Grab Bag Addition

From Developing Number Concepts Bk 2

2 players.

Materials:

- paper bag or cup
- a collection of 10 - 16 objects such as pennies, paper squares, cereal, pasta or beans, (*can be any like objects that will fit in the bag or cup)*

Directions:

- Each player needs 5 - 8 objects.
- Each player chooses an amount to place in the bag and names the amount. *(Player 1: I put 5 pennies in the bag. Player 2: I put 4 pennies in the bag.)*
- Ask the child, How many are there in the bag altogether?
- Dump and check
- You can then connect to symbolic representations by writing the equations to match the actions. *(5 + 4 = 9)*

Tic Tac Toe

Materials: Tic Tac Toe board, dot cards, number cards or dice.

Directions:

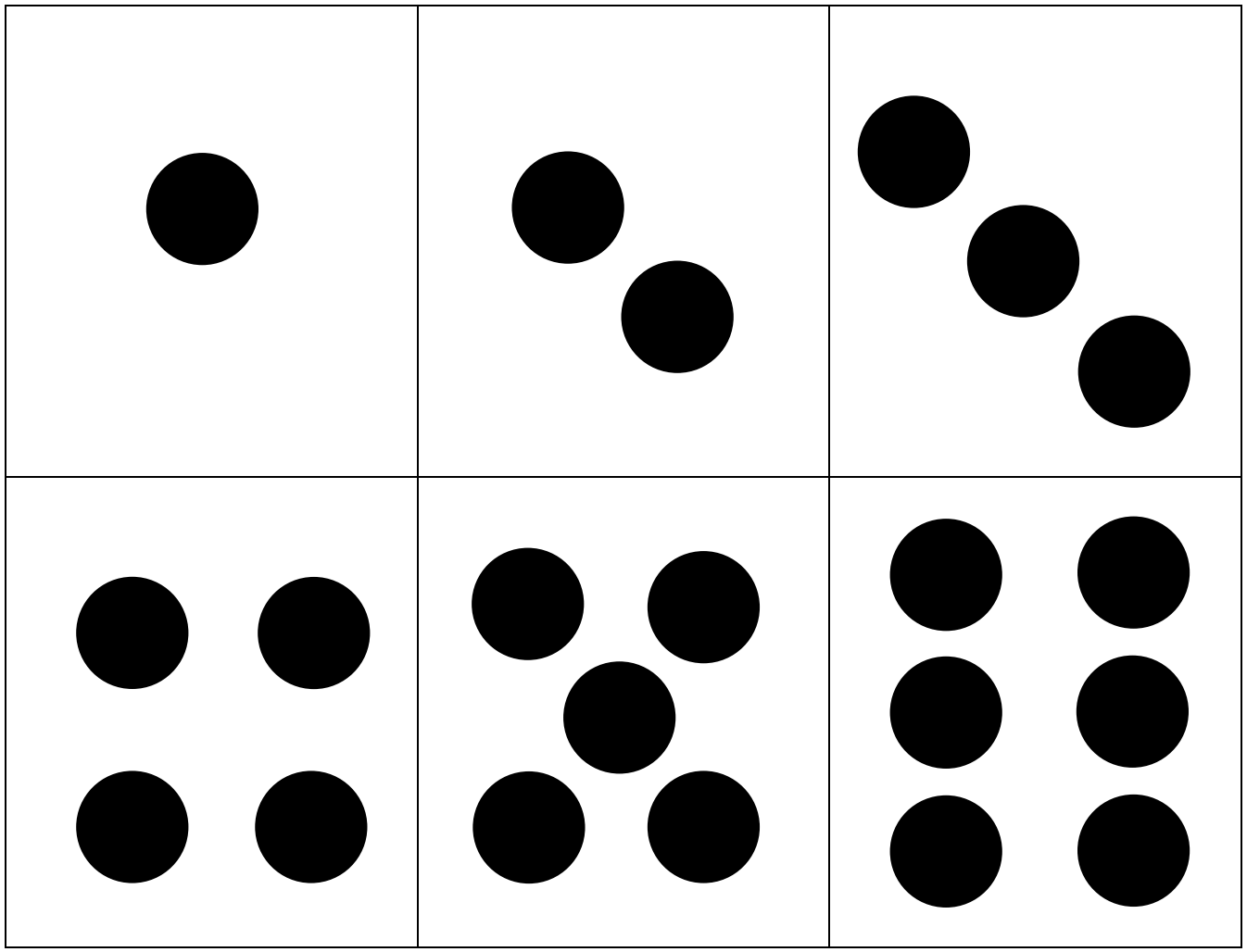
Level I: use dot cards or dot dice

Level 2: use I set of number cards and I set of dot cards

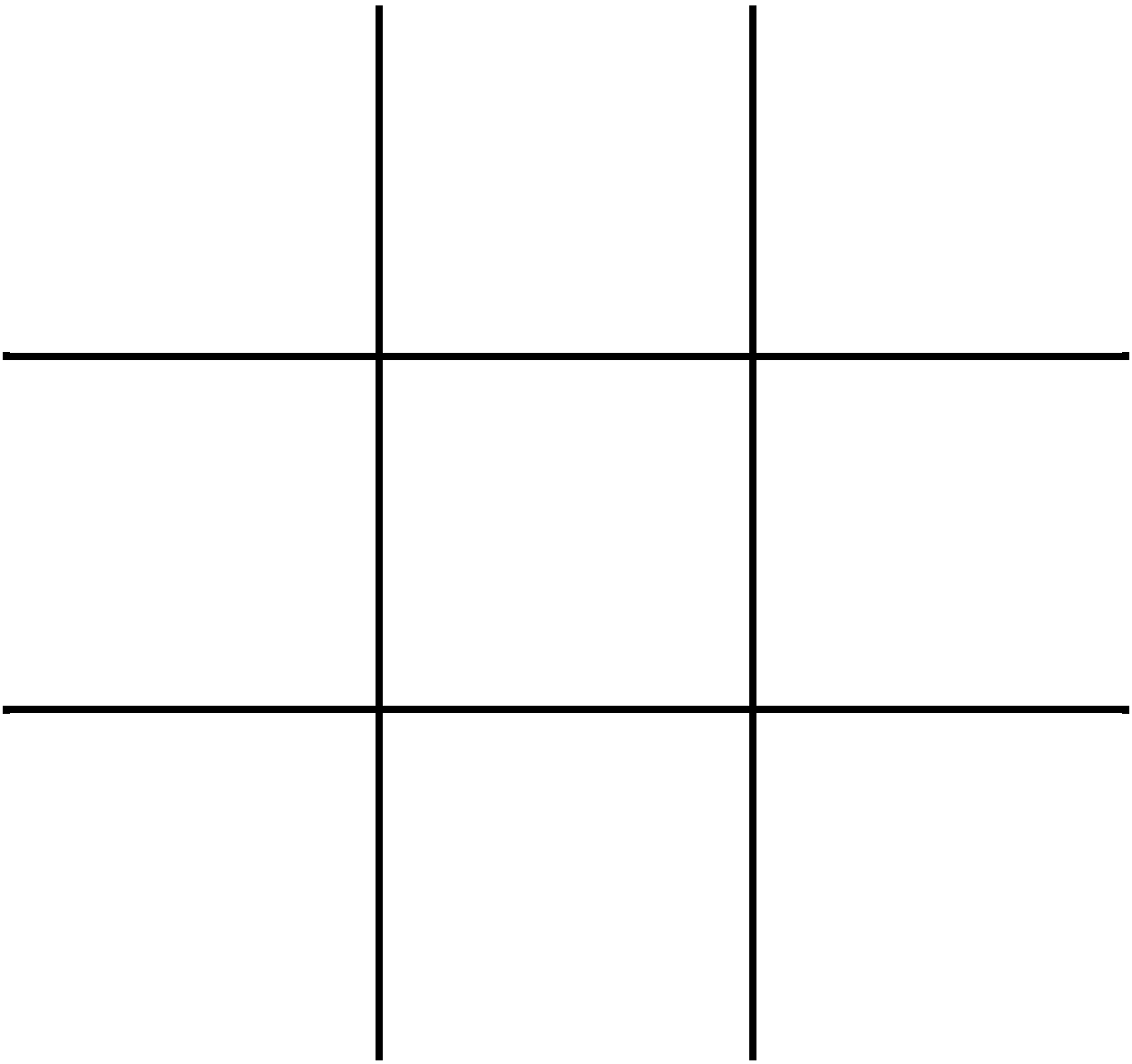
Level 3: use number cards or number dice

Each player draws 2 cards or rolls 2 dice and finds the total. If correct they can place their total in the square of their choice. The first player with 3 in row wins.

1	2	3
4	5	6
7	8	9

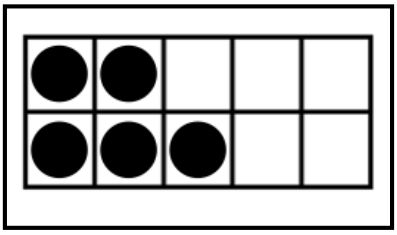


Tic-Tac-Toe



Subitizing Flashcards

Version 2 - Updated April 1, 2019
- Updated information on first page
- New format of first page allows for folding title to same size as single card (for easy storage with deck)



(single sided flashcards)

How to Use:

Print the flashcards ***single sided*** and cut along the lines.

Level 1:

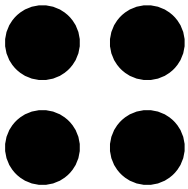
- Show one card at a time, ask: *How many? How do you see them?*

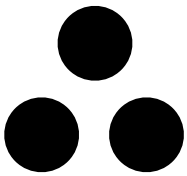
Level 2:

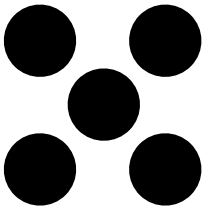
- Show one card at a time, but only for 2-3 seconds at a time, then cover it up. Ask: *How many were there? How did you see them?*

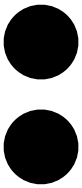
Students Might Notice…

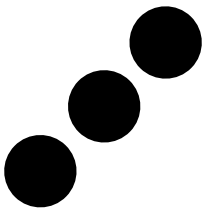
- They can count each object to find the total.
- They can "see" how many by visualizing parts and combining them to find the total. For example"I saw 2 on one side and 3 on the other, and 2 and 3 makes 5"

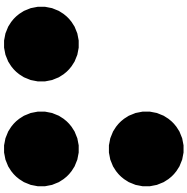


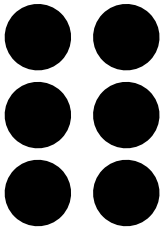


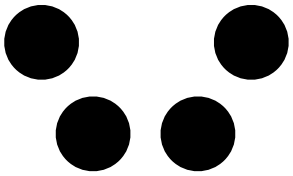


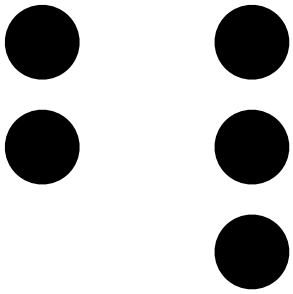


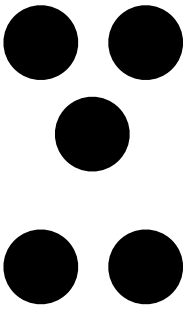


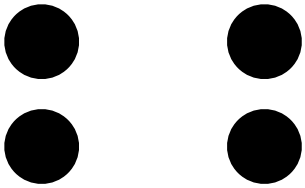


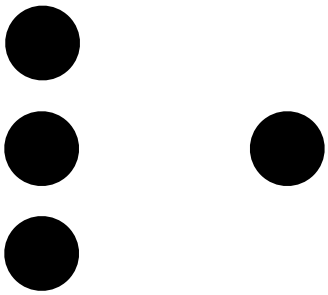


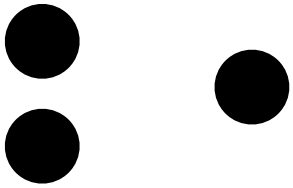


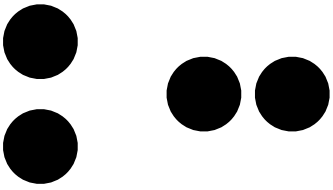


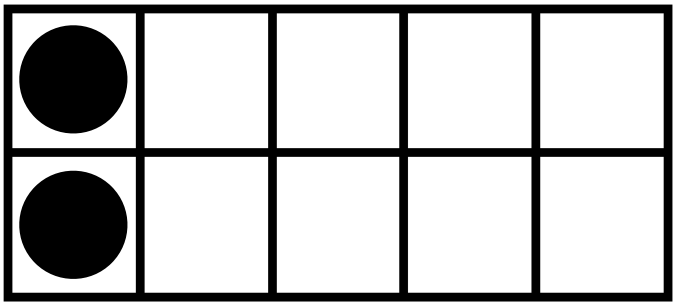


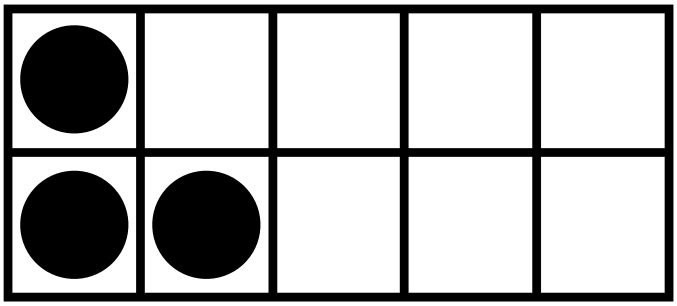


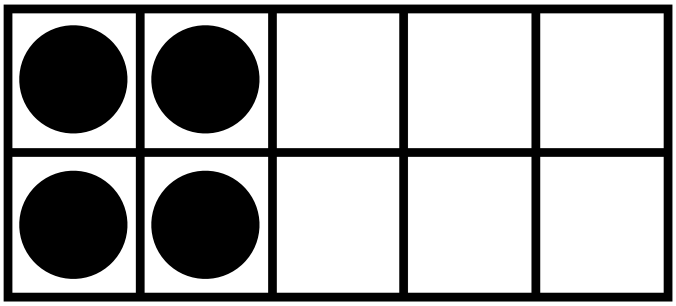


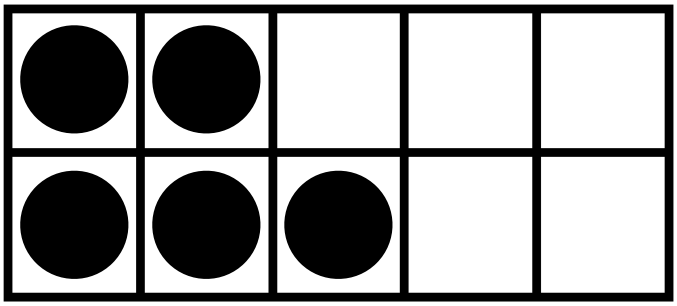


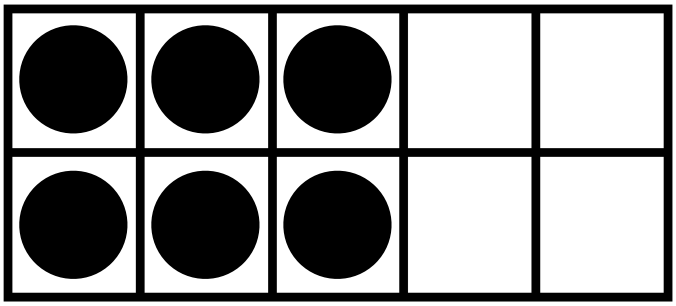


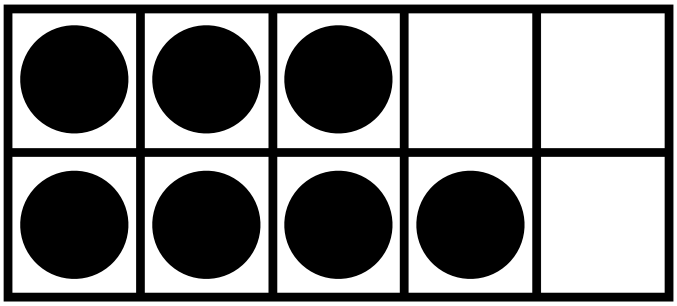


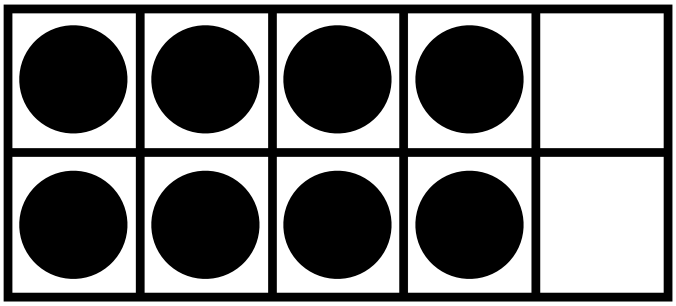


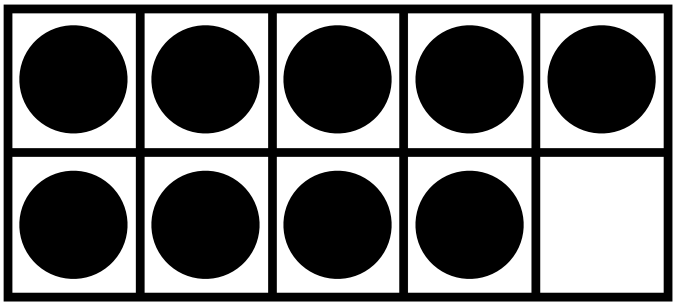


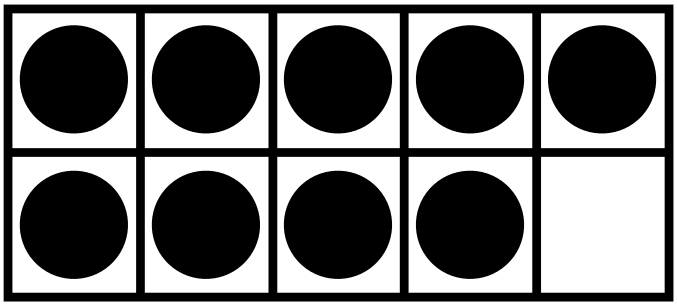


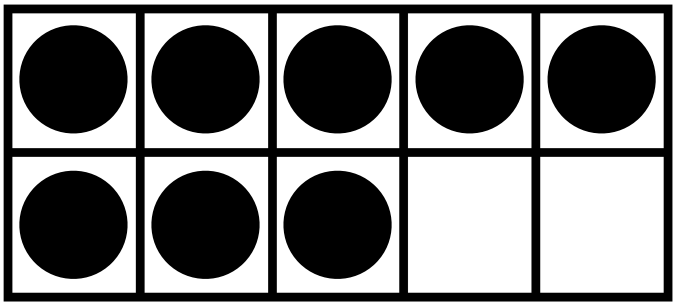


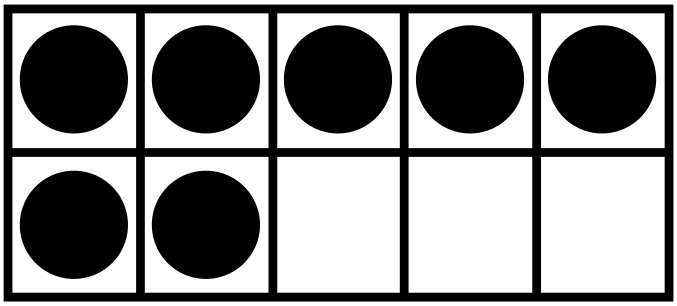


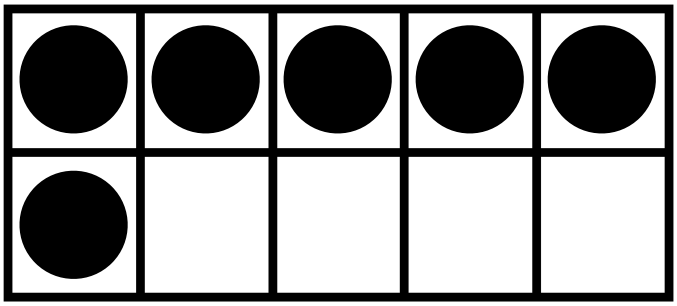


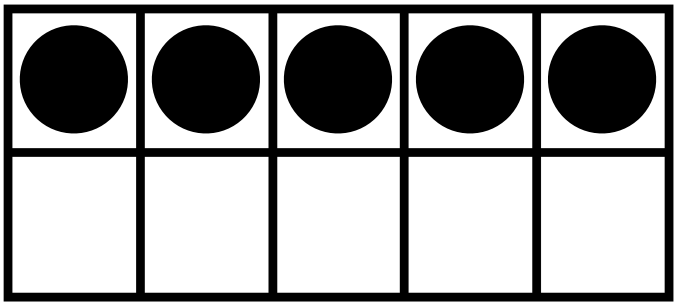


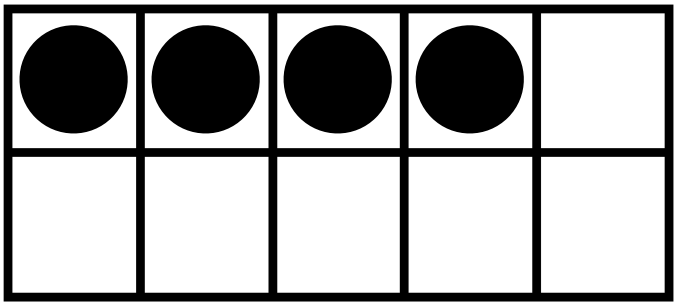


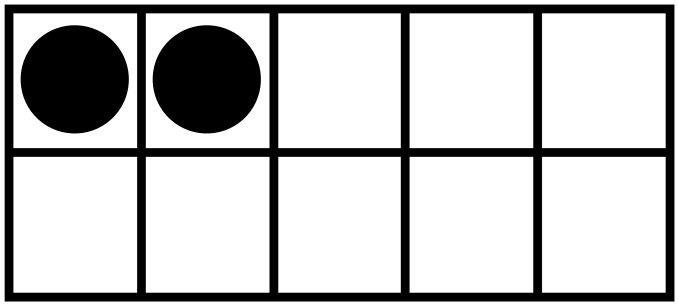


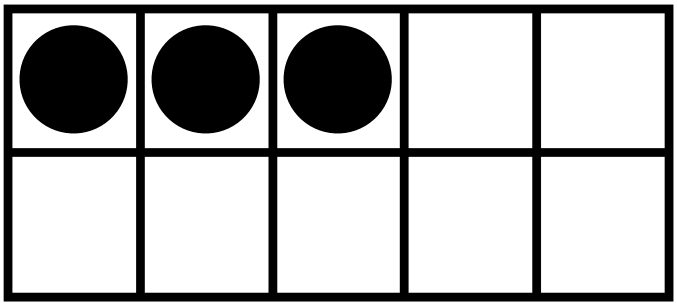


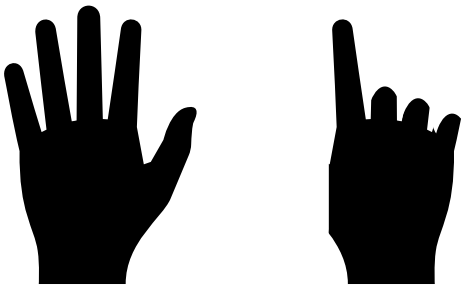


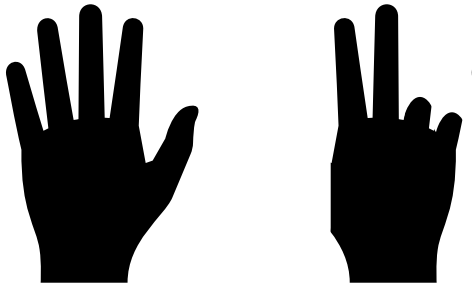


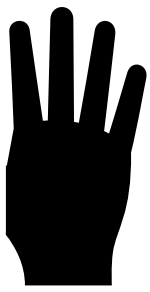


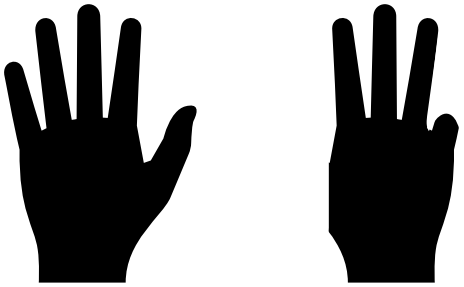








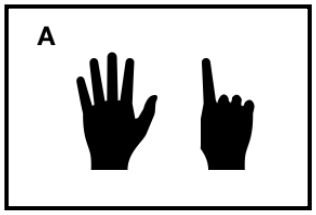


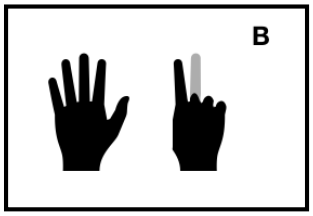


Math Flips: Addition

Plus and Minus 1 within 10

Version 2 - Updated April 1, 2019
- Updated information on first page
- New format of first page allows for folding title to same size as single card (for easy storage with deck
- Added pages with fingers and dot arrangements as visuals.





How to Use:

Print double sided and cut along the lines.

With each flashcard:

- Look at side A: *How many? How do you know?*
- (Flip to side B) *How many NOW? How do you know?*

After a while, ask Generalizing and Extending questions, like:

- *How does side A help you with side B?*
- *What is the same and different about side A and side B?*
- *What do you notice about this deck?*
- *If I told you a number (1-9) could you tell me what one more is? What about one less?*

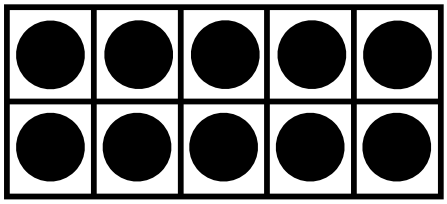
Students Might Notice…

- They don't have to count all the objects if they can "see" a group of numbers to start with. For 5+1 you could say "FIVE… six" instead of counting all 6 objects.

Keep in Mind:

- Avoid showing students how to perform strategies. Instead, let the relationship between problems on side A and B serve as a conversation starter, where students can bring their own understanding and develop their own strategies!
- Learning is (and should be) messy, so the various Math Flips decks are not in any particular order. If students aren't ready to generate their own strategies with this deck, try another one and come back later!
- Although many of these cards are visual, they are more abstract than a students' own methods for acting-out/drawing/modeling a contextual story problem of the same concept area (like adding two single-digit numbers). Before using decks with "new" content, please use story problems to help students connect what they already know about the world to this new concept. Suggested resources:
  - Free online resources:
    - "3 Act Tasks/Lessons" - various websites, start at gfletchy.com/3-act-lessons/
    - "Numberless Word Problems" - various websites, start at bstockus.wordpress.com/numberless-word-problems/
  - Books:
    - *Children's Mathematics (Second Edition)* by Thomas P Carpenter, Elizabeth Fennema, Megan Loef Franke, Linda Levi, Susan B. Empson
    - *Young Mathematicians at Work* (various books by topic) by Catherine Twomey Fosnot, Maarten Dolk, William Jacob
- Other resources to develop fluency:
  - Games:
    - Tiny Polka Dot (Card Game for PreK-2nd)
    - Prime Climb (Board Game for 3rd and up)
  - Books:
    - *Number Talks: Whole Number Computation, Grades K-5* by Sherry Parrish
    - *Math Fact Fluency* by Jennifer Bay-Williams and Gina Kling

A



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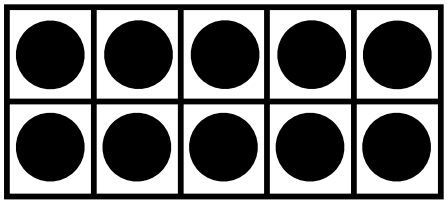

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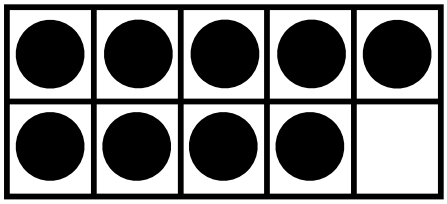

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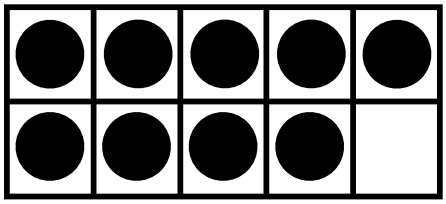

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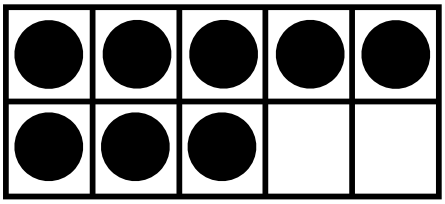

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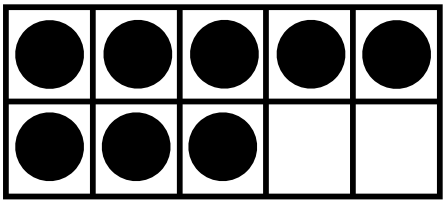

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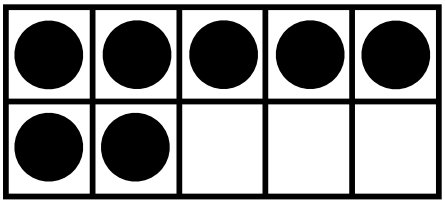

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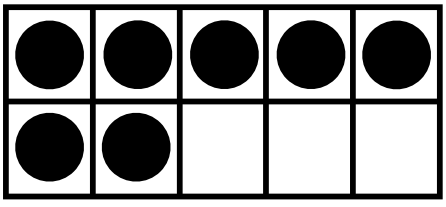

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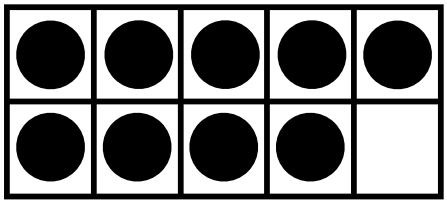

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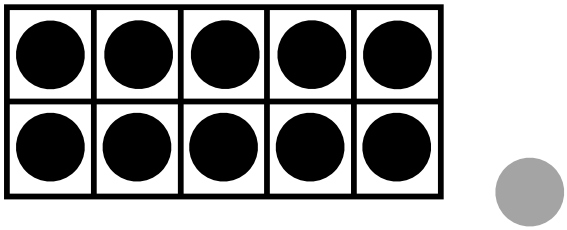

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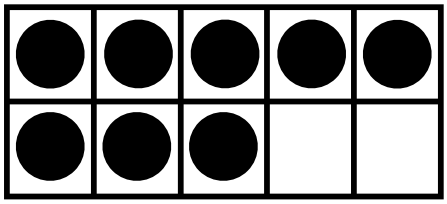

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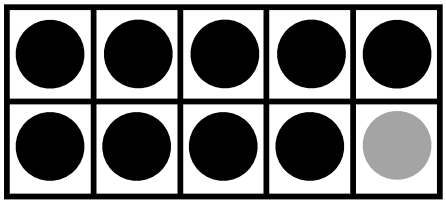

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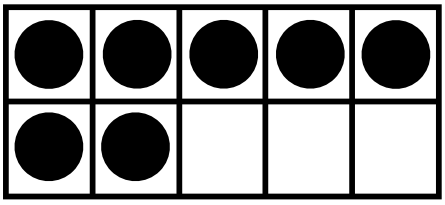

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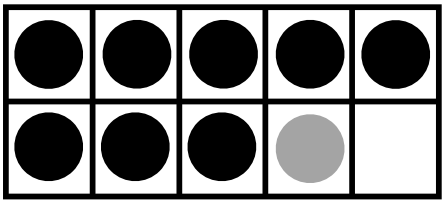

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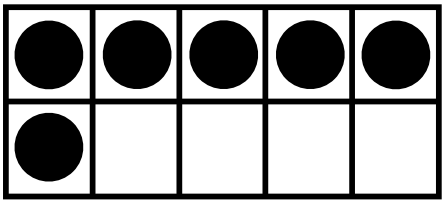

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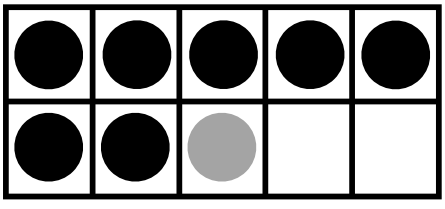

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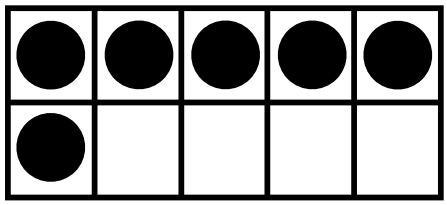

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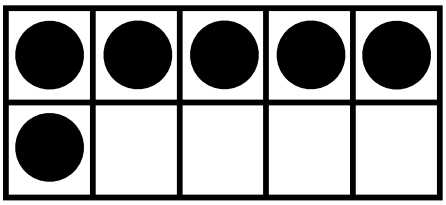

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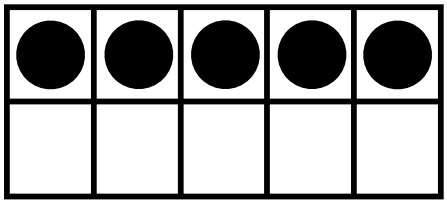

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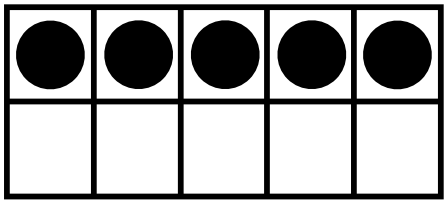

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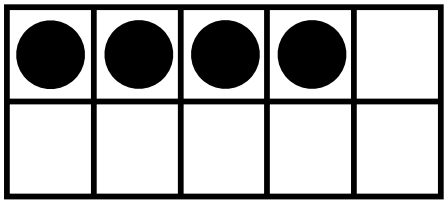

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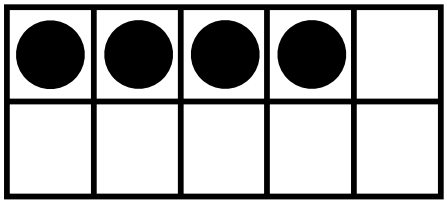

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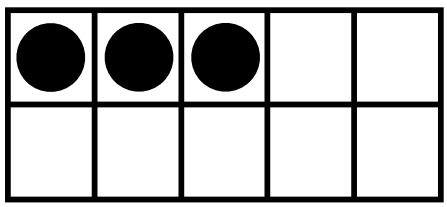

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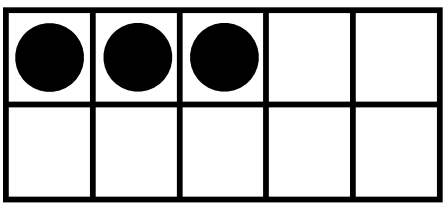

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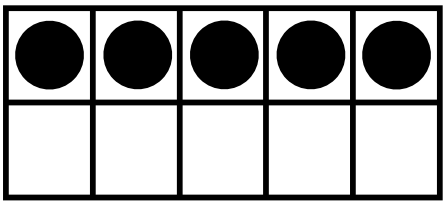

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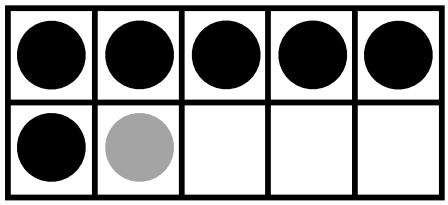

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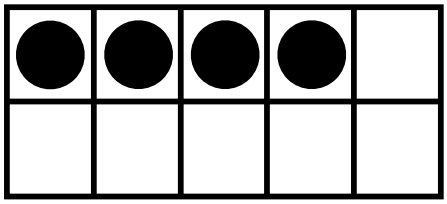

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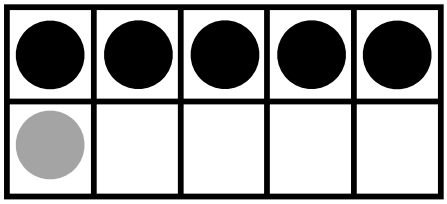

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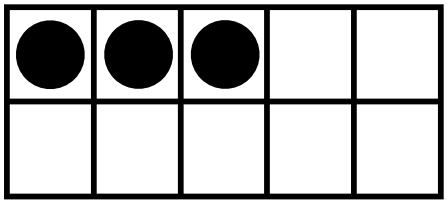

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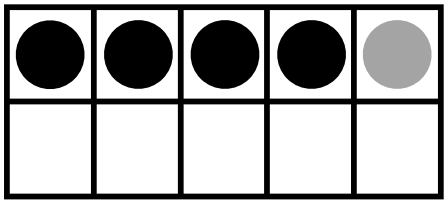

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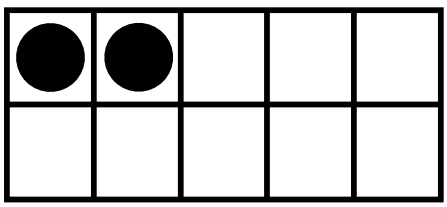

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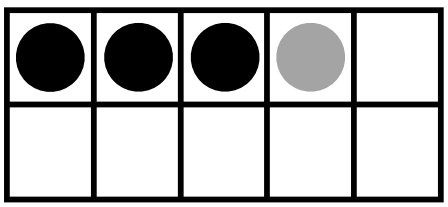

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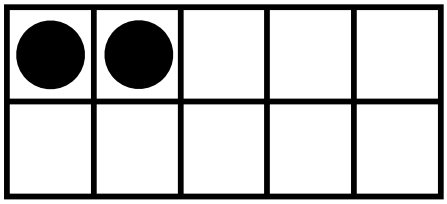

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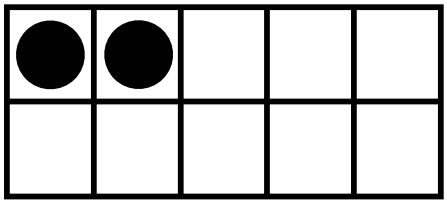

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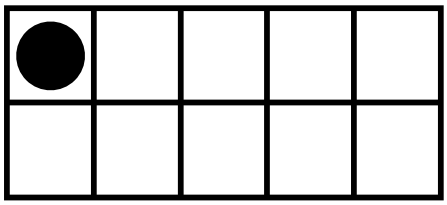

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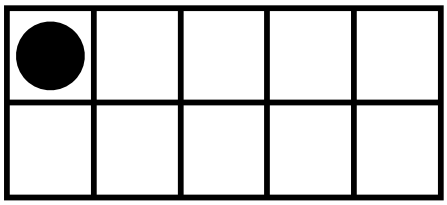

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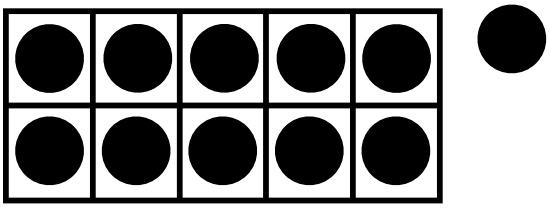

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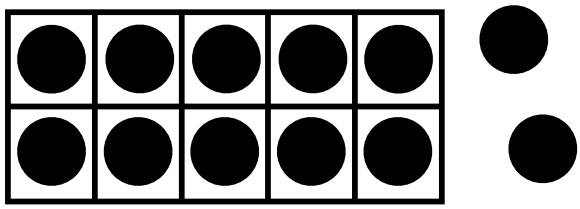

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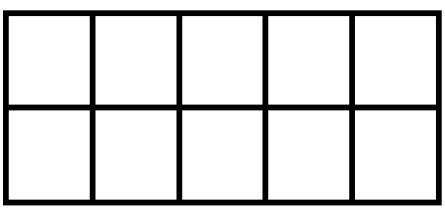

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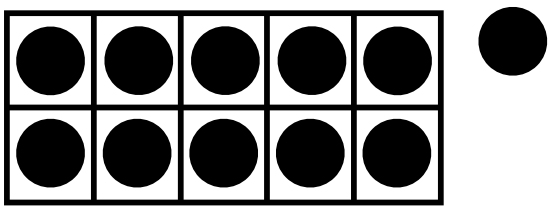

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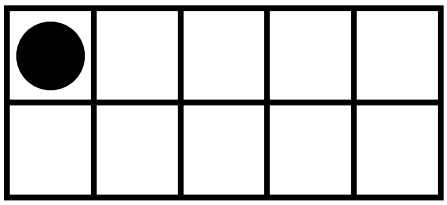

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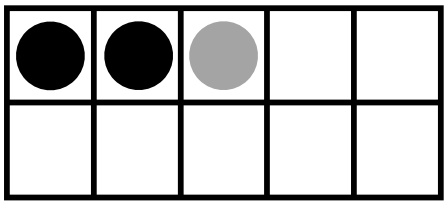

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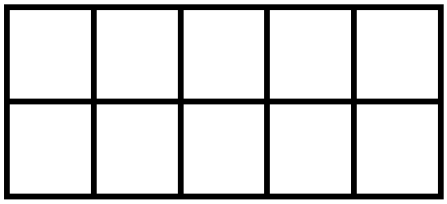

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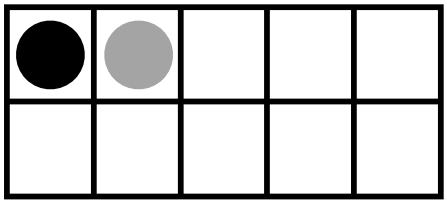

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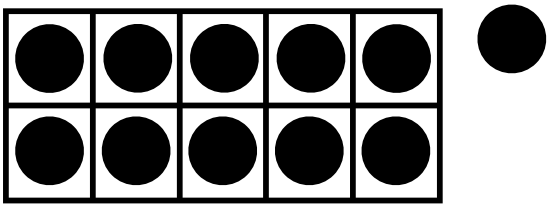

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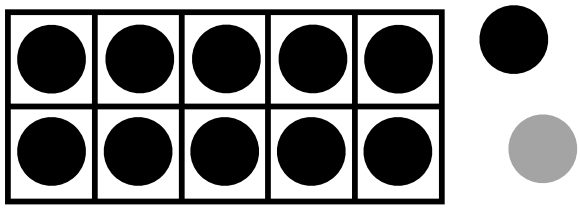

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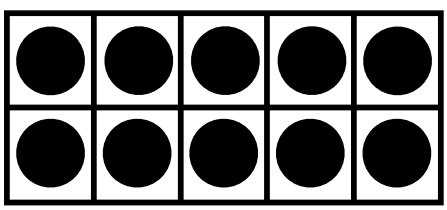

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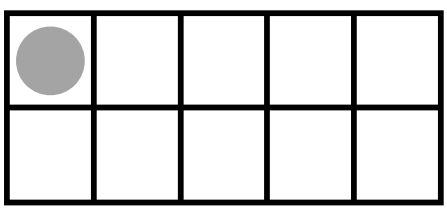

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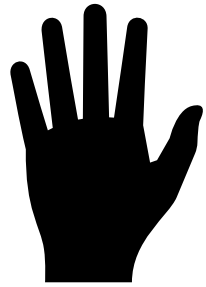

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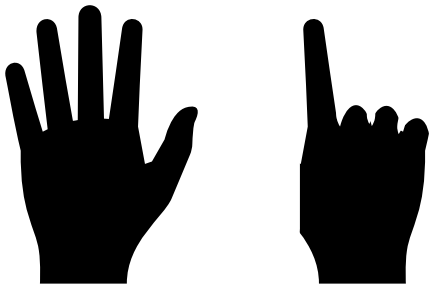

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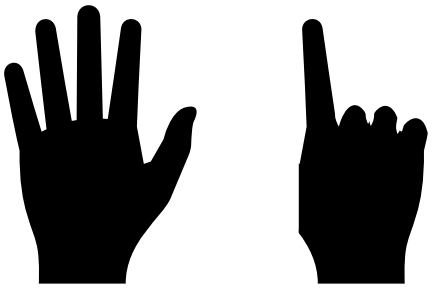

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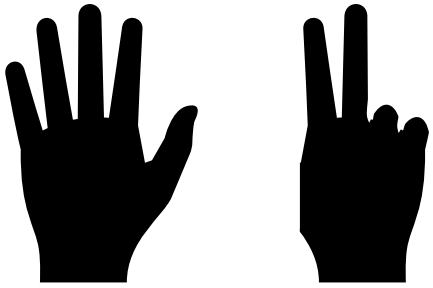

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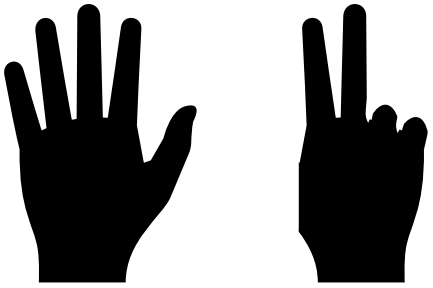

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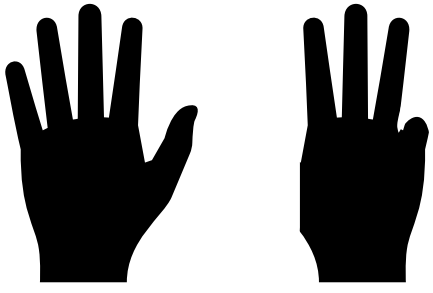

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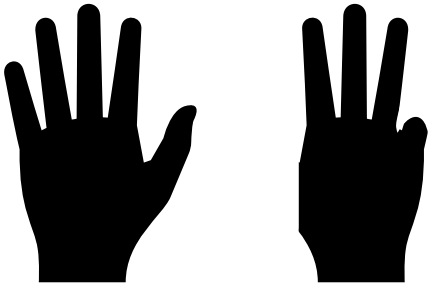

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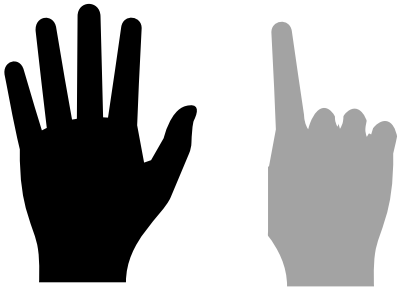

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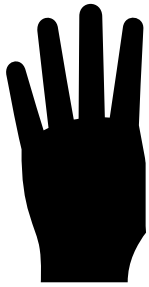

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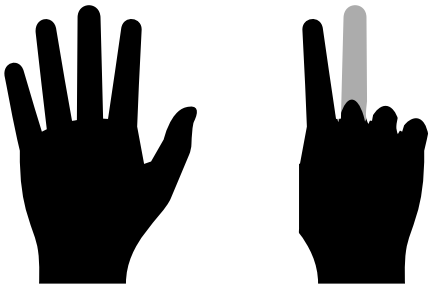

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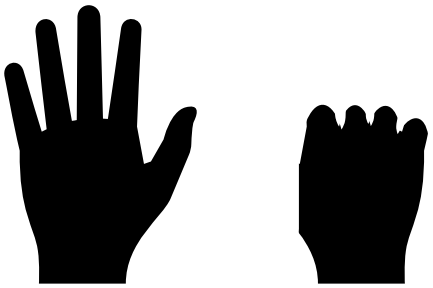

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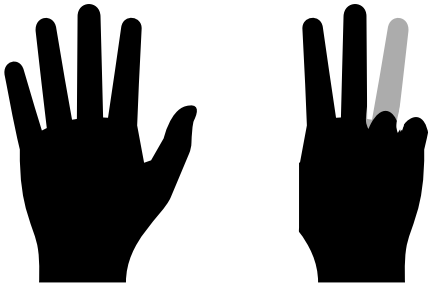

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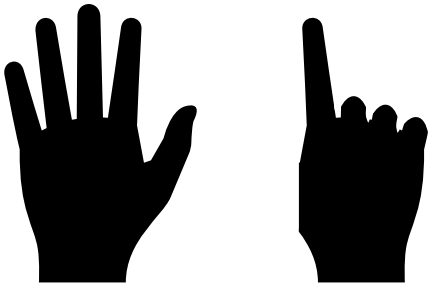

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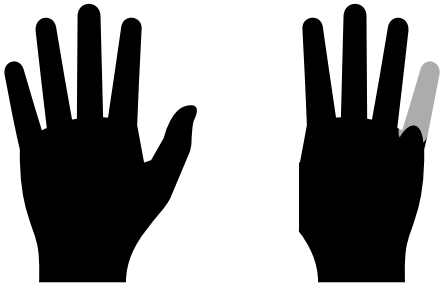

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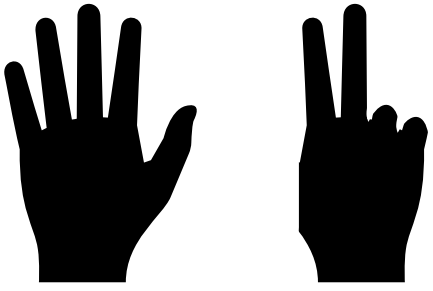

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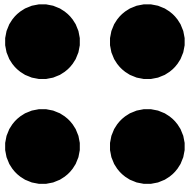

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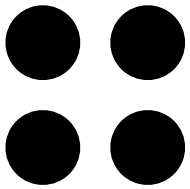

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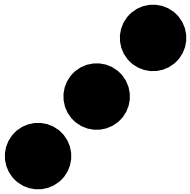

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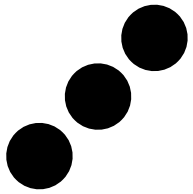

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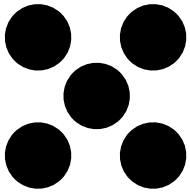

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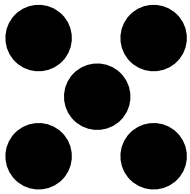

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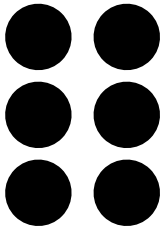

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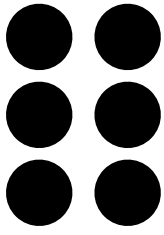

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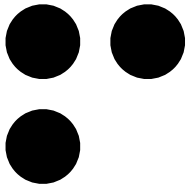

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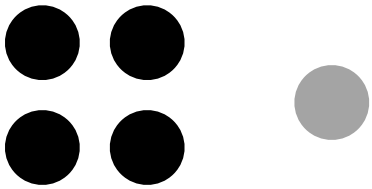

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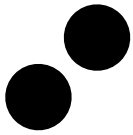

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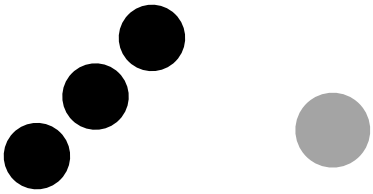

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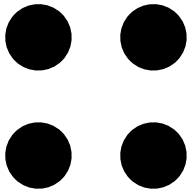

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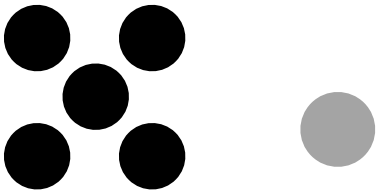

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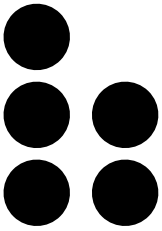

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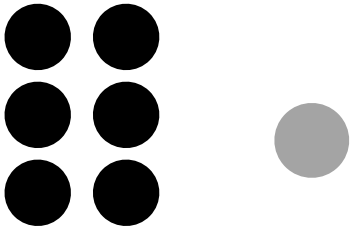
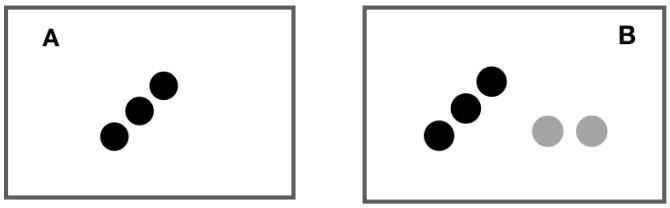


Math Flips: Addition

Version 2 - Updated April 1, 2019
- Updated information on first page
- New format of first page allows for folding title to same size as single card (for easy storage with deck)

Count On within 10



How to Use:

Print double sided and cut along the lines.

With each flashcard:
- Look at side A: *How many? How do you know?*
- (Flip to side B) *How many NOW? How do you know?*

After a while, ask Generalizing and Extending questions, like:
- *How does side A help you with side B?*
- *What is the same and different about side A and side B?*
- *What do you notice about this deck?*

Students Might Notice…

- They can use objects, fingers, drawing, etc to help them solve even if they don't have another strategy.
- There are more efficient ways to add than counting by 1s. They could count on: For 5+3 they might say "FIVE… six, seven, eight" put up a finger for each number they counted on, and stop when 3 fingers have been put up, noticing the total is the last number they said.

Keep in Mind:
- Avoid showing students how to perform strategies. Instead, let the relationship between problems on side A and B serve as a conversation starter, where students can bring their own understanding and develop their own strategies!
- Learning is (and should be) messy, so the various Math Flips decks are not in any particular order. If students aren't ready to generate their own strategies with this deck, try another one and come back later!
- Although many of these cards are visual, they are more abstract than a students' own methods for acting-out/drawing/modeling a contextual story problem of the same concept area (like adding two single-digit numbers). Before using decks with "new" content, please use story problems to help students connect what they already know about the world to this new concept. Suggested resources:
  - Free online resources:
    - "3 Act Tasks/Lessons" - various websites, start at gfletchy.com/3-act-lessons/
    - "Numberless Word Problems" - various websites, start at bstockus.wordpress.com/numberless-word-problems/
  - Books:
    - *Children's Mathematics (Second Edition)* by Thomas P Carpenter, Elizabeth Fennema, Megan Loef Franke, Linda Levi, Susan B. Empson
    - *Young Mathematicians at Work* (various books by topic) by Catherine Twomey Fosnot, Maarten Dolk, William Jacob
- Other resources to develop fluency:
  - Games:
    - Tiny Polka Dot (Card Game for PreK-2nd)
    - Prime Climb (Board Game for 3rd and up)
  - Books:
    - *Number Talks: Whole Number Computation, Grades K-5* by Sherry Parrish
    - *Math Fact Fluency* by Jennifer Bay-Williams and Gina Kling

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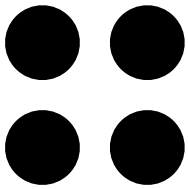

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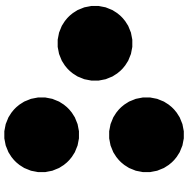

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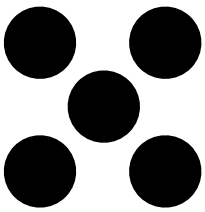

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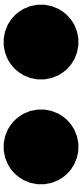

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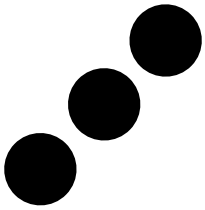

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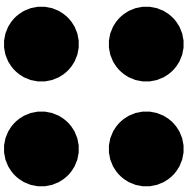

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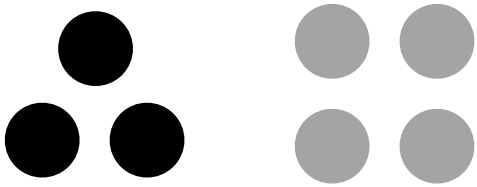

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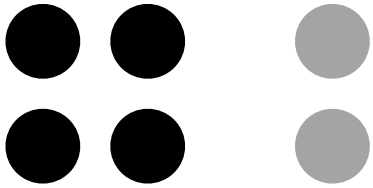

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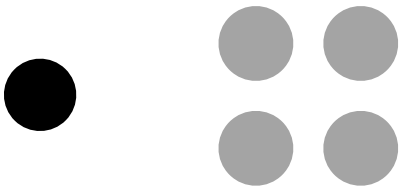

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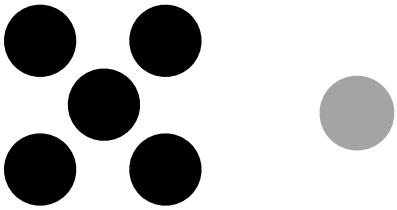

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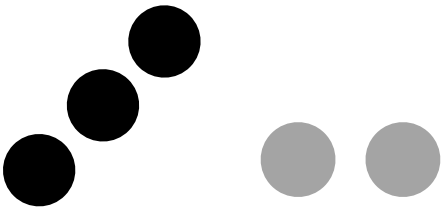

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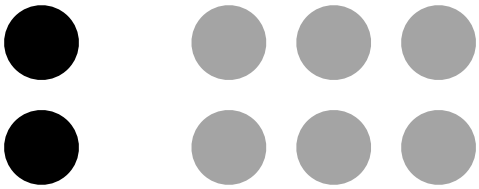

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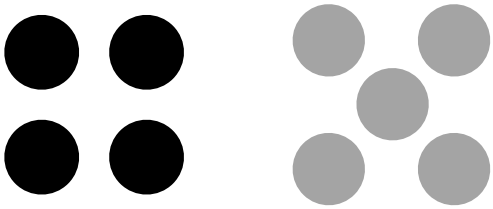

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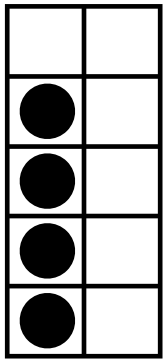

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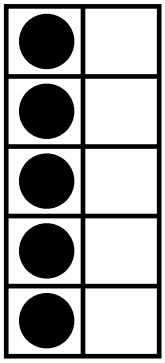

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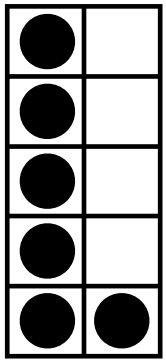

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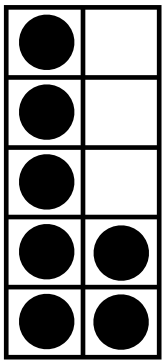

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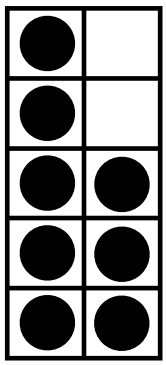

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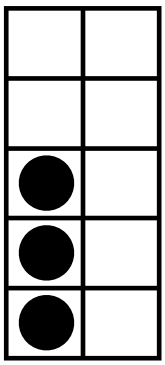

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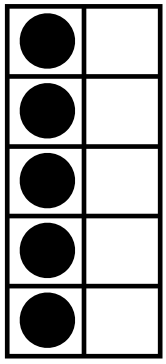

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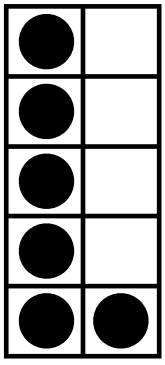

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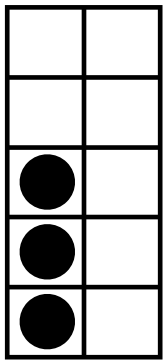

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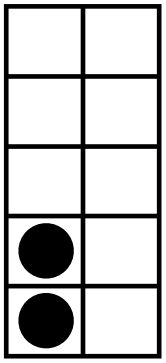

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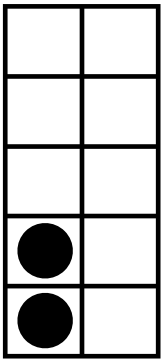

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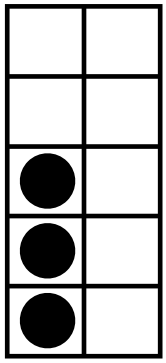

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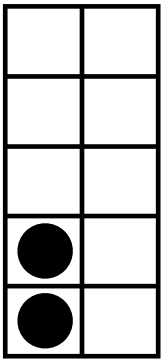

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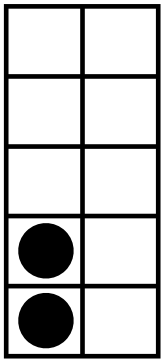

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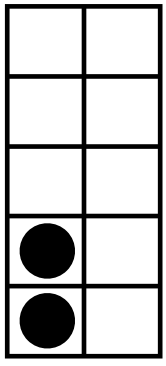

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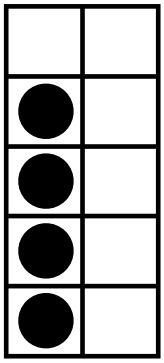

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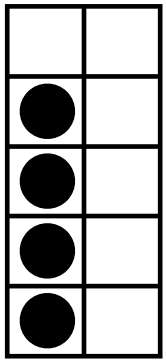

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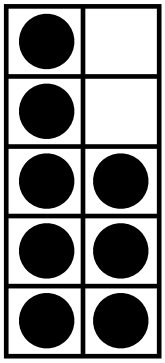

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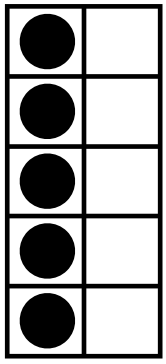

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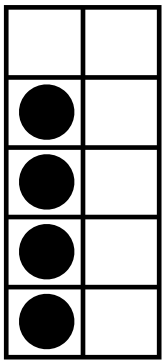

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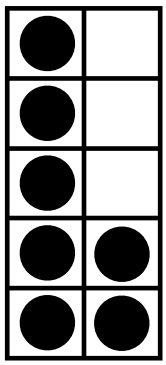

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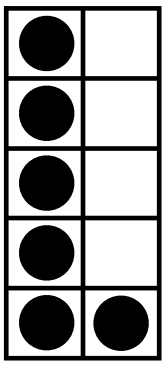

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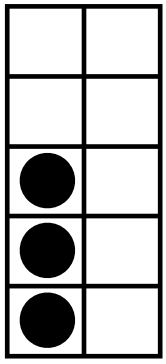

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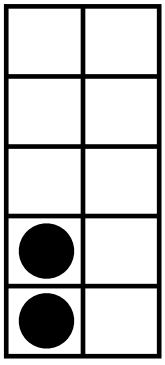

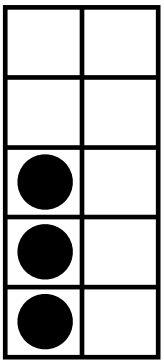

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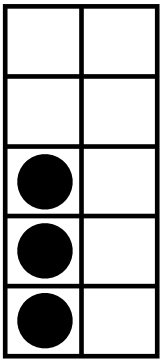

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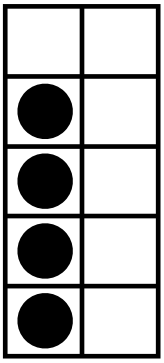

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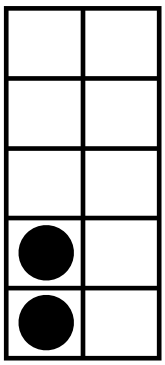

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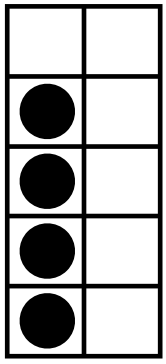

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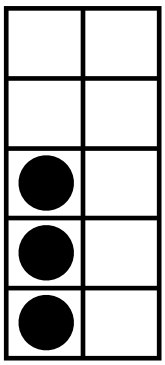

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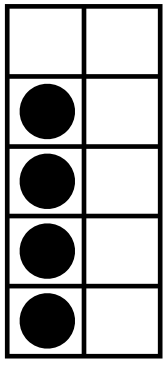

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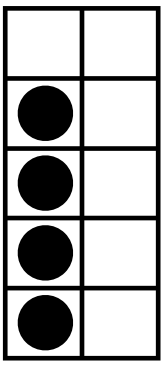

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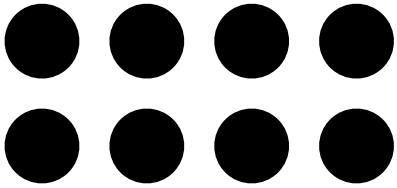

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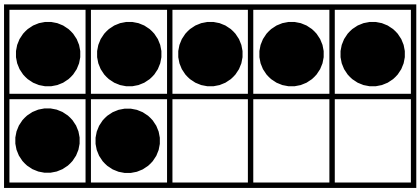

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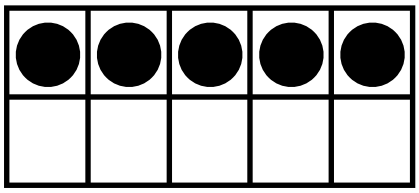

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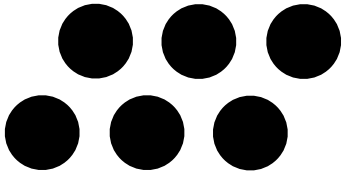

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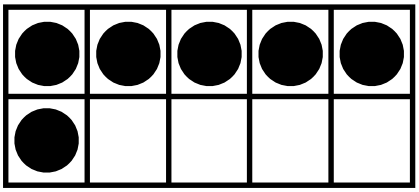

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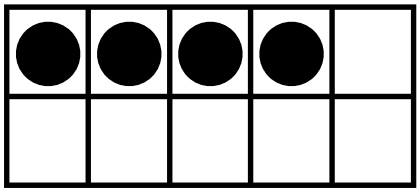

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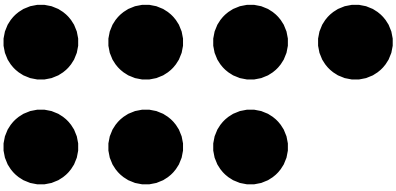

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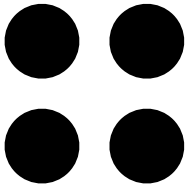


B

3 + 7

B

8 + 2

B

4 + 6

B

5 + 3

B

4 + 4

B

6 + 2

B

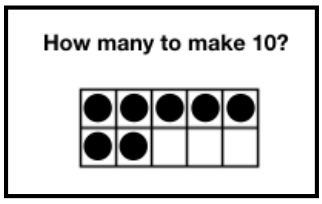
4 + 3

B

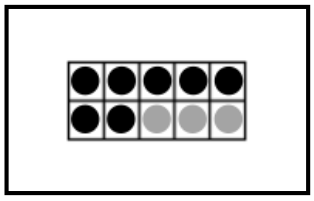
7 + 1

Combinations of 10 Flashcards

Version 2 - Updated April 1, 2019
- Updated information on first page
- New format of first page allows for folding title to same size as single card (for easy storage with deck)



(front)



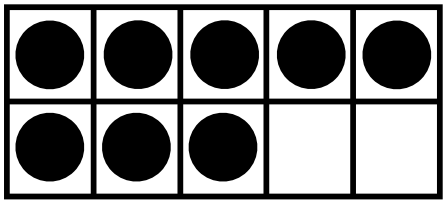
(back)

Setup: Print double sided and cut along the lines.

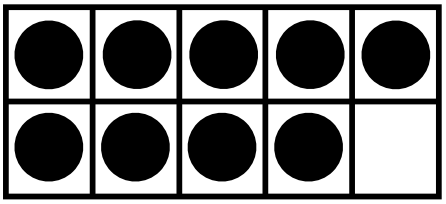
How it works:
- Look at the front: *How many to make 10?*
- Look at the back: *Were you correct? Why or why not?*

After a while, ask:
- *How could you remember the combinations of 10?*

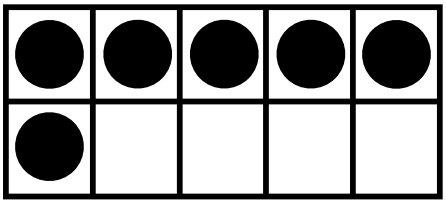
How many to make 10?



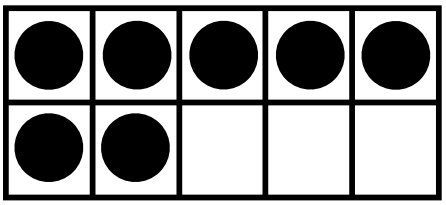
How many to make 10?



How many to make 10?



How many to make 10?



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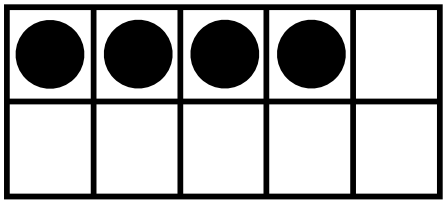

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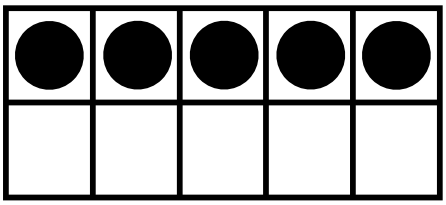

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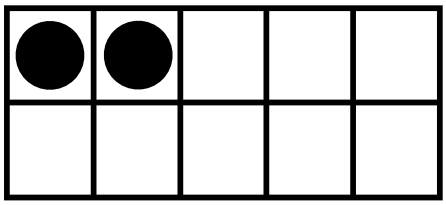

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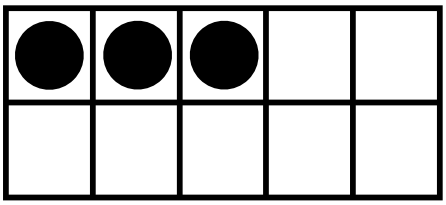
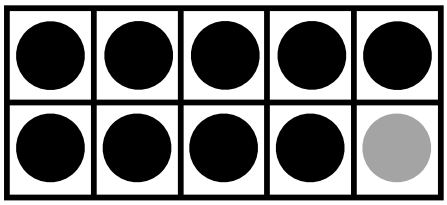
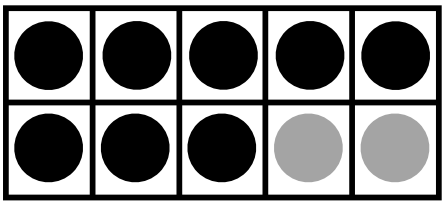
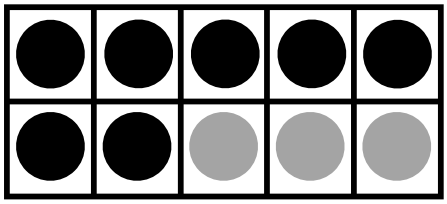
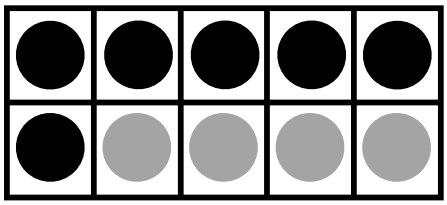
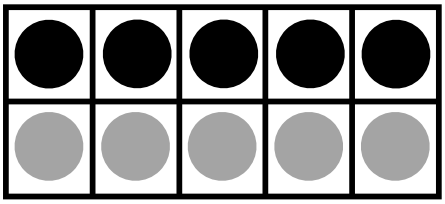


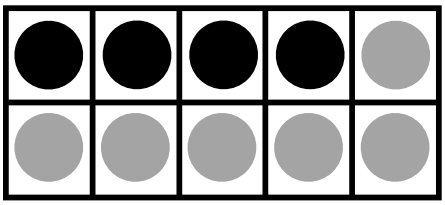


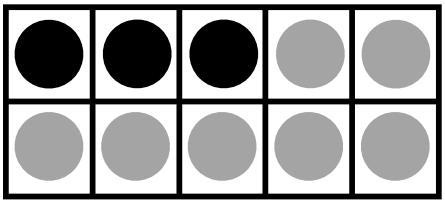


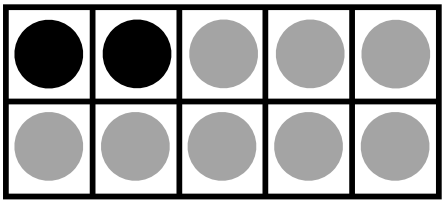








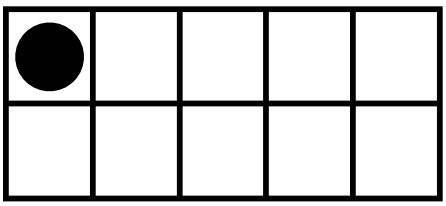




How many to make 10?

1

How many to make 10?



How many to make 10?

6

How many to make 10?

7

How many to make 10?

4

How many to make 10?

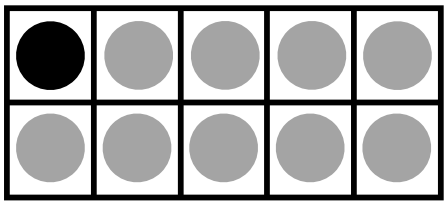
5

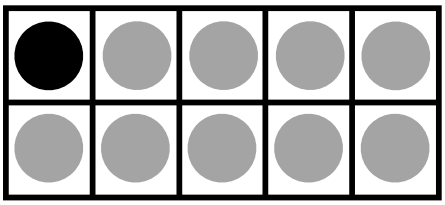
How many to make 10?

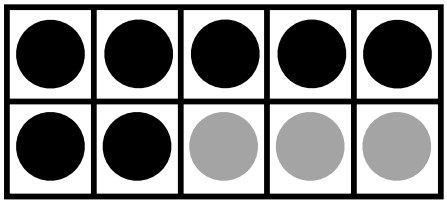
2

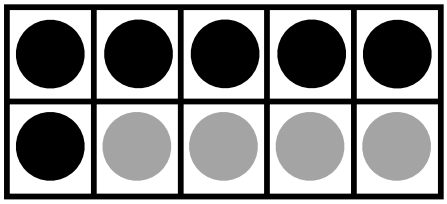
How many to make 10?

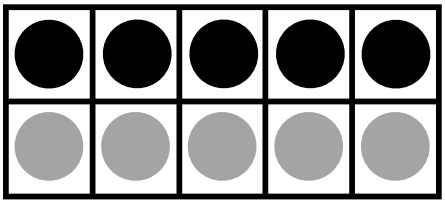
3

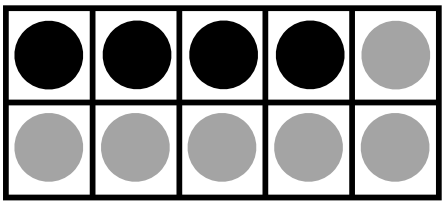


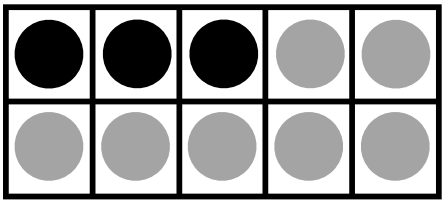


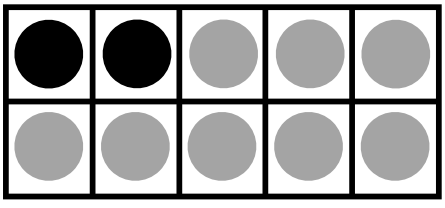












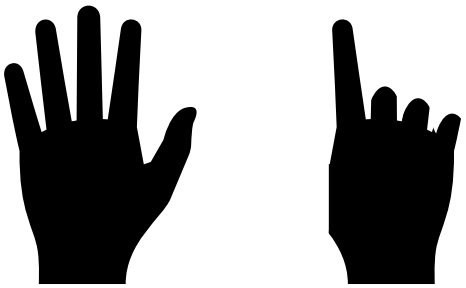
How many to make 10?

8

How many to make 10?

9

How many to make 10?



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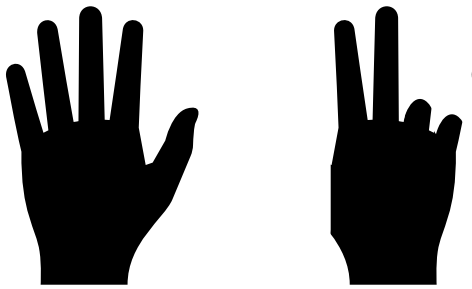
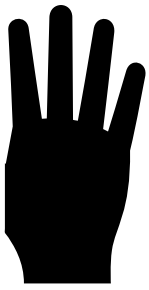
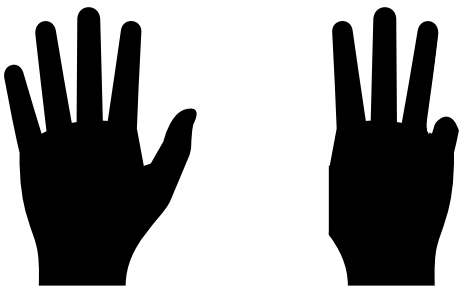
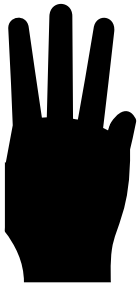
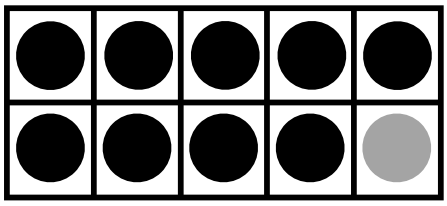
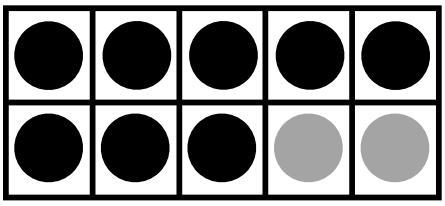
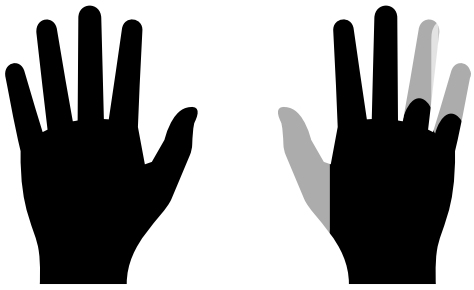
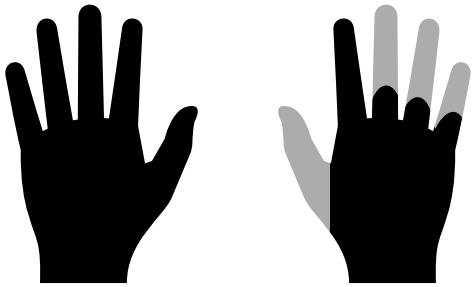
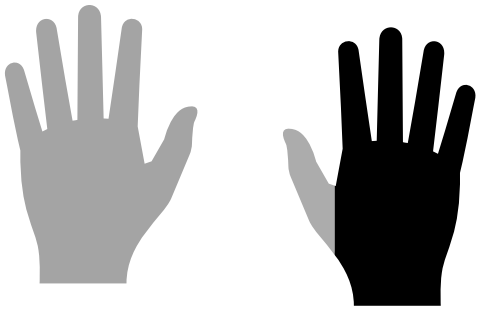
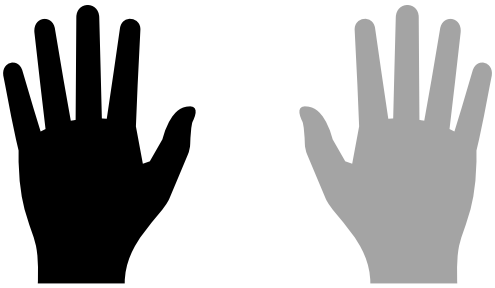
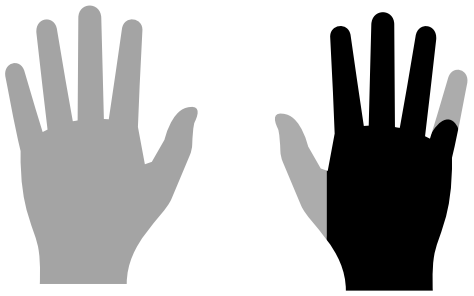
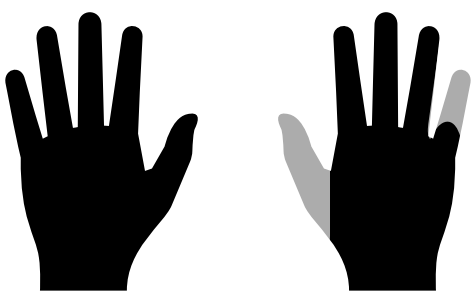


How many to make 10?

How many to make 10?



How many to make 10?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