Activities that Build Number Sense

QUICK IMAGES Briefly (1 – 2 seconds) show your child a card with a pattern of dots on it (domino patterns, ten-frame patterns, dice patterns, etc. can be drawn on index cards). Ask your child to tell you how many dots. If he isn't sure of how many, quickly flash the card again and have him draw the pattern that he remembers. Then flash the card again to have him check the pattern.

TEN-FRAMES GAMES

WHO HAS MORE Played like "War". Each child gets 10 cards (ten-frame cards from 1 – 10). The players turn over the top card of their decks at the same time and each player **says** the number on her card. The player with the greatest value wins and takes both cards. Unlike War, in the event of a tie, only one more card is played and the person with the highest value of both cards gets all four cards. Once all cards have been played, each player counts the number of cards she has.

TERRIFIC TENS Similar to "Who Has More" except that each player removes the "10" card from their deck and places it face up in front of him. This "10" card becomes one of the addends in each face off. Players mix their cards and then turn over the top card of their deck. They say the number, then add it to the "10" card that is already face up and say the sum. The player with the greatest sum wins all of the non-ten cards. All players retain their original "10" card for the next face off.

NIFTY NINES / EXCELLENT EIGHTS / FANTASTIC FIVES Played like Terrific Tens except that each player removes a "9", "8" or "5" card from the deck to use as an addend for each face off. This is an excellent way for children to practice addition facts using a visual model. Encourage your child to use thinking and visual strategies rather than counting strategies. Have her explain how she knows her answer. For example, for 8 + 4 a child might say "The eight has two empty spaces, so two of the dots from the four could slide over and fill up the ten and then it would be 10 + 2 which is 12."

MAKE A TEN This game is played like "Go Fish". You can use a deck of ten-frame cards (2 each of 0 – 10) or a deck of playing cards with the Jack and Kings removed (Aces stand for 1, Queens stand for 0). Deal each player 5 cards. Each player needs to make pairs that add to 10 (0+10, 1+9, 2+8, etc.). If a player has any such pairs, she lays them down in front of her. On her turn she asks another player for a card. For example, if she has a 3 in her hand, she would want to ask for a 7. If the player she asks has the

card, he must give it to her. If not, she draws a card from the deck. It is then the next player's turn. The object is to make as many pair as possible.

MAKE A TEN SOLITAIRE Use ten-frame or playing cards just like in "Make A Ten". Mix the deck and turn five cards face up. Remove any combinations which have a sum of 10. Replace any cards which are removed with new cards, face up. Again remove combinations of ten. Continue until you have no cards left in the deck or no sums of ten can be made. If the total sum of all the cards you removed is greater than 100, you win. If all cards are used up and none remain face up, you made a slam dunk!

TEN FRAME DIFFERENCE Played like "Who Has More". In addition to the ten-frame cards, players will also need a pile of about 50 counters (beans work well). On each play, the players turn over one card. Each player **says** how many dots are on their card. The player with the greater number of dots tells the difference between the two numbers and wins that many counters from the pile. The game is over when the counter pile runs out. The player with the most counters wins.

DOUBLES You call out a number (choose a number appropriate for your child's ability). He tells you the double of that number. OR He calls out a number and you say the double. He then has to tell if he agrees or disagrees. When playing this way, be sure to name the correct double only about ½ of the time. Ask your child why he agrees or disagrees with you.

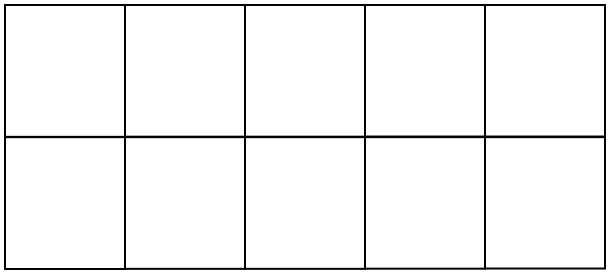
COMPATIBLE PAIRS Your child chooses a number (10 is a good number to start with) and says "I wish I had 10." You call out a number less than ten (for example, you say "but you only have four"). Your child says the number that must be added to four to equal 10. When she can easily do all the Compatible Pairs for 10, try any of the numbers 11 – 20 or numbers like 50, 100, 500, 1000.

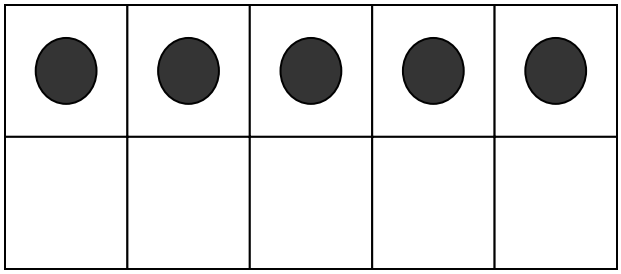
COMPATIBLE PAIRS MACHINE Make a compatible pairs machine with a calculator. For example, if you are doing compatible pairs of 50, make the machine by pressing 50 – 50 = on the calculator. Now if any other number from 0 – 50 is pressed followed by the =, the display shows the other part. (The second part shows a negative number - hat is how you will know it is the other part.) Ask your child to explain his reasoning for his answer before pressing the equal sign.

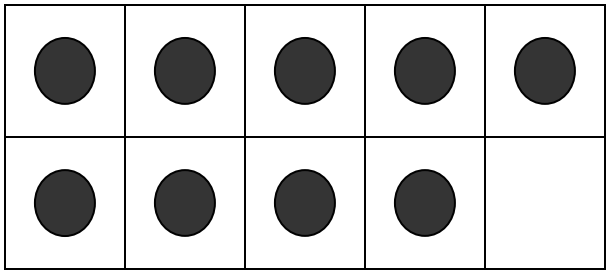
TWO OUT OF THREE Similar to "Compatible Pairs". Make lists of three numbers, two of which total the whole number the target number. Here is a sample list for the number 50:
24 – 26 – 36 25 – 35 – 15 6 – 16 – 44 32 – 28 – 18
Your child selects the two numbers whose sum is the target number. Challenge her to justify her answers. The real value of this activity lies in the discussion and justification.

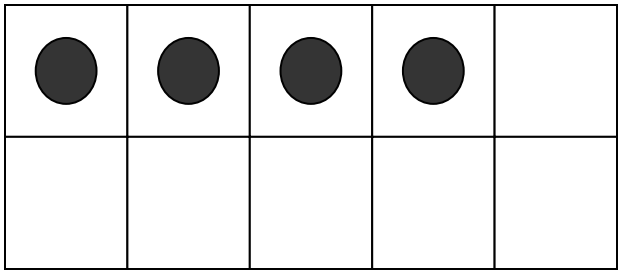
START AND JUMP Pick a start number between 1 – 9. Then pick a jump number between 2 – 9. Make a list of those numbers until you reach about 110. For example, if your start number is 2 and your jump number is 5, your list would begin like this: 2, 7,12, 17, 22, 27 After you have completed your list of numbers, look for as many patterns as you can find. What happens if you keep the same jump number, but change the start number? Are the patterns similar? What if you keep the same start number, but change the jump number?

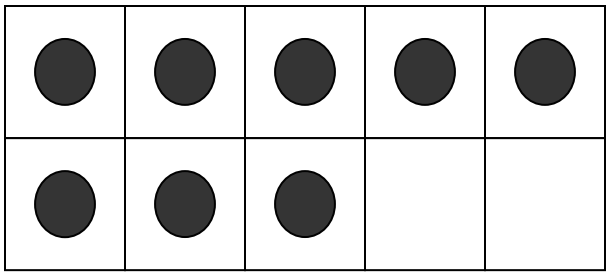
IS IT REASONABLE? Have your child select a number and you add a unit. For example, your child says "15" and you say "feet". Take turns asking questions like: Could a person be 15 feet tall? Could your living room be 15 feet wide? Can a man jump 15 feet? Could three children stretch their arms 15 feet? Answer each question using probability language such as "not very likely" "that would be impossible" "almost certainly" "there's a good chance".

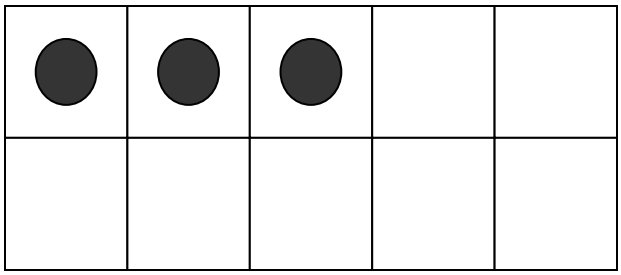


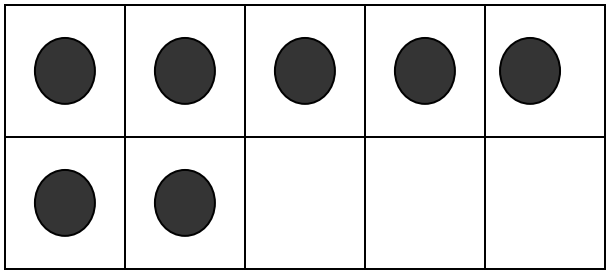


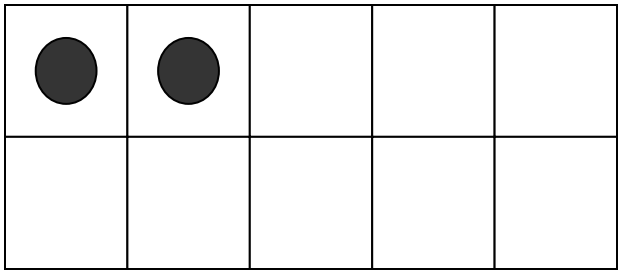


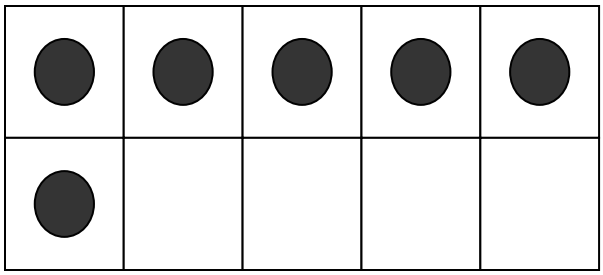


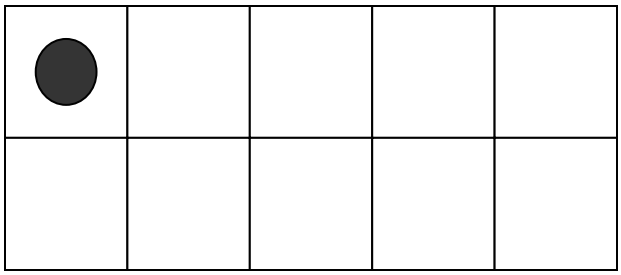




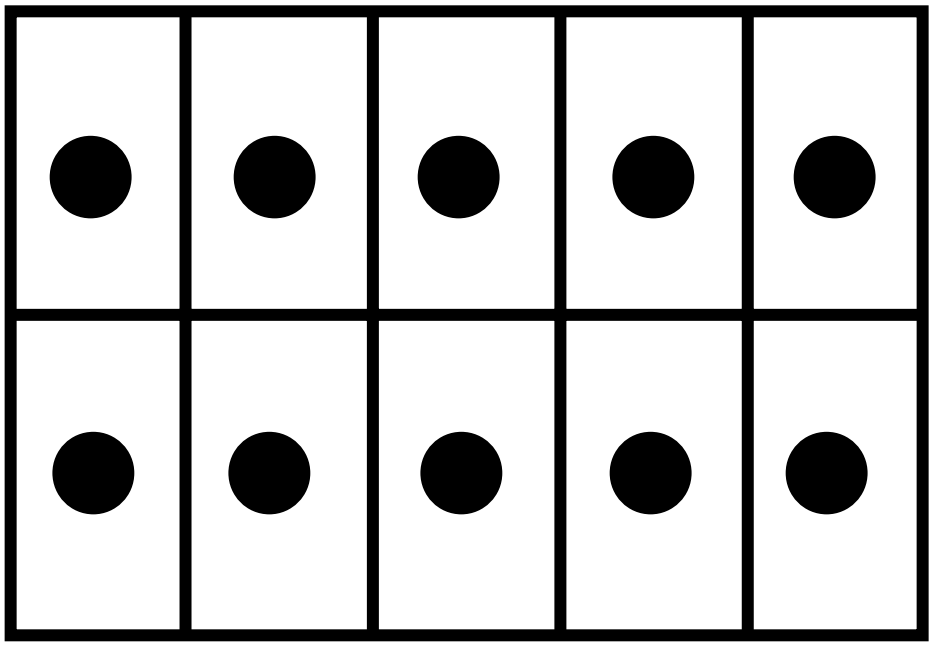


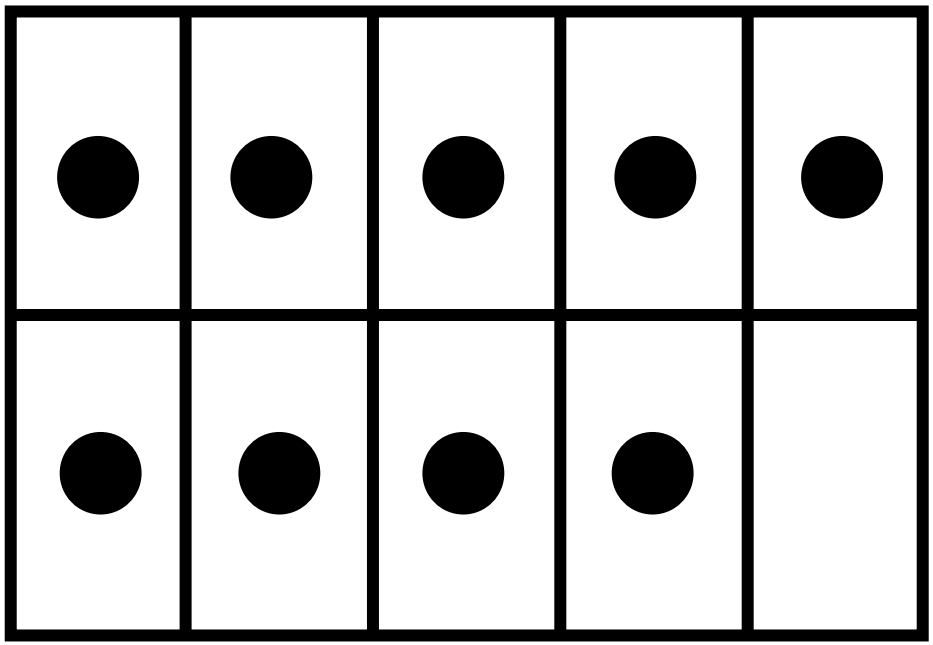


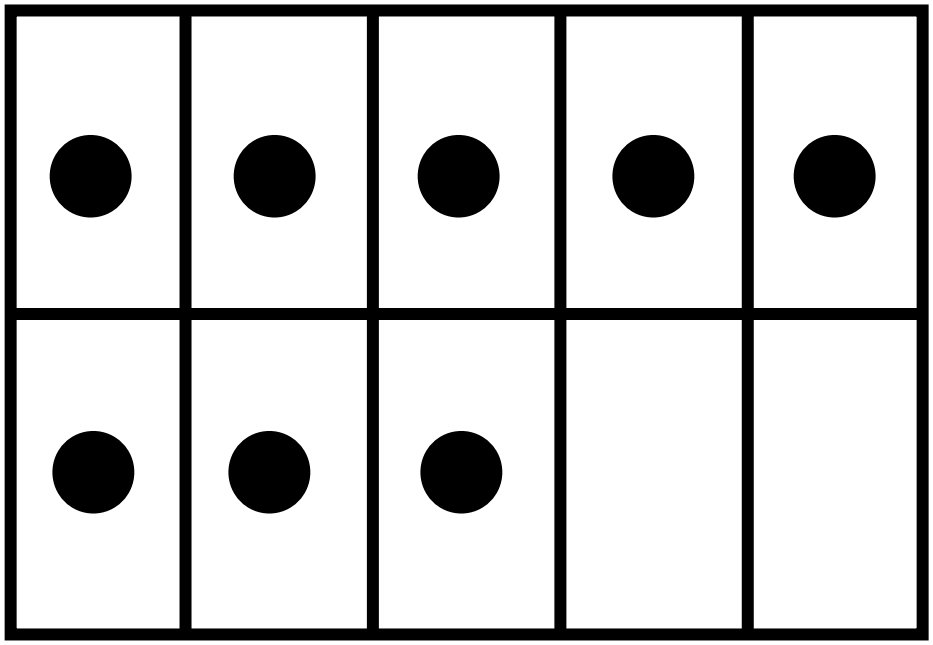


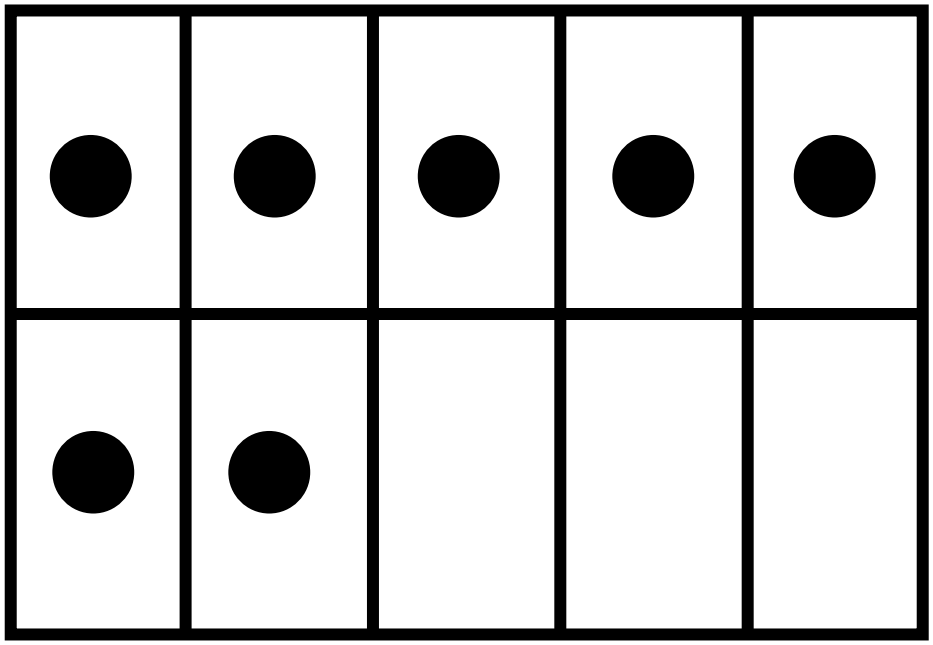


Ten frames (four with dots)









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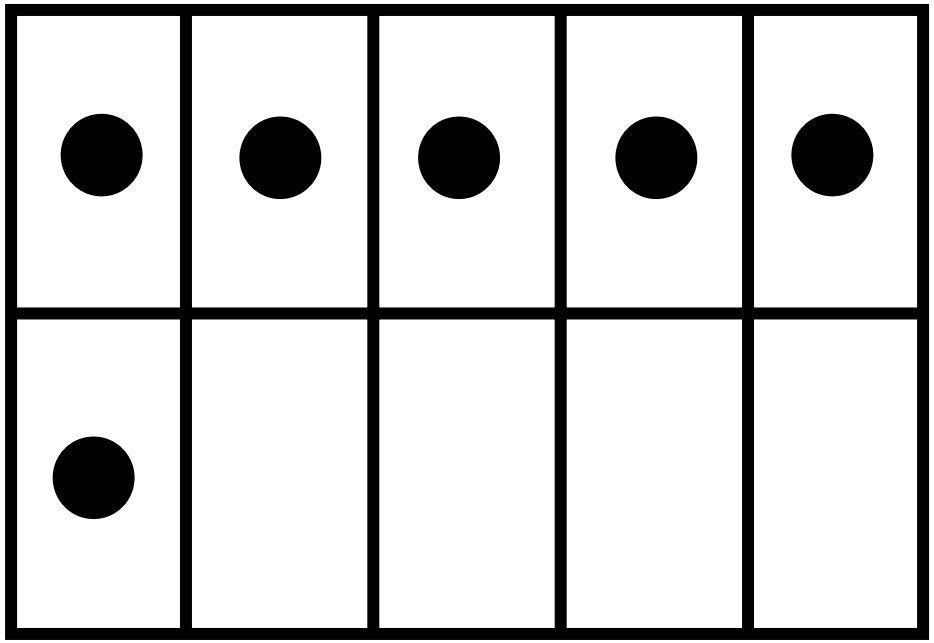

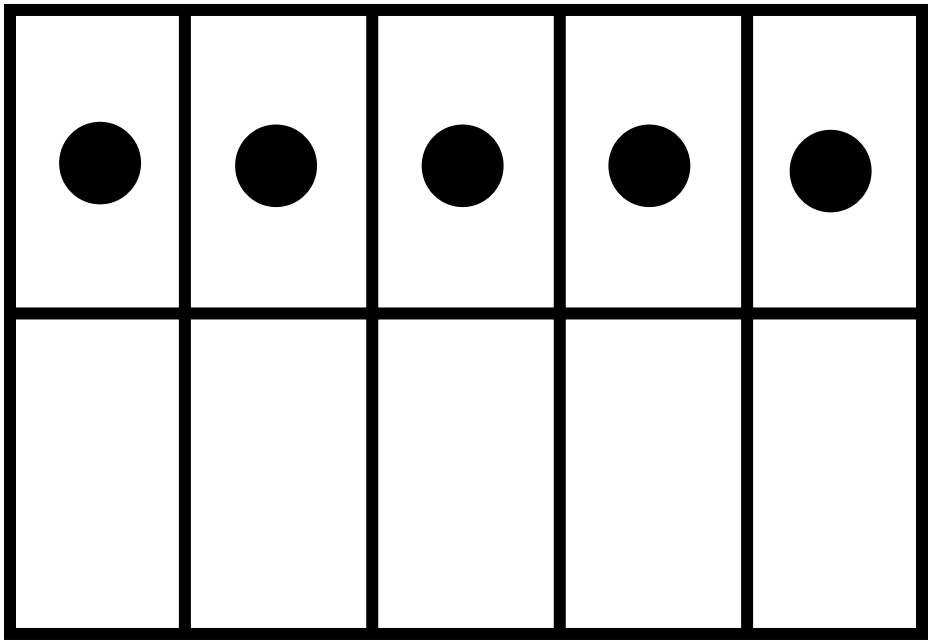

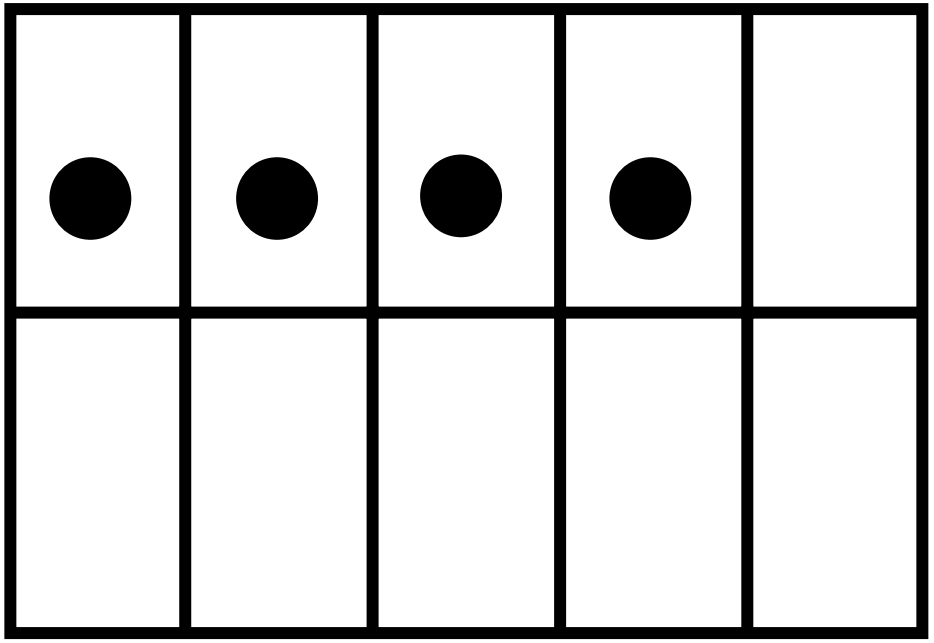

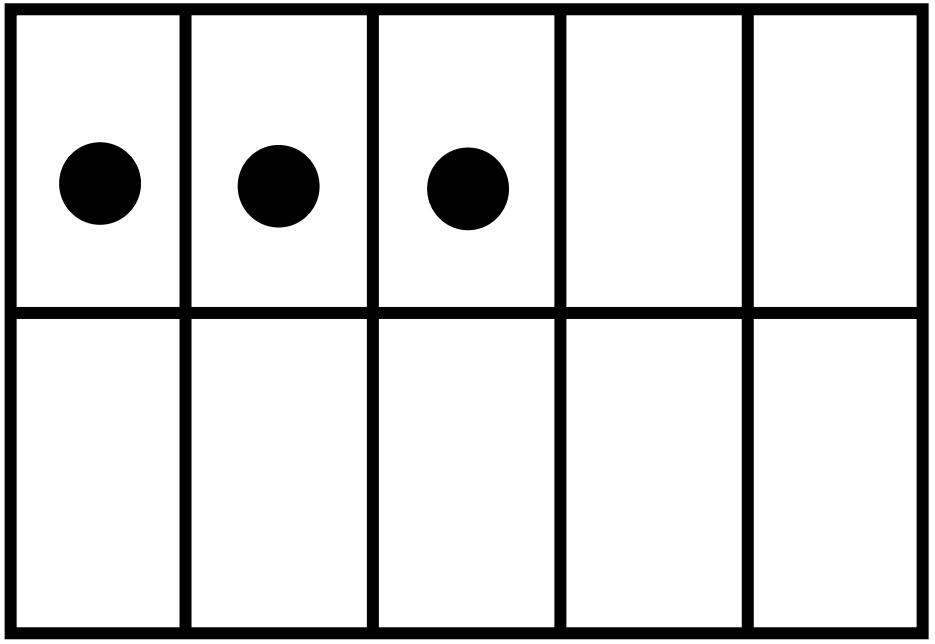
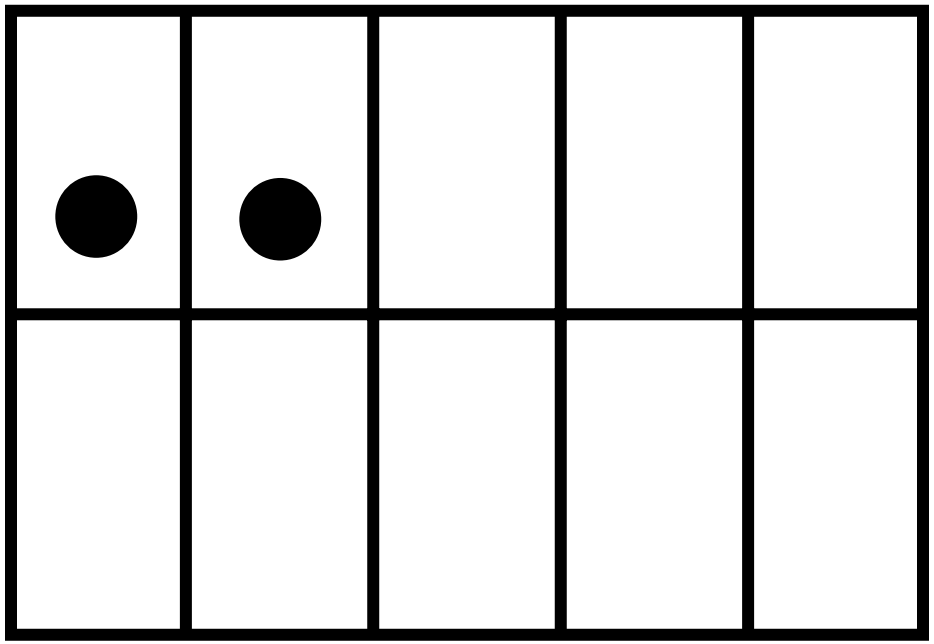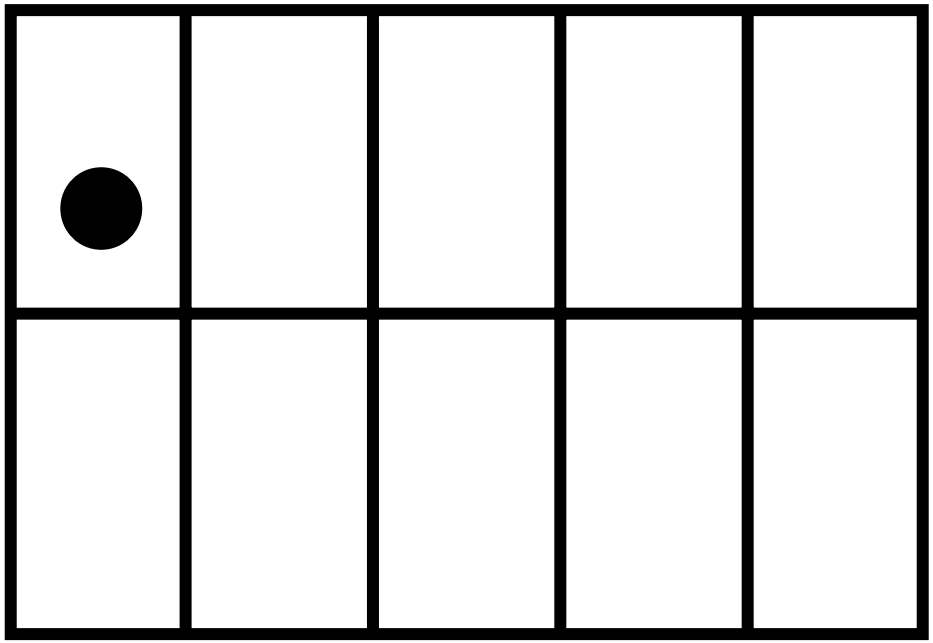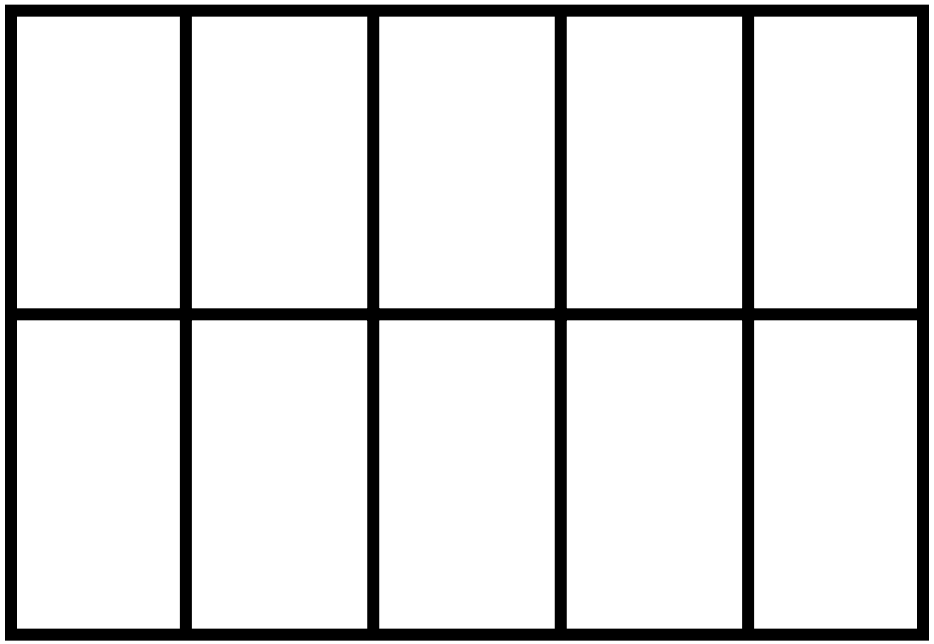
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