are introduced in a logical rather than a numerical order. Puzzles 1-5 introduce the double facts. Students needing more support with these facts can be referred to *Thinking Strategies Addition: Building Mastery of Addition Facts*. Level 3 of this program deals with these facts.

# CROSS-NUMBER PUZZLE 1



## ACROSS:

A. The number of holes on the buttons



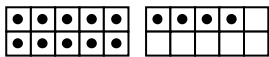
C. The number before 74

E. The number that reads three hundred seventy-eight

G. An even number

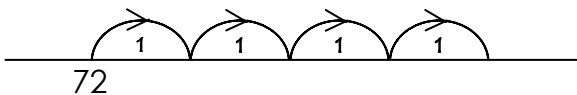
H. The number that is two more than 54

K. The number shown by the ten-frames



L.  $10 + 4$

M. The number reached on the last hop



P. The number that is one less than 86

R. A number with all digits the same

U. The next number in the pattern:

45, 46, 47, 48,

V. The number after 29

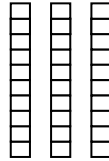
## DOWN:

A. The number shown by the tally



B. The number after 16

D. The number shown by the blocks



E.  $10 + 10 + 10$

F. An odd number

G. Choose the greatest number:

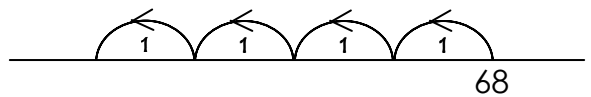
647, 747, 847, 547

J. A number greater than 600

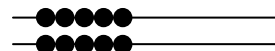
N. The number that is two less than 63

P. The number before 82

Q. The number reached on the last hop

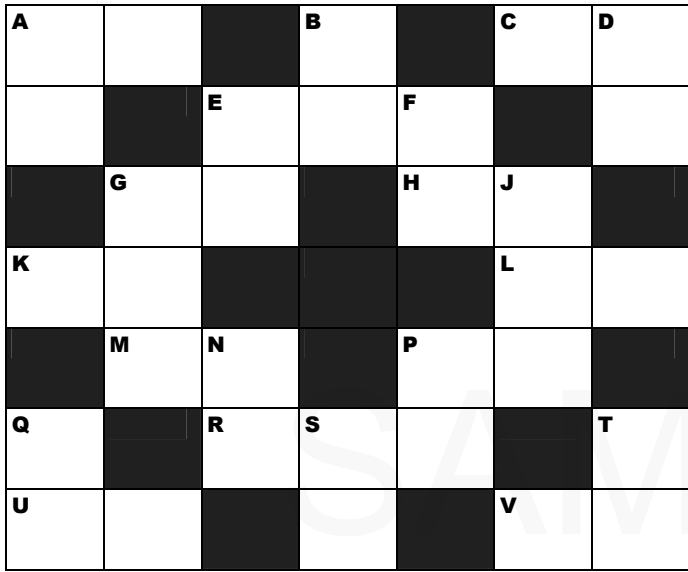


S. The number of beads



T.  $5 + 5$

## CROSS-NUMBER PUZZLE 2



Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

### ACROSS:

A. The next number in the pattern:

31, 32, 33, 34,

C. The number that is two less than 13

E. A number with all digits the same

G. An odd number

H. The number that is two more than 56

K. The number before 68

L. The number of beads



M. The number of beads



P. The number shown by the tally



R. Choose the greatest number:

246, 446, 346, 546

U. The number of holes on the buttons

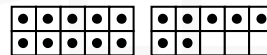


V. The number after 39

### DOWN:

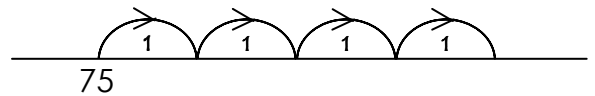
A. The number that is two less than 38

B. The number shown by the ten-frames



D.  $10 + 7$

E. The number reached on the last hop



F. A number less than 80

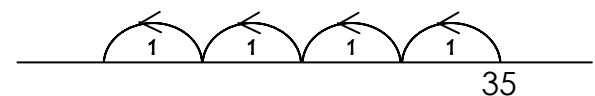
G. The number that reads five hundred seventy-one

J. A number between 800 and 900

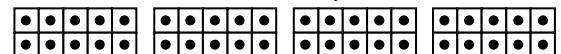
N. A number between 20 and 30

P. An even number

Q. The number reached on the last hop



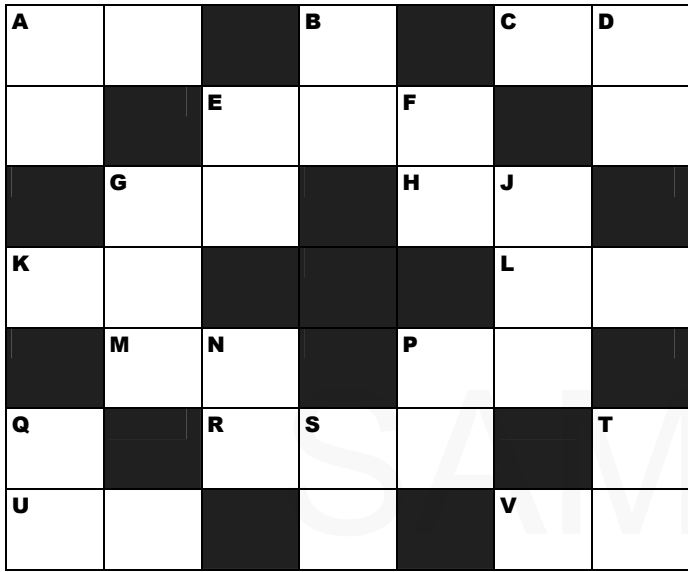
S. The number shown by the ten-frames



T.  $10 + 10 + 10 + 10$



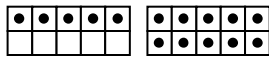
# CROSS-NUMBER PUZZLE 3



Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

A. The number shown by the ten-frames

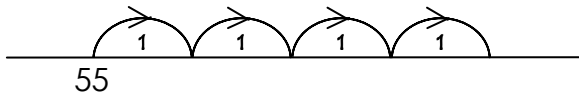


C.  $5 + 10$

E. The number that reads five hundred forty-eight

G. An even number

H. The number reached on the last hop



K. The number of holes on the buttons



L. The number that is two less than 98

M. A number between 20 and 30

P. The next number in the pattern:

85, 86, 87, 88,

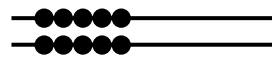
R. A number between 500 and 600

U. The number after 49

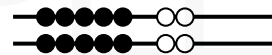
V. The number that is one less than 77

## DOWN:

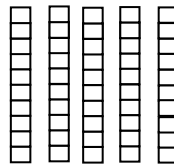
A. The number of beads



B. The number of beads



D. The number shown by the blocks



E.  $10 + 10 + 10 + 10 + 10$

F. An odd number

G. Choose the greatest number:  
562, 362, 762, 162

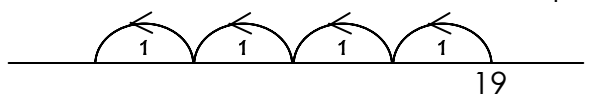
J. A number with all digits the same

N. The number shown by the tally



P. The number that is two more than 84

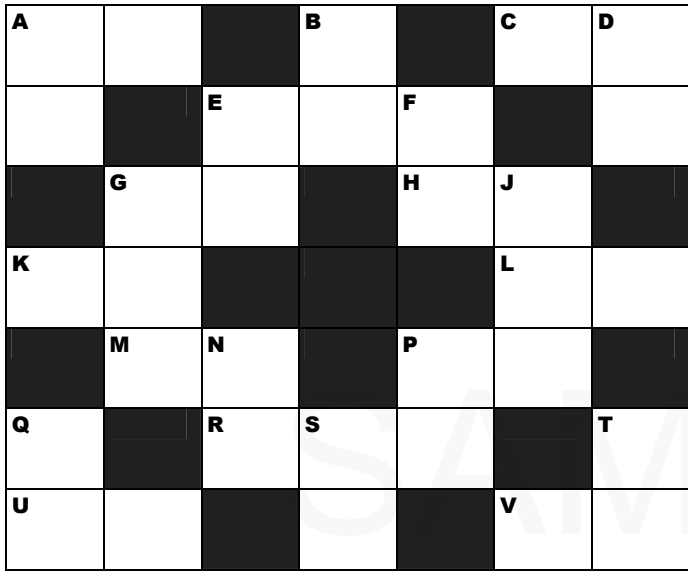
Q. The number reached on the last hop



S.  $6 + 6$

T. The number before 47

# CROSS-NUMBER PUZZLE 4

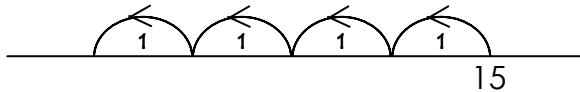


Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

A. The number after 26

C. The number reached on the last hop



E. Choose the greatest number:  
384, 784, 184, 584

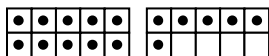
G.  $6 + 6$

H. An odd number

K. The next number in the pattern:  
64, 65, 66, 67,

L.  $10 + 6$

M. The number shown by the ten-frames



P. An even number

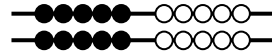
R. A number greater than 300

U.  $7 + 7$

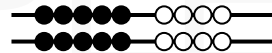
V. The number that is two more than 58

## DOWN:

A. The number of beads



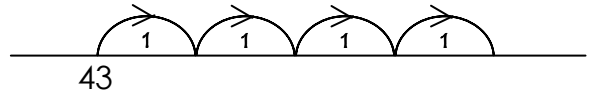
B. The number of beads



D.  $9 + 9$

E. A number between 70 and 80

F. The number reached on the last hop



G. A number less than 200

J. The number that reads five hundred fourteen

N. The number that is two less than 65

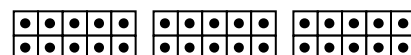
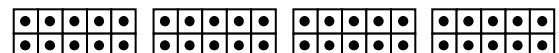
P. The number of holes on the buttons



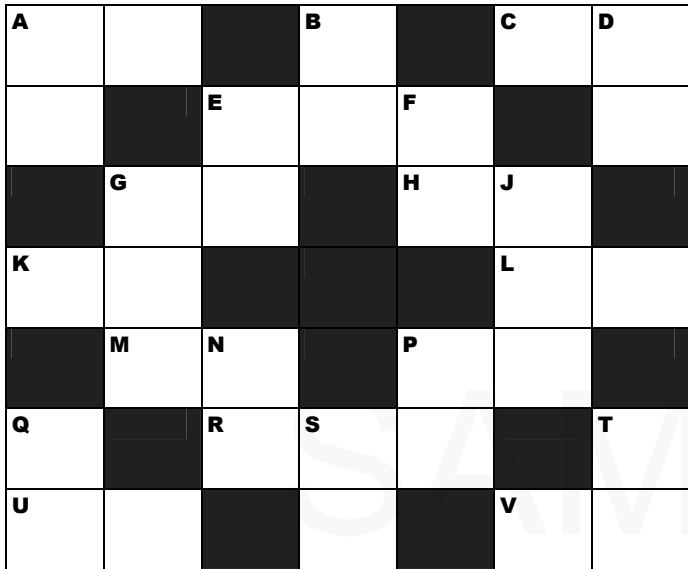
Q. The number that is two less than 93

S.  $10 + 10 + 10 + 10 + 10 + 10 + 10$

T. The number shown by the ten-frames


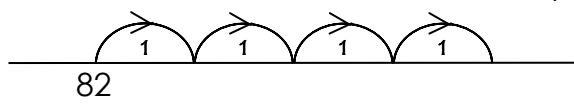
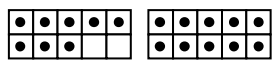


# CROSS-NUMBER PUZZLE 5



Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

- A.** The number shown by the tally  

- C.** The next number in the pattern:  
 45, 46, 47, 48,
- E.** A number with all digits the same
- G.** The number that is two more than 68
- H.** An even number
- K.** The number reached on the last hop  

- L.**  $8 + 10$
- M.** The number shown by the ten-frames  

- P.** An odd number
- R.** Choose the greatest number:  
 426, 726, 626, 526

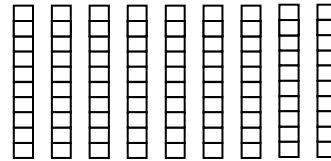
**U.** The number after 64

**V.**  $7 + 7$

## DOWN:

- A.** The number that is two less than 14
- B.** The number that is two more than 57
- D.**  $10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$

**E.** The number shown by the blocks



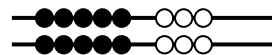
**F.** The number before 94

**G.** A number between 700 and 800

**J.** The number that reads six hundred thirteen

**N.** A number between 80 and 90

**P.** The number of beads

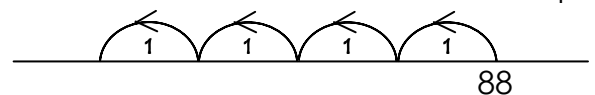


**Q.**  $8 + 8$

**S.** The number of holes on the buttons



**T.** The number reached on the last hop



LEVEL

2

SAMPLE

# Assessment Sheets

Locating any gaps  
in math understanding

**Cross-Number**  
DISCOVERY PUZZLES & GAMES

# OUTCOMES

## CROSS-NUMBER PUZZLE 5

QUESTION	NUMBER CONCEPT, STRATEGY AND SKILL	✓
A - across	Counting by fives and ones, up to 15	
C - across	Recognizing patterns that increase by 1	
G - across	Saying two numbers after a given number, to the decade	
K - across	Counting-on with the empty number line	
L - across	Building numbers 11 - 20	
M - across	Building numbers 11 - 20	
R - across	Ordering 3-digit numerals	
U - across	Saying one number after a given number	
V - across	Basic addition facts - doubles	
A - down	Saying two numbers before a given number	
B - down	Saying two numbers after a given number	
D - down	Counting by tens	
E - down	Counting by tens	
F - down	Saying one number before a given number	
J - down	Naming 3-digit numerals	
P - down	Basic addition facts – doubles	
Q - down	Basic addition facts – doubles	
S - down	Counting by twos, up to and including 20	
T - down	Counting-back with the empty number line	

Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

**COMMENTS:**

LEVEL

2

SAMPLE

# Answer Keys

Providing immediate  
feedback to teachers

**Cross-Number**  
DISCOVERY PUZZLES & GAMES

# CROSS-NUMBER PUZZLE 1

A 1	2		B 1		C 7	D 3
0		E 3	7	F 8		0
	G 8	0		H 5	J 6	
K 1	4				L 1	4
	M 7	N 6		P 8	5	
Q 6		R 1	S 1	1		T 1
U 4	9		0		V 3	0

Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

A. The number of holes on the buttons



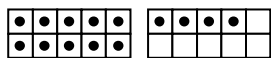
C. The number before 74

E. The number that reads three hundred seventy-eight

G. An even number

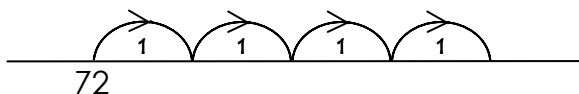
H. The number that is two more than 54

K. The number shown by the ten-frames



L.  $10 + 4$

M. The number reached on the last hop



P. The number that is one less than 86

R. A number with all digits the same

U. The next number in the pattern:

45, 46, 47, 48,

V. The number after 29

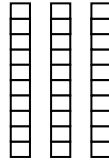
## DOWN:

A. The number shown by the tally



B. The number after 16

D. The number shown by the blocks



E.  $10 + 10 + 10$

F. An odd number

G. Choose the greatest number:

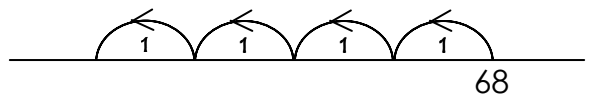
647, 747, 847, 547

J. A number greater than 600

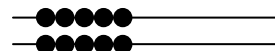
N. The number that is two less than 63

P. The number before 82

Q. The number reached on the last hop



S. The number of beads



T.  $5 + 5$

## CROSS-NUMBER PUZZLE 2

<b>A</b>	3	5		<b>B</b>	1		<b>C</b>	1	<b>D</b>	1
	6		<b>E</b>	7	7	<b>F</b>	7			7
	<b>G</b>	5	9			<b>H</b>	5	<b>J</b>	8	
<b>K</b>	6	7						<b>L</b>	1	0
	<b>M</b>	1	<b>N</b>	2		<b>P</b>	1	3		
<b>Q</b>	3		<b>R</b>	5	<b>S</b>	4	6		<b>T</b>	4
<b>U</b>	1	4			0			<b>V</b>	4	0

Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

### ACROSS:

**A.** The next number in the pattern:

31, 32, 33, 34,

**C.** The number that is two less than 13

**E.** A number with all digits the same

**G.** An odd number

**H.** The number that is two more than 56

**K.** The number before 68

**L.** The number of beads



**M.** The number of beads



**P.** The number shown by the tally



**R.** Choose the greatest number:

246, 446, 346, 546

**U.** The number of holes on the buttons

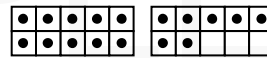


**V.** The number after 39

### DOWN:

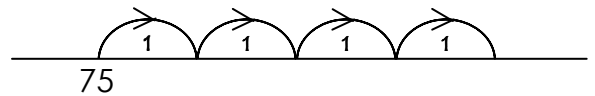
**A.** The number that is two less than 38

**B.** The number shown by the ten-frames



**D.**  $10 + 7$

**E.** The number reached on the last hop



**F.** A number less than 80

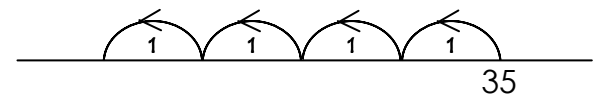
**G.** The number that reads five hundred seventy-one

**J.** A number between 800 and 900

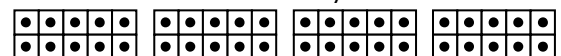
**N.** A number between 20 and 30

**P.** An even number

**Q.** The number reached on the last hop



**S.** The number shown by the ten-frames



**T.**  $10 + 10 + 10 + 10$



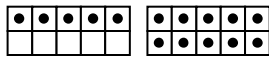
# CROSS-NUMBER PUZZLE 3

A	1	5		B	1		C	1	D	5	
	0		E	5	4	F	8			0	
		G	7	0		H	5	J	9		
K	1	6						L	9	6	
		M	2	N	1		P	8	9		
Q	1		R	5	S	1	6			T	4
U	5	0			2			V	7	6	

Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

A. The number shown by the ten-frames

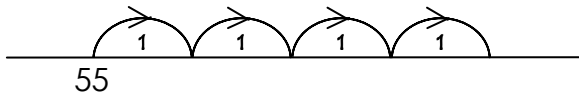


C.  $5 + 10$

E. The number that reads five hundred forty-eight

G. An even number

H. The number reached on the last hop



K. The number of holes on the buttons



L. The number that is two less than 98

M. A number between 20 and 30

P. The next number in the pattern:

85, 86, 87, 88,

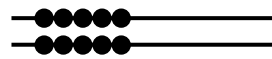
R. A number between 500 and 600

U. The number after 49

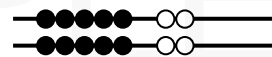
V. The number that is one less than 77

## DOWN:

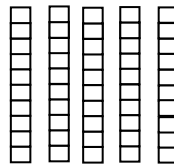
A. The number of beads



B. The number of beads



D. The number shown by the blocks



E.  $10 + 10 + 10 + 10 + 10$

F. An odd number

G. Choose the greatest number:  
562, 362, 762, 162

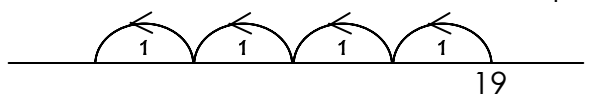
J. A number with all digits the same

N. The number shown by the tally



P. The number that is two more than 84

Q. The number reached on the last hop



S.  $6 + 6$

T. The number before 47

# CROSS-NUMBER PUZZLE 4

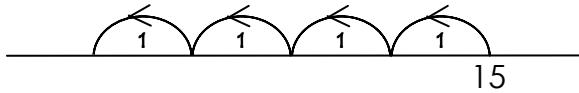
A	2	7		B	1		C	1	D	1	
	0		E	7	8	F	4			8	
		G	1	2		H	7	J	5		
K	6	8						L	1	6	
		M	1	N	6		P	1	4		
Q	9		R	3	S	7	8			T	7
U	1	4			0			V	6	0	

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## ACROSS:

A. The number after 26

C. The number reached on the last hop



E. Choose the greatest number:  
384, 784, 184, 584

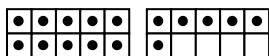
G.  $6 + 6$

H. An odd number

K. The next number in the pattern:  
64, 65, 66, 67,

L.  $10 + 6$

M. The number shown by the ten-frames



P. An even number

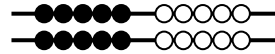
R. A number greater than 300

U.  $7 + 7$

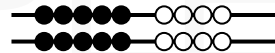
V. The number that is two more than 58

## DOWN:

A. The number of beads



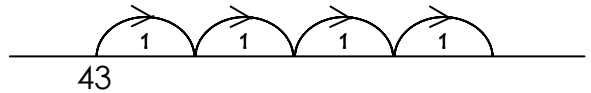
B. The number of beads



D.  $9 + 9$

E. A number between 70 and 80

F. The number reached on the last hop



G. A number less than 200

J. The number that reads five hundred fourteen

N. The number that is two less than 65

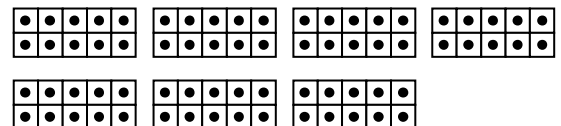
P. The number of holes on the buttons



Q. The number that is two less than 93

S.  $10 + 10 + 10 + 10 + 10 + 10 + 10$

T. The number shown by the ten-frames



# CROSS-NUMBER PUZZLE 5

A 1	4		B 5		C 4	D 9
2		E 9	9	F 9		0
	G 7	0		H 3	J 6	
K 8	6				L 1	8
	M 1	N 8		P 1	3	
Q 1		R 7	S 2	6		T 8
U 6	5		0		V 1	4

Cross-Number Discovery Puzzles 2 - © Celia Baron 2013

## ACROSS:

A. The number shown by the tally



C. The next number in the pattern:

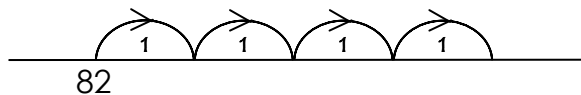
45, 46, 47, 48,

E. A number with all digits the same

G. The number that is two more than 68

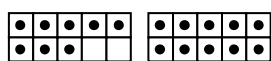
H. An even number

K. The number reached on the last hop



L.  $8 + 10$

M. The number shown by the ten-frames



P. An odd number

R. Choose the greatest number:

426, 726, 626, 526

U. The number after 64

V.  $7 + 7$

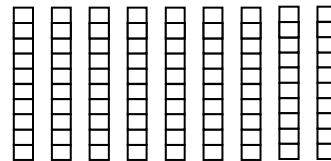
## DOWN:

A. The number that is two less than 14

B. The number that is two more than 57

D.  $10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$

E. The number shown by the blocks



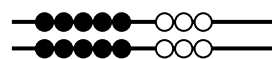
F. The number before 94

G. A number between 700 and 800

J. The number that reads six hundred thirteen

N. A number between 80 and 90

P. The number of beads

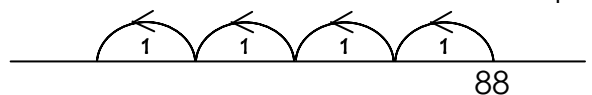


Q.  $8 + 8$

S. The number of holes on the buttons



T. The number reached on the last hop





SAMPLE.

# Games

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

# CROSS-NUMBER DISCOVERY GAMES 2

*The order of Cross-Number Discovery Games follows the same order as that of Cross-Number Discovery Puzzles, with games 1-5 supporting the concepts introduced in puzzles 1-5. The games in each of the sections are repetitive and simple to learn. Detailed instructions for the games and an explanation of the outcomes they address are provided in the introductions to each of the sections. As the following games are most likely familiar to teachers, instructions for them are provided just once below.*

**Face-off** is a game for 2-4 players. All the cards are dealt to the players and each player places his/her cards face-down in a pile. Each player then turns over the top card of his/her pile and states the number shown on the card. The player with the greatest number is the winner of the round and takes the cards. Play continues in this manner until one player has won all the cards. If the game ends before that, the player with the greatest number of cards wins the game. Note: A variation of this game is to have players take turns before each round stating whether the greatest or least number will win that round.

**Fish** is a card game for 2-4 players. To start, 5 cards are dealt to each player and the remaining cards are placed face-down in a pile on a table. If a player has 2 matching cards, he/she sets these cards aside. After players have set aside their matches, they take turns asking the player to their left for a card that matches one in their hand. If the player to the left has the matching card, he/she must give it to the asking player who can then ask for another card. If the player to the left does not have a matching card, the player takes the top card from the pile on the table. The player with the greatest number of matches at the end of the game is the winner.

**Snap** is a card game for 2 players. The cards are placed face-down in 1 or 2 piles on a table depending on the nature of the game. The card(s) from the top of the pile(s) is(are) turned over. The first player to call out the answer takes the card(s). The player with the greater number of cards at the end of the game is the winner. Note: When choosing two players to play this game, make sure both understand the concepts involved or play will be too one-sided.

**Concentration** is a card game for 2-4 players. To begin, 20 cards (10 pairs) are placed face-down on a table in 4 rows and 5 columns. The first player turns over 2 cards. If they are a match, the player keeps the cards. If they are not a match, the player places the cards back face-down on the table and play goes to the next player. The player with the greatest number of cards at the end of the game is the winner.

There is a score sheet that is required for all the Adding and Subtracting games. It is included after this introduction.

## ADDING AND SUBTRACTING SCORE SHEET

QUESTION	WORK	WINNER

# CROSS-NUMBER GAMES 2: PUZZLES I-5

## **I-5A.NUMERAL CARDS TO 100**

This game consists of numeral cards from 0 to 100. The cards provide practice with forward and backward number sequences. They can also be enlarged.

There are many activities possible with these numeral cards. An example of a game that can be played by an entire class is the following. Give each student three or four cards. Ask the student who has the card with the number 1 to begin. The student shows and states that he/she has the number 1. The student with the card that has the number 2 then shows and states that he/she has the number 2. The student with the card that has the number 3 is next. Play continues until all the number to 100 are read. This game can also be played in reverse, beginning with the numbers 100 and ending with the number 1.

## **I-5B.NEARBY NUMBERS**

This nearby number game consists of 24 cards and a game board. It provides practice in finding forward number sequences to the decade and backward number sequences within the decade.

This game can be played by individual students. Students are provided with the set of 24 cards and the game board. Students arrange the cards on the empty squares of the game board so that the numbers are in sequence.

## **I-5C.NUMBER BOUNCE**

This is the first of eight number bounce games. One is provided for each group of five puzzles. This number bounce game consists of 35 cards. It provides practice with finding numbers after and numbers before. The numbers after are to the decade while the numbers before are within the decade.

Number bounces 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 who has the card with that number reads his/her card and asks for the next number. The game continues in this manner until all the cards are read. The last card will ask for the number 1. When this game is played by individual students, have the students first order the cards to make locating the numbers easier.

## **I-5D.BUILDING 11 TO 20 WITH TEN-FRAMES**

This target-20 game consists of two game boards. Also required are a 6-sided number cube with the numbers 0, 1, 1, 2, 2, and 3 as well as bingo chips. This game provides practice with building the numbers 11-20.

This is a game for 2-4 players. Each player is given a game board consisting of 2 empty ten-frames and bingo chips. In turn, each player rolls the number cube and places the number of bingo chips rolled on his/her game board beginning at the left of the top row. The player states the total number of bingo chips he/she has on the ten-frames. The first player with 20 bingo chips on his/her ten-frames is the winner of the game.

### **I-5D.BUILDING 11 TO 20 WITH TEN-FRAMES, CONTINUED**

This game can also be played in reverse and provides practice with the backward number sequences through the teen numbers. Have players place 20 bingo chips on their game boards and then remove the number of bingo chips rolled beginning at the right of the second row. The first player to remove all of his/her bingo chips wins the game.

### **I-5E.BUILDING 11 TO 20 WITH TEN-FRAMES**

This game consists of 40 cards and provides practice with building the numbers 11-20.

These cards can be used to play the games described in the Introduction to Cross-Number Games 2.

### **I-5F.ADDING AND SUBTRACTING**

This face-off game consists of 14 cards and a score sheet. It is the first of eight adding and subtracting games. One is provided for each group of five puzzles. This game provides practice in adding and subtracting 1-digit numbers with 2-digit numbers. The questions involving addition can be to the decade while the questions involving subtraction are within the decade. The score sheet for the adding and subtracting games is included in the Introduction to Cross-Number Games 2.

This is a game for 2 players. Each player is given a score sheet. The cards are scattered face-down on a table. Before each round, one player chooses whether the greater or lesser answer will win the round. Players choose a card, and complete their number sentence on their score sheet. The player with the greater or lesser answer wins the round. The player with the greater number of wins after 7 rounds wins the game.

### **I-5G.ADDITION DOUBLES WITH BEAD STRINGS**

This game consists of 40 cards in 2 piles. The first pile consists of bead strings that show the addition doubles and the second pile consists of the sums of these addition doubles. These cards provide practice with the addition doubles.

These cards can be used to play the games described in the Introduction to Cross-Number Games 2.

### **I-5H.ADDITION DOUBLES FOR 2-7**

This four-in-a-row game consists of 4 game boards. Also required are a 6-sided number cube with the numbers 2, 3, 4, 5, 6, and 7, as well as bingo chips. This game provides practice with the addition doubles from 2 to 7.

This is a game for 2-4 players. Players choose one of the 4 game boards. In turn, each player rolls the number cube, and places a bingo chip on **one** of the addition doubles on his/her game board. For example, if a player rolls a 5, he/she will place a bingo chip on **one** 10 ( $5 + 5$ ) on his/her game board. If no 10s are available on his/her game board, the player forfeits that turn. The first player with a complete row or column wins the game.



**I-5A**  
**NUMERAL**  
**CARDS**  
**TO 100**

**~ 101 CARDS ~**

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0

Book 2: 1-5A

1

Book 2: 1-5A

2

Book 2: 1-5A

3

Book 2: 1-5A

4

Book 2: 1-5A

5

Book 2: 1-5A

6

Book 2: 1-5A

7

Book 2: 1-5A

8

Book 2: 1-5A

9

Book 2: 1-5A

10

Book 2: 1-5A

11

Book 2: 1-5A

12

Book 2: 1-5A

13

Book 2: 1-5A

14

Book 2: 1-5A

15

Book 2: 1-5A

16

Book 2: 1-5A

17

Book 2: 1-5A

18

Book 2: 1-5A

19

Book 2: 1-5A

20

Book 2: 1-5A

21

Book 2: 1-5A

22

Book 2: 1-5A

23

Book 2: 1-5A

24

Book 2: 1-5A

25

Book 2: 1-5A

26

Book 2: 1-5A

27

Book 2: 1-5A

28

Book 2: 1-5A

29

Book 2: 1-5A

30

Book 2: 1-5A

31

Book 2: 1-5A

32

Book 2: 1-5A

33

Book 2: 1-5A

34

Book 2: 1-5A

35

Book 2: 1-5A

36

Book 2: 1-5A

37

Book 2: 1-5A

38

Book 2: 1-5A

39

Book 2: 1-5A

40

Book 2: 1-5A

41

Book 2: 1-5A

42

Book 2: 1-5A

43

Book 2: 1-5A

44

Book 2: 1-5A

45

Book 2: 1-5A

46

Book 2: 1-5A

47

Book 2: 1-5A

48

Book 2: 1-5A

49

Book 2: 1-5A

50

Book 2: 1-5A

51

Book 2: 1-5A

52

Book 2: 1-5A

53

Book 2: 1-5A

54

Book 2: 1-5A

55

Book 2: 1-5A

56

Book 2: 1-5A

57

Book 2: 1-5A

58

Book 2: 1-5A

59

Book 2: 1-5A

60

Book 2: 1-5A

61

Book 2: 1-5A

62

Book 2: 1-5A

63

Book 2: 1-5A

64

Book 2: 1-5A

65

Book 2: 1-5A

66

Book 2: 1-5A

67

Book 2: 1-5A

68

Book 2: 1-5A

69

Book 2: 1-5A

70

Book 2: 1-5A

71

Book 2: 1-5A

72

Book 2: 1-5A

73

Book 2: 1-5A

74

Book 2: 1-5A

75

Book 2: 1-5A

76

Book 2: 1-5A

77

Book 2: 1-5A

78

Book 2: 1-5A

79

Book 2: 1-5A

80

Book 2: 1-5A

81

Book 2: 1-5A

82

Book 2: 1-5A

83

Book 2: 1-5A

84

Book 2: 1-5A

85

Book 2: 1-5A

86

Book 2: 1-5A

87

Book 2: 1-5A

88

Book 2: 1-5A

89

Book 2: 1-5A

90

Book 2: 1-5A

91

Book 2: 1-5A

92

Book 2: 1-5A

93

Book 2: 1-5A

94

Book 2: 1-5A



95

Book 2: 1-5A

96

Book 2: 1-5A

97

Book 2: 1-5A

98

Book 2: 1-5A

99

Book 2: 1-5A

100

Book 2: 1-5A

		14		
		21		
		68		
		19		
		53		
		58		

**I-5B  
NEARBY  
NUMBERS**

~ 24 CARDS ~

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12 Book 2: 1-5B	13 Book 2: 1-5B	15 Book 2: 1-5B	16 Book 2: 1-5B
19 Book 2: 1-5B	20 Book 2: 1-5B	22 Book 2: 1-5B	23 Book 2: 1-5B
66 Book 2: 1-5B	67 Book 2: 1-5B	69 Book 2: 1-5B	70 Book 2: 1-5B
17 Book 2: 1-5B	18 Book 2: 1-5B	20 Book 2: 1-5B	21 Book 2: 1-5B
51 Book 2: 1-5B	52 Book 2: 1-5B	54 Book 2: 1-5B	55 Book 2: 1-5B
56 Book 2: 1-5B	57 Book 2: 1-5B	59 Book 2: 1-5B	60 Book 2: 1-5B

**1-5C**  
**NUMBER**  
**BOUNCE**

~ **35 CARDS** ~

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I have

**1**

Who has the  
number before **58**?

Book 2: 1-5C

I have

**57**

Who has the  
number after **71**?

Book 2: 1-5C

I have

**72**

Who has the  
number before **11**?

Book 2: 1-5C

I have

**10**

Who has the  
number before **43**?

Book 2: 1-5C

I have

**42**

Who has the  
number after **19**?

Book 2: 1-5C

I have

**20**

Who has the  
number before **13**?

Book 2: 1-5C

I have

**12**

Who has the  
number after **64**?

Book 2: 1-5C

I have

**65**

Who has the  
number before **86**?

Book 2: 1-5C

I have

**85**

Who has the  
number after **29**?

Book 2: 1-5C

I have

**30**

Who has the  
number after **39**?

Book 2: 1-5C

I have

**40**

Who has the  
number before **10**?

Book 2: 1-5C

I have

**9**

Who has the  
number after **47**?

Book 2: 1-5C

I have

**48**

Who has the  
number before **95**?

Book 2: 1-5C

I have

**94**

Who has the  
number before **17**?

Book 2: 1-5C

I have

**16**

Who has the  
number after **59**?

Book 2: 1-5C

I have

**60**

Who has the  
number before **25**?

Book 2: 1-5C

I have

**24**

Who has the  
number after **98**?

Book 2: 1-5C

I have

**99**

Who has the  
number before **15**?

Book 2: 1-5C

I have

**14**

Who has the  
number after **75**?

Book 2: 1-5C

I have

**76**

Who has the  
number before **55**?

Book 2: 1-5C

I have

**54**

Who has the  
number after **89**?

Book 2: 1-5C

I have

**90**

Who has the  
number before **12**?

Book 2: 1-5C

I have

**11**

Who has the  
number after **69**?

Book 2: 1-5C

I have

**70**

Who has the  
number before **82**?

Book 2: 1-5C

I have

**81**

Who has the  
number before **34**?

Book 2: 1-5C

I have

**33**

Who has the  
number before **8**?

Book 2: 1-5C

I have

**7**

Who has the  
number after **49**?

Book 2: 1-5C

I have

**50**

Who has the  
number before **64**?

Book 2: 1-5C

I have

**63**

Who has the  
number after **99**?

Book 2: 1-5C

I have

**100**

Who has the  
number before **46**?

Book 2: 1-5C

I have

**45**

Who has the  
number after **38**?

Book 2: 1-5C

I have

**39**

Who has the  
number after **67**?

Book 2: 1-5C

I have

**68**

Who has the  
number before **89**?

Book 2: 1-5C

I have

**88**

Who has the  
number before **14**?

Book 2: 1-5C

I have

**13**

Who has the  
number before **2**?

Book 2: 1-5C



Book 2: 1-5D

---

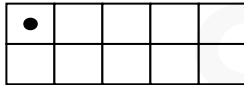


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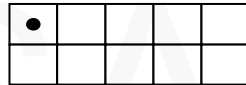
**I-5E  
BUILDING  
11 TO 20  
WITH TEN-  
FRAMES**

~ 40 CARDS ~

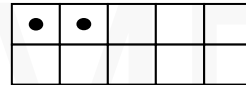
Cross-Number Games 2 -  
© Celia Baron 2013



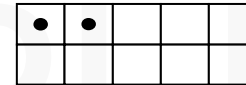
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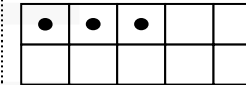
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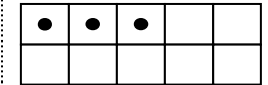
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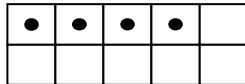
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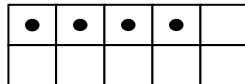
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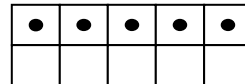
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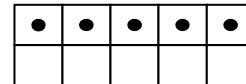
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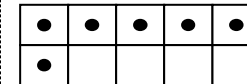
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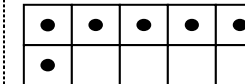
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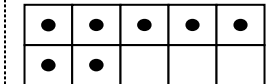
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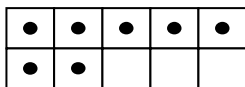
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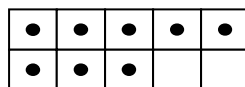
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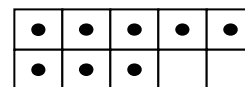
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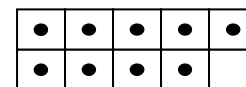
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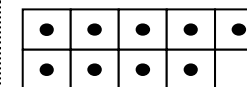
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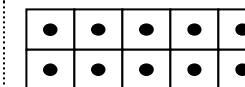
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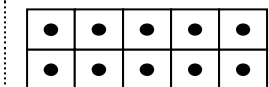
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Book 2: 1-5E

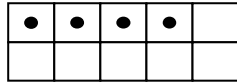
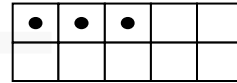
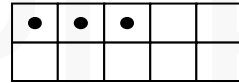
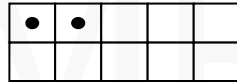
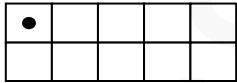
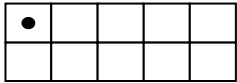
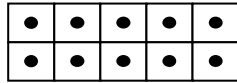
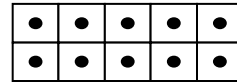
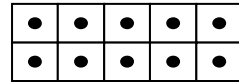
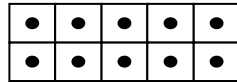
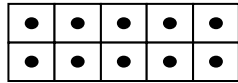
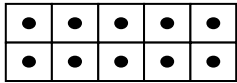
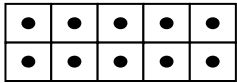


Book 2: 1-5E



Book 2: 1-5E





Book 2: 1-5E

Book 2: 1-5E

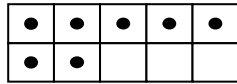
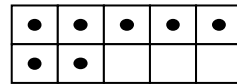
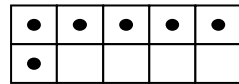
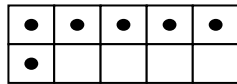
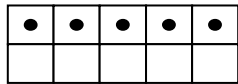
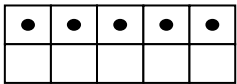
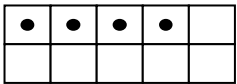
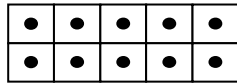
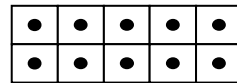
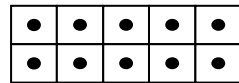
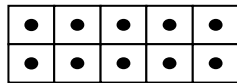
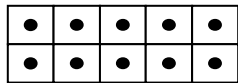
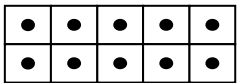
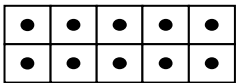
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Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E



Book 2: 1-5E

Book 2: 1-5E

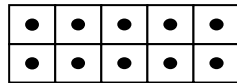
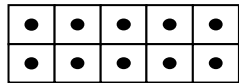
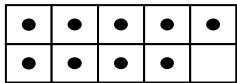
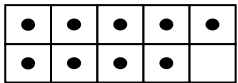
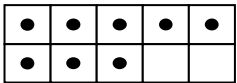
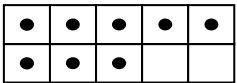
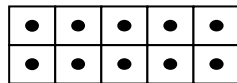
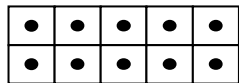
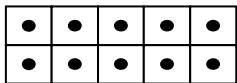
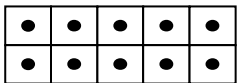
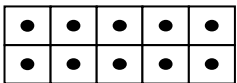
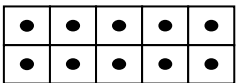
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Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E



Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

Book 2: 1-5E

### 1-5E.BUILDING 11 TO 20 WITH TEN-FRAMES.2

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**1-5F**  
**ADDING AND SUBTRACTING**

~ 14 CARDS ~

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$$11 + 5$$

Book 2: 1-5F

$$20 - 5$$

Book 2: 1-5F

$$23 + 5$$

Book 2: 1-5F

$$28 - 5$$

Book 2: 1-5F

$$34 + 5$$

Book 2: 1-5F

$$49 - 5$$

Book 2: 1-5F

$$53 + 5$$

Book 2: 1-5F

$$17 - 5$$

Book 2: 1-5F

$$19 + 5$$

Book 2: 1-5F

$$24 - 5$$

Book 2: 1-5F

$$30 + 5$$

Book 2: 1-5F

$$39 - 5$$

Book 2: 1-5F

$$45 + 5$$

Book 2: 1-5F

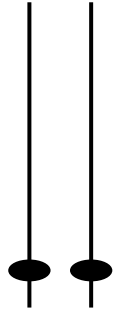
$$56 - 5$$

Book 2: 1-5F

**1-5G**  
**ADDITION**  
**DOUBLES**  
**WITH BEAD**  
**STRINGS**  
**PILE I**

~ 40 CARDS ~

Cross-Number Games 2 -  
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Book 2: 1-5G



Book 2: 1-5G



Book 2: 1-5G



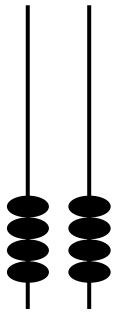
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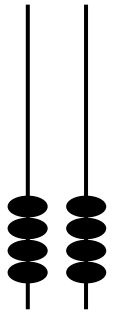
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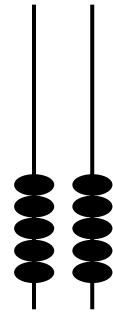
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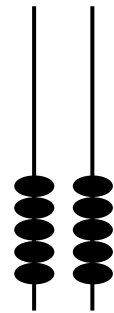
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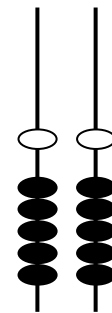
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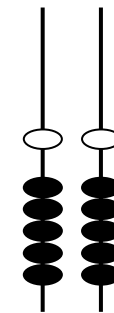
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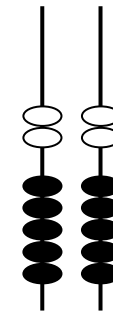
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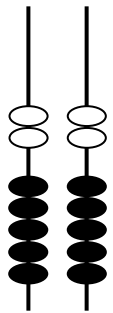
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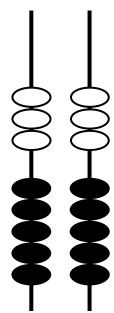
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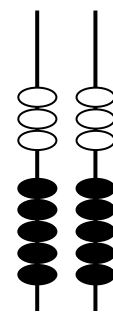
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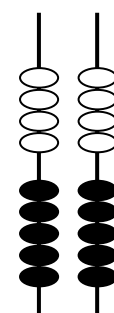
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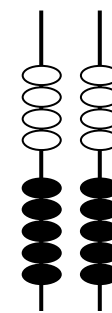
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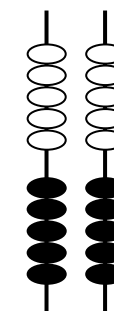
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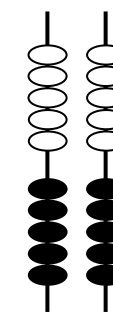
Book 2: 1-5G



Book 2: 1-5G



Book 2: 1-5G



Book 2: 1-5G

**1-5G  
ADDITION  
DOUBLES  
WITH BEAD  
STRINGS  
PILE 2**

~ 40 CARDS ~

*Cross-Number Games 2 -  
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2

Book 2: 1-5G

2

Book 2: 1-5G

4

Book 2: 1-5G

4

Book 2: 1-5G

6

Book 2: 1-5G

6

Book 2: 1-5G

8

Book 2: 1-5G

8

Book 2: 1-5G

10

Book 2: 1-5G

10

Book 2: 1-5G

12

Book 2: 1-5G

12

Book 2: 1-5G

14

Book 2: 1-5G

14

Book 2: 1-5G

16

Book 2: 1-5G

16

Book 2: 1-5G

18

Book 2: 1-5G

18

Book 2: 1-5G

20

Book 2: 1-5G

20

Book 2: 1-5G

6	10	12	8
12	8	14	4
4	12	6	10
8	6	10	14

Book 2: 1-5H

8	12	4	6
4	10	8	14
10	6	12	8
12	4	14	10

Book 2: 1-5H

10	4	12	8
14	8	6	10
4	6	14	4
12	14	10	6

Book 2: 1-5H

8	10	6	12
4	14	12	6
6	8	14	4
14	12	10	8

Book 2: 1-5H