

Binary Search Cards

Making your own
set of 16 numbers
on 4 by 4 cards

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Making your own cards

Once you have mastered the version 1 set of hole cards you will want to make a set with your own numbers . The following instructions help you do that.

Write any 16 different numbers that you chose on the Base Card

Base Card

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Using the base card as a guide you will make 8 cards. The cards will be in sets of two 1A and 1B, 2A and 2B , 3A and 3B, 4A and 4B. Each set will be glued back to back to form 4 cards with numbers on the front and back. You will then cut out holes in each of the 4 cards. These 4 cards with holes in that and the base card allow you to perform the trick.

Card 1A

cut out this area			
1	2	3	4
5	6	7	8

Card 1B

9	10	11	12
13	14	15	16
cut out this area			

Card 4A

cut out			
1	2	3	4
cut out			
9	10	11	12

Card 4B

5	6	7	8
cut out			
13	14	15	16
cut out			

Card 2A

cut out this area	1	2
	5	6
	9	10
	13	14

Card 2B

3	4	cut out this area
7	8	
11	12	
15	16	

Card 3A

c u t o u t	1	c u t o u t	3
	5		7
	9		11
	13		15

Card 3B

2	c u t o u t	4	c u t o u t
6		8	
10		12	
14		16	

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Making your own set of 16 numbers on 4 by 4 cards

Step by Step Instructions and examples for making each card.

The following pages 3 to 7 contain detailed instructions for making each of the cards in a small version. The instructions for both sides of one card takes one page. The instruction and a sample are given. A blank template for the cards is shown beneath the sample so the student can make each card as they read the instructions and follow the sample. This process takes 5 pages to make each of the cards.

Pages 8 to 12 have a large card version with less detailed instructions. Many students will be able to use this format after they make their first set.

Making the Base Card

Blank Template

Base card with 16 numbers filled in

4	11	13	5
21	8	7	34
29	10	31	22
53	14	45	36

Pick any **16 different numbers** (no repeats) and fill in the 16 squares on the base card shown below. You will need to have the completed base card in front of you as you make the other cards. .

Base Card

Making Cards 1A and 1B

Making Card 1B

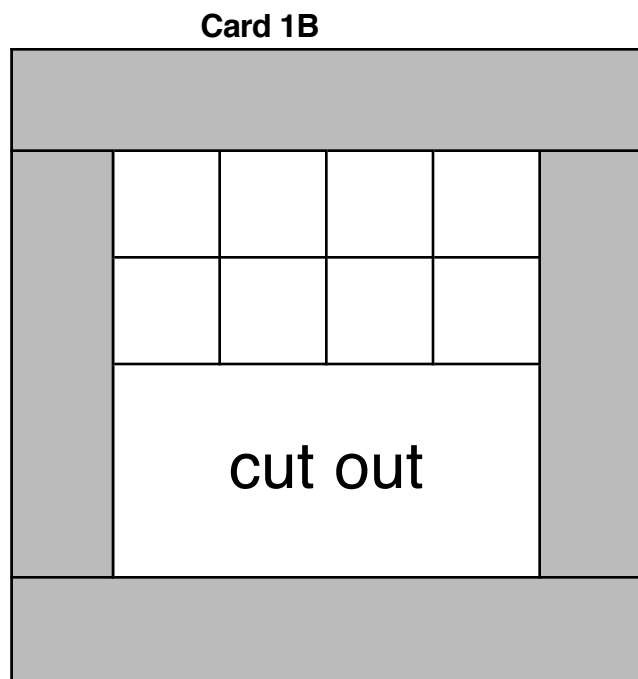
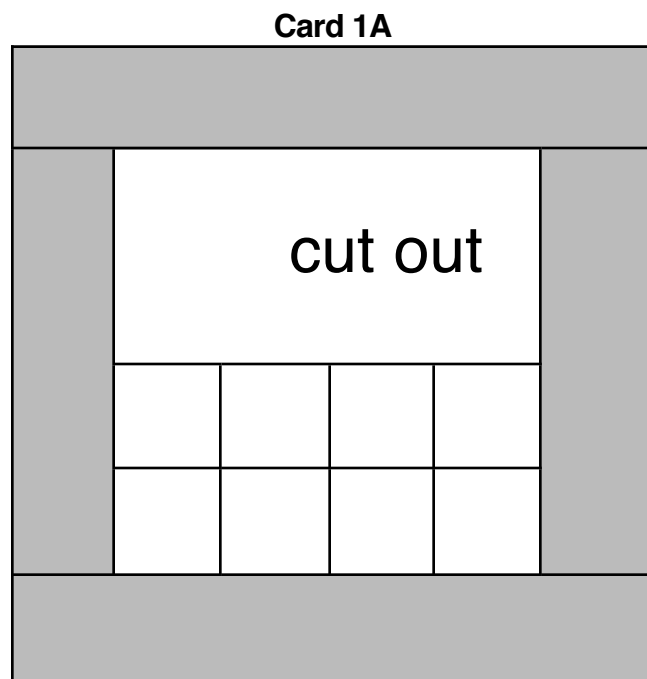
Write the 8 numbers from **the top half of the base card** in the 8 squares in the **bottom half of Card 1A**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

Making Card 1B

Write the 8 numbers from **the bottom half of the base card** in the 8 squares in the **top half of Card 1B**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

Base card				Card 1A			
4	11	13	5	cut out this area			
21	8	7	34				
29	10	31	22	4	11	13	5
53	14	45	36	21	8	7	34

Base card				Card 1B			
4	11	13	5	29	10	31	22
21	8	7	34	53	14	45	36
29	10	31	22	cut out this area			
53	14	45	36				



Make the first hole card from Cards 1A and 1B

Cut out cards 1A and 1B along the outside of the gray border. Use a glue stick to glue the cards back to back. The numbers on the back side will be upside down compared to the front side so that the cut out areas match. After you have glued the cards tog

Making Cards 2A and 2B

Making Card 2A

Write the 8 numbers from **the left side of the base card** in the 8 squares on the **right side of Card 2A**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

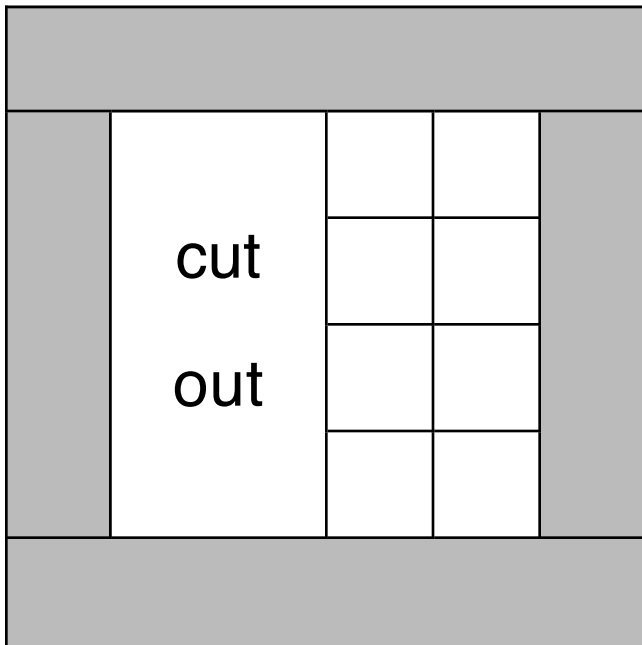
Making Card 2B

Write the 8 numbers from **the right half of the base** in the 8 squares on the **left half of Card 2B**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

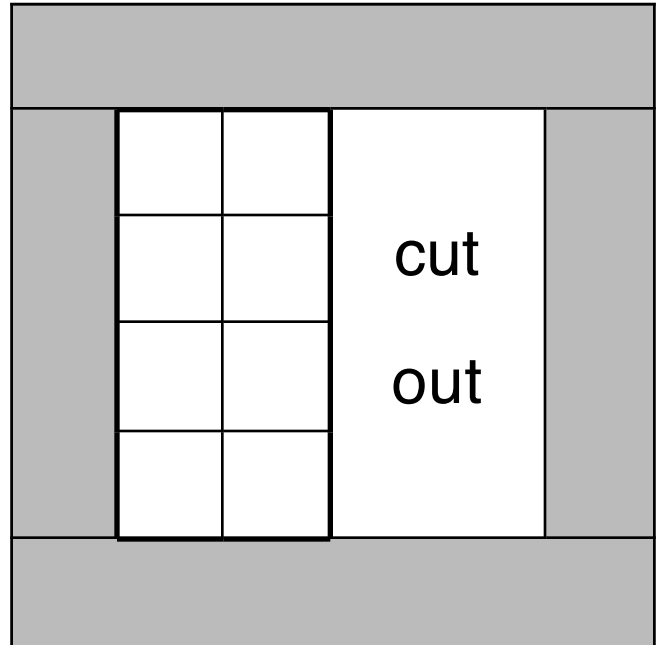
Base card				Card 2A			
4	11	13	5	cut out this area	4	11	
21	8	7	34		21	8	
29	10	31	22		29	10	
53	14	45	36		53	14	

Base card				Card 2A			
4	11	13	5	13	5	cut out this area	
21	8	7	34	7	34		
29	10	31	22	31	22		
53	14	45	36	45	36		

Card 2A



Card 2B



Make the second hole card from Cards 2A and 2B

Cut out cards 2A and 2B along the outside of the gray border. Use a glue stick to glue the cards back to back. The numbers on both sides of the cards will be face up so that the cut out areas match. After you have glued the cards together cut out the areas labeled “cut out”

Making Cards 3A and 3B

Making Card 3A

Write the 8 numbers in **the two ODD rows (Row 1 and Row 3) of the base card** in the **two EVEN rows (Row 2 and Row 4) of Card 3A**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

Making Card 3B

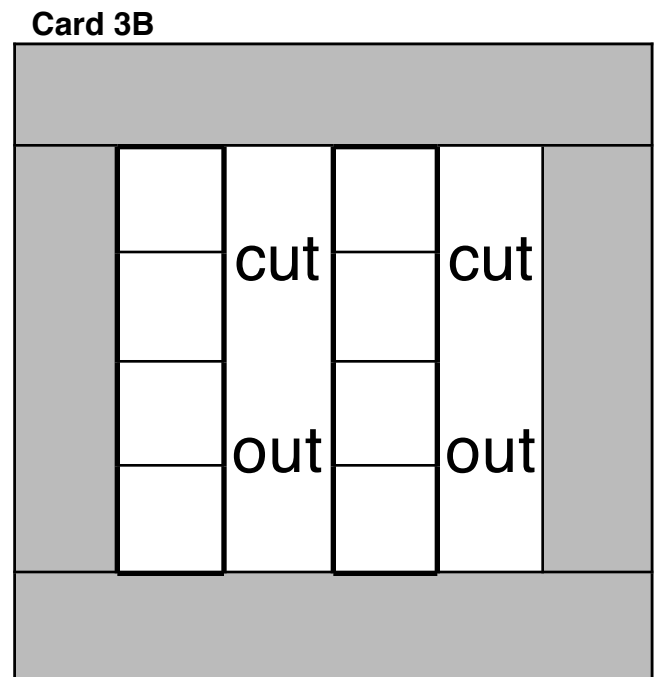
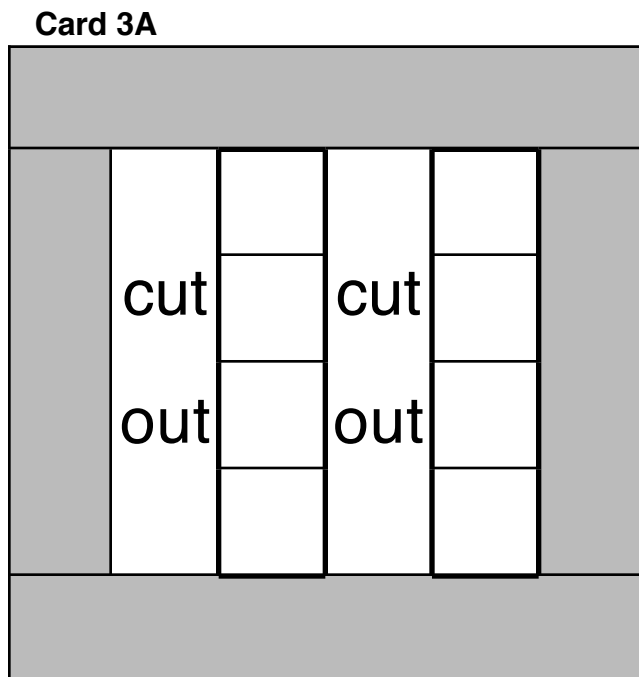
Write the 8 numbers in **the two EVEN rows (Row 2 and Row 4) of the base card** in the **two ODD rows (Row 1 and Row 3) of card 3B**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

Base card			
R1		R3	
4	11	13	5
21	8	7	34
29	10	31	22
53	14	45	36

Card 3A			
	R2		R4
c u t o u t	4	c u t o u t	13
	21		7
	29		31
	53		45

Base card			
	R2		R4
4	11	13	5
21	8	7	34
29	10	31	22
53	14	45	36

Card 3B			
R1		R3	
11	c u t	5	c u t
8		34	
10	o u t	22	o u t
14		36	



Make the third hole card from Cards 3A and 3B

Cut out cards 3A and 3B along the outside of the gray border. Use a glue stick to glue the cards back to back. The numbers on both sides of the cards will be face up so that the cut out areas match. After you have glued the cards together cut out the areas labeled “cut out”

Making Cards 4A and 4B

Making Card 4A

Write the 8 numbers in **the two ODD Columns (C1 and C3) of the base card** in the **two EVEN Columns (C2 and C4) of Card 4A**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

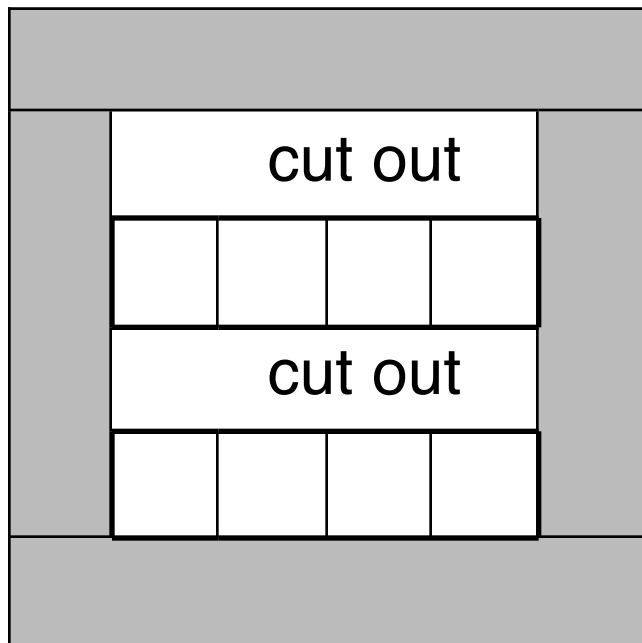
Making Card 4B

Write the 8 numbers in **the two EVEN COLUMNS (C2 and C4) of the base card** in the **two ODD COLUMNS (C1 and C3) of Card 4B**. The example shows the numbers in the same order as the base card. You could use any order for the 8 numbers.

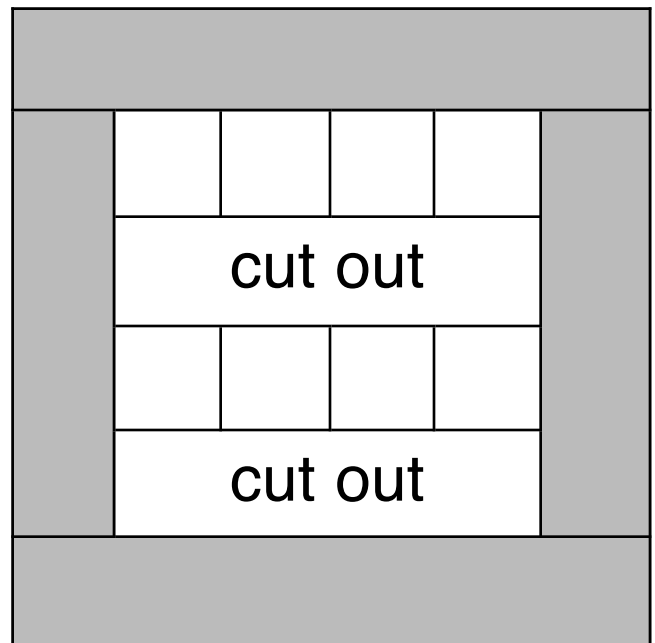
Base card					Card 4A				
C1	4	11	13	5	cut out				
	21	8	7	34	4	11	13	5	
C3	29	10	31	22	cut out				
	53	14	45	36	29	10	31	22	

Base card					Card 4B				
	4	11	13	5	21	8	13	5	
C2	21	8	7	34	cut out				
	29	10	31	22	53	14	45	36	
C4	53	14	45	36	cut out				

Card 4A



Card 4B



Make the fourth hole card from Cards 4A and 4B

Cut out cards 4A and 4B along the outside of the gray border. Use a glue stick to glue the cards back to back. The numbers on the back side will be upside down compared to the front side so that the cut out areas match. After you have glued the cards together cut out the areas labeled “cut out”

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Large Card Version

Step by Step Instructions for making each card.

The following pages contain the instructions and blank templates for making each of the cards. The pages do not show examples. The blank templates for each card and the title for the card are on the left side of the page and Instructions for filling in the square are given on the right side.

Print pages 8 to 12 as one set of templates and instructions for each student that will be making a set of cards.

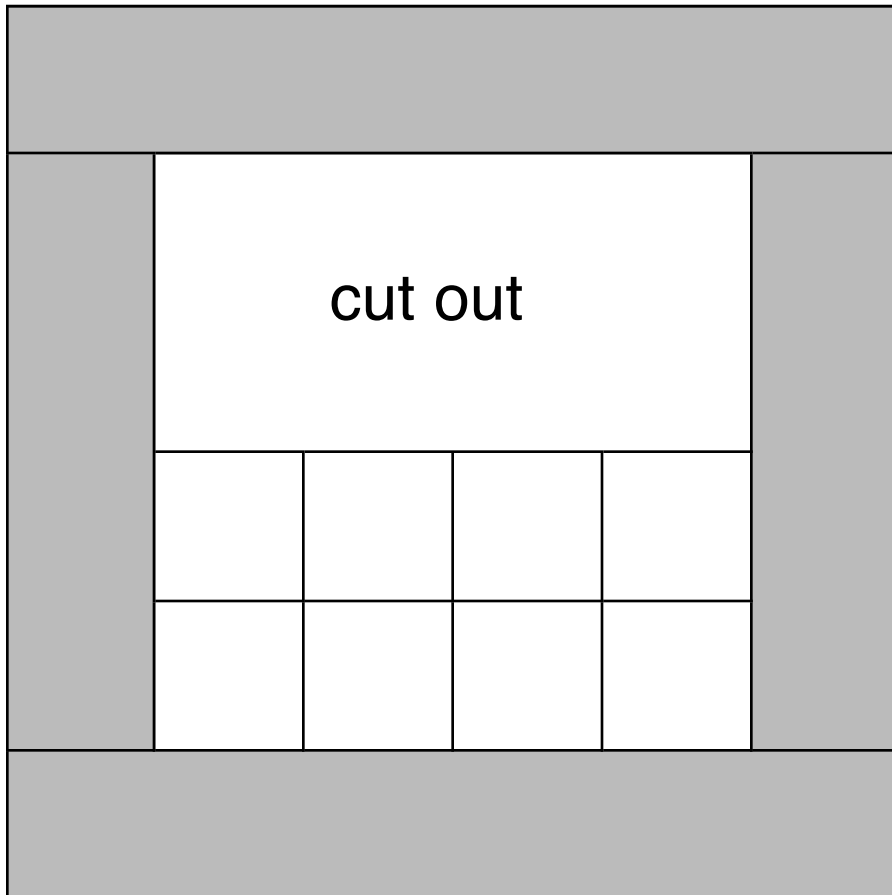
Base Card

Making the Base Card

Write any 16 different numbers in the 4 by 4 base card. Cut out the card.

You will need to refer to the card as you make the 8 hole cards.

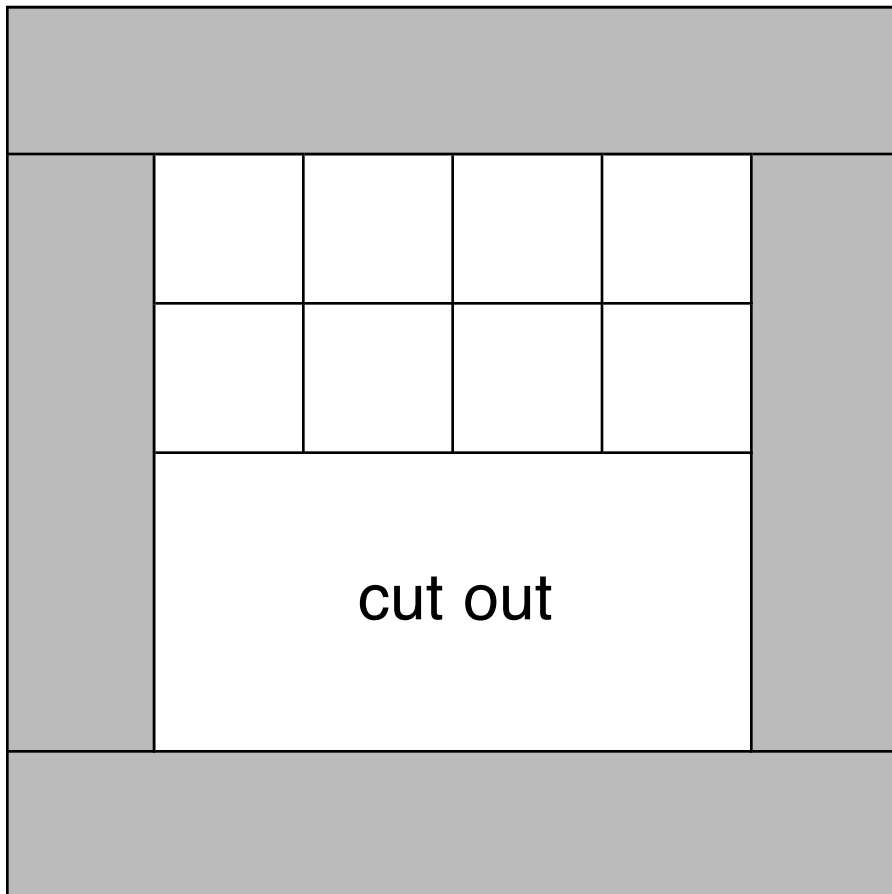
Card 1A



Making Card 1A

Write the 8 numbers from the top half of the base card in the 8 squares in the bottom half of card 1A.

Card 1B



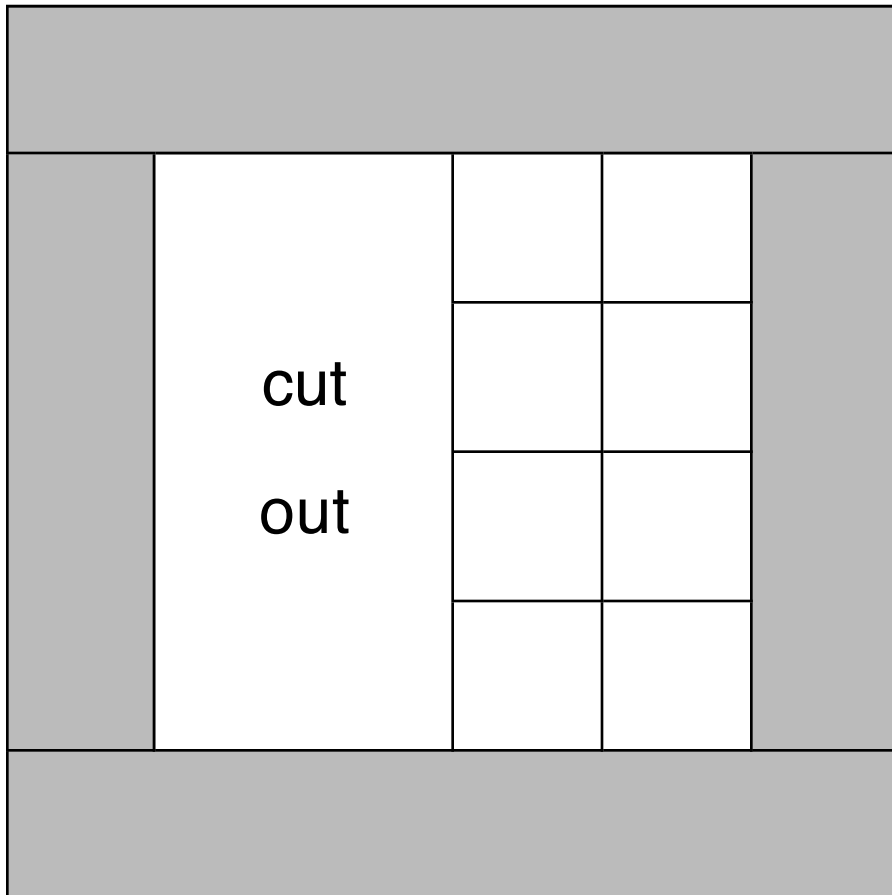
Making Card 1B

Write the 8 numbers from the top half of the base card in the 8 squares in the bottom half of card 1A.

Cut out these two cards. Use a glue stick to glue the cards back to back. The numbers on the back side will be upside down compared to the front side so that the cut out areas match.

After you have glued the cards together cut out the areas labeled "cut out"

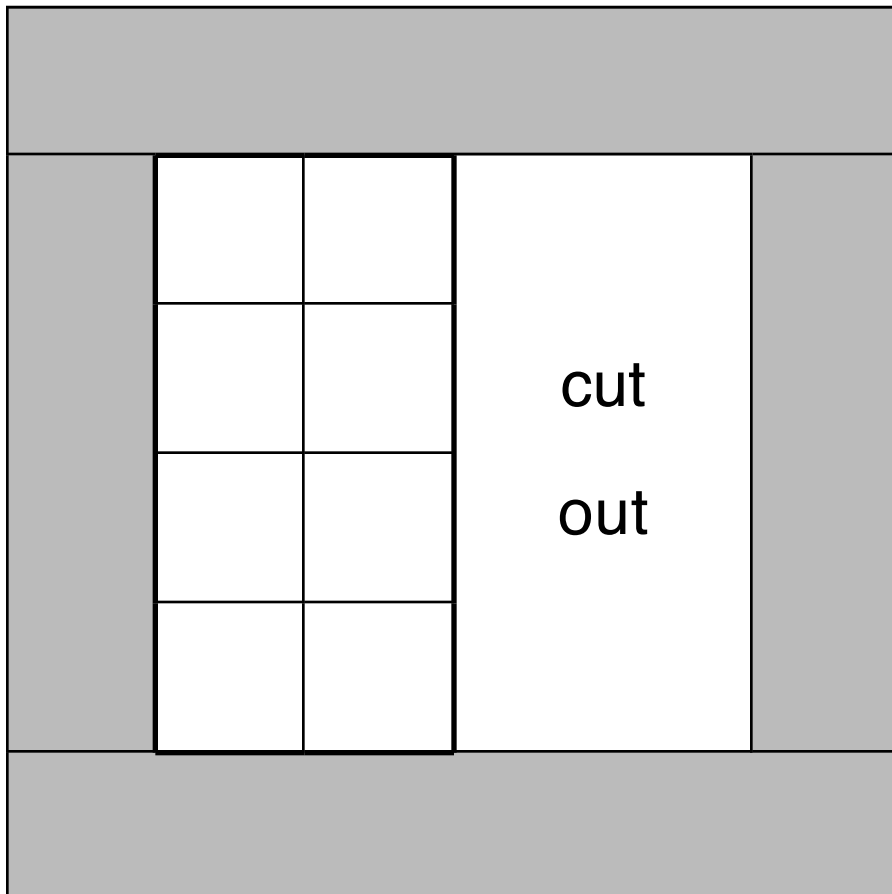
Card 2A



Making Card 2A

Write the 8 numbers from the left half of the base card in the 8 squares on the right half of card 2A.

Card 2B



Making Card 2B

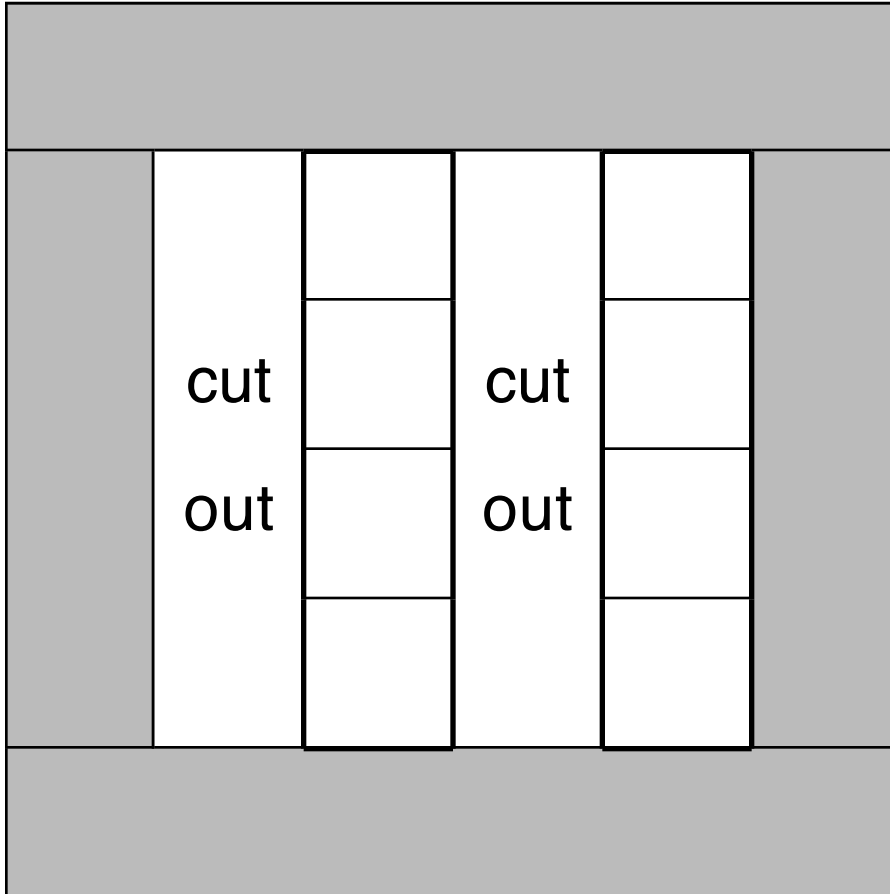
Write the 8 numbers from the right half of the base card in the 8 squares on the left half of a Card 2B.

Cut out these two cards.

Use a glue stick to glue the cards back to back. The numbers on the front and back sides will both face up so that the cut out areas match.

After you have glued the cards together cut out the areas labeled "cut out"

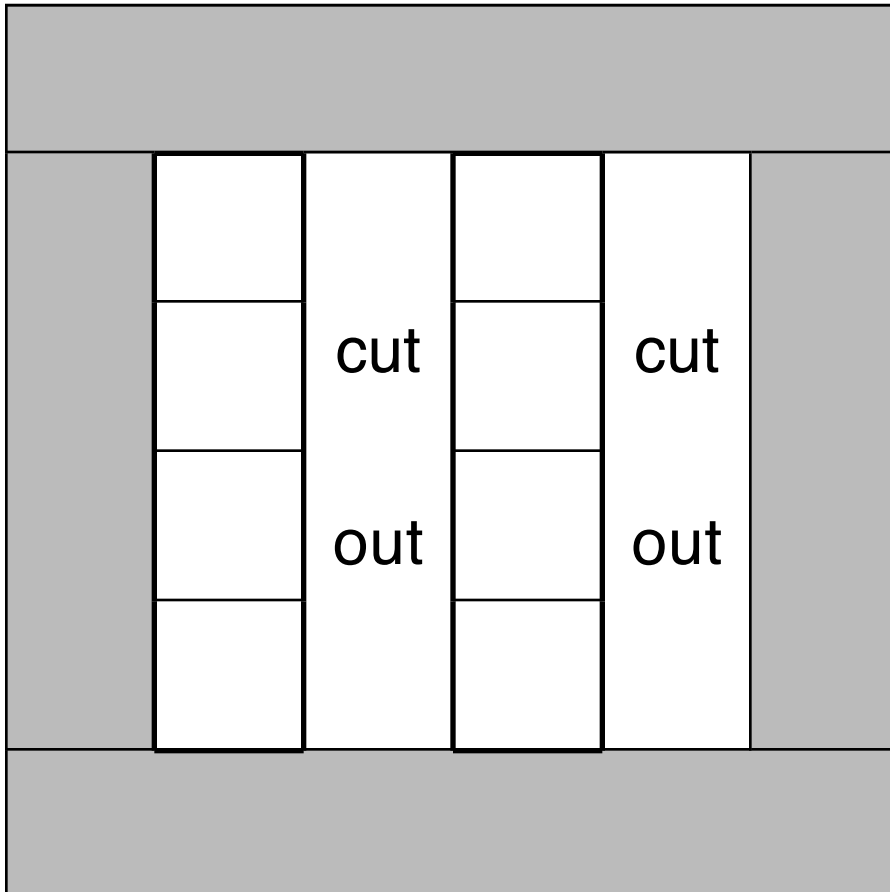
Card 3A



Making Card 3A

Write the 8 numbers from Column 1 and Column 3 of the base card in the 8 squares of Column 2 and Column 4 of Card 3A.

Card 3B



Making Card 3B

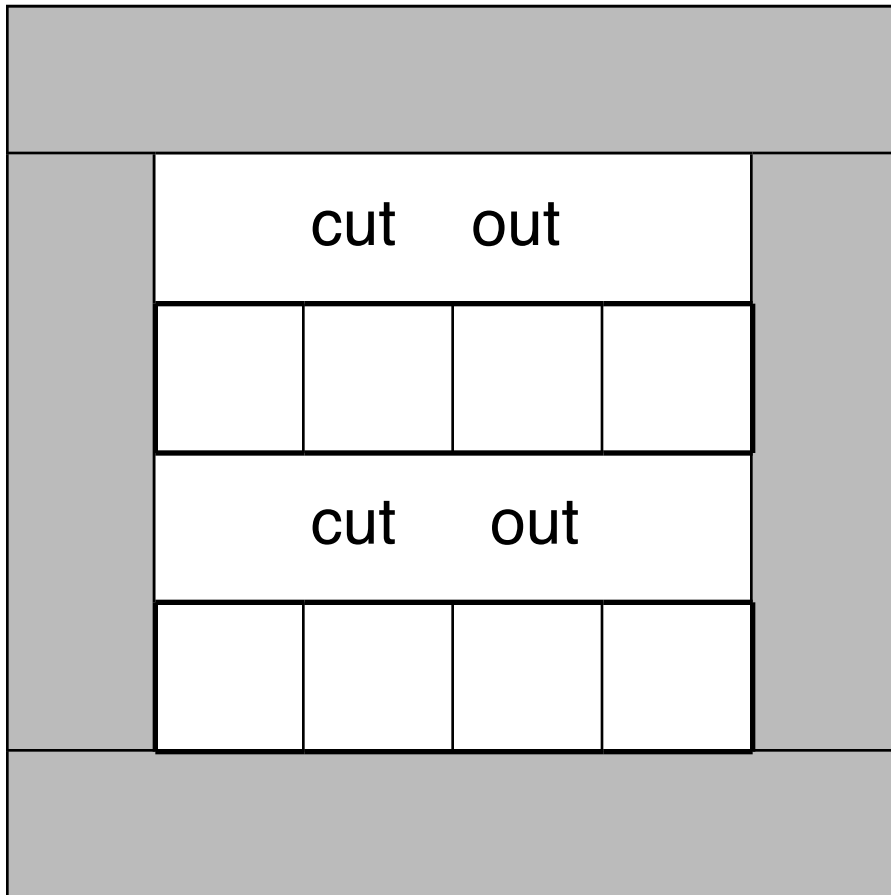
Write the 8 numbers from Column 2 and Column 4 of the base card in the 8 squares of Column 1 and column 3 of Card 3b.

Cut out these two cards.

Use a glue stick to glue the cards back to back. The numbers on the front and back sides will both face up so that the cut out areas match.

After you have glued the cards together cut out the areas labeled "cut out"

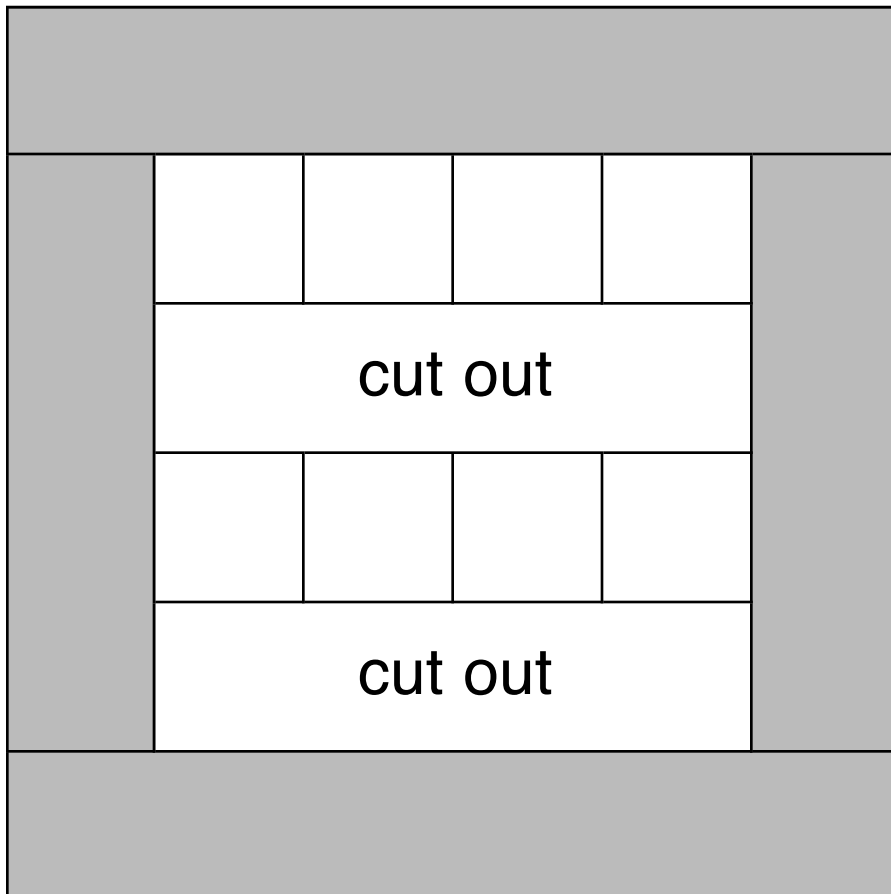
Card 4A



Making Card 4A

Write the 8 numbers from Row 1 and Row 3 of the base card in the 8 squares of Row 2 and Row 4 of Card 4A.

Card 4B



Making Card 4B

Write the 8 numbers from Row 2 and Row 4 of the base card in the 8 squares of Row 1 and Row 3 of Card 4B.

Cut out these two cards.

Use a glue stick to glue the cards back to back. The numbers on the front and back sides will both face up so that the cut out areas match.

After you have glued the cards together cut out the areas labeled "cut out"