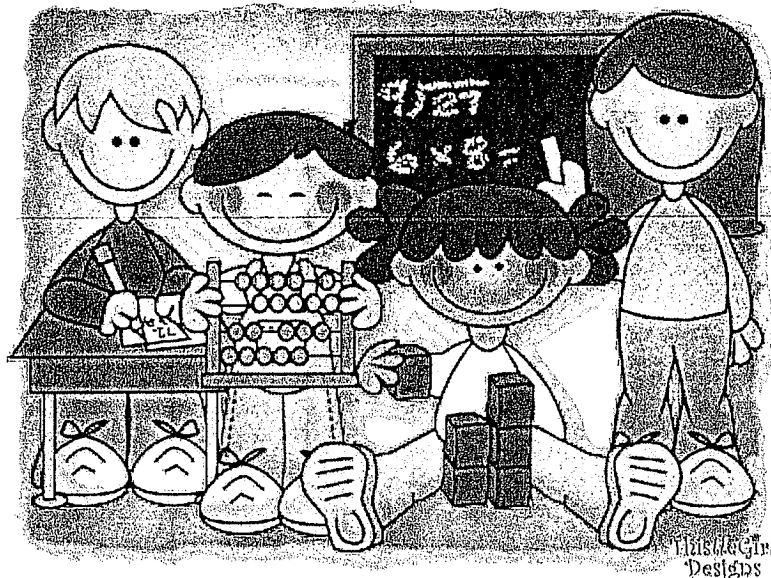


Understanding Combinations



Memorizing Addition Facts vs. Understanding Combinations

Most of us were taught to memorize math facts with little or no deep understanding for the application of the skill.

Today, many students lack early numeracy skills for a variety of reasons:

☞ Children have few mathematical experiences early in life due to the fast pace of our lives, which leaves little time to absorb, practice, and experience objects in the physical world

☞ State requirements push children through standards at such a rapid pace that there is little or no time to apply what is being taught.

☞ Many children lack foundational skills, such as visual memory for number quantities.

We know that visual memory plays a vital role in helping children learn to read. But what does visual memory have to do with numeracy development

and number sense? Why is it a vital readiness skill in math?

Let's try this exercise to help make sense of this:

Picture the word "said" in your mind or visual memory. Close your eyes if you need to. Then answer these questions:

- ▶ What color is the font of the word?
- ▶ Is the word in uppercase or lowercase?
- ▶ Is the word in typed print, cursive or perfect elementary print?

Most audiences would respond that the font is black, the word is in lowercase and the font is either typed or printed neatly. Next, while picturing the word "said" answer these questions:

- ▶ What are the first two letters you see in the word? (sa)
- ▶ What are the last two letters you see in the word? (id)
- ▶ What are the two middle letters you see in the word? (ai)
- ▶ Spell the word backwards? (dias)
- ▶ Now spell the word. (said)

Now let's switch this concept to math:

- ▶ Picture eight in your mind or visual memory.
- ▶ Sky-write in the air what you see.

Most people will draw the figure or number symbol for eight: "8". Why is it we picture the parts of words as readers and spellers, but when it comes to math we see only the symbol or the digit? Why don't we see a dice pattern of five and three or a ten frame with five in one row and three in the next row to represent the number quantity? Seeing the number value or quantity is vital for children to understand that a single number or quantity is made up of smaller parts.

When talking about addition facts, it is important to understand combinations through visual memory, which gives learners a deep understanding of the addition process. Without this understanding, students rely on counting on their fingers, because they feel pressured to get the answer fast. It would be better to take their time to visualize the problem and answer with accuracy.



Understanding Combinations

Print out the "Dot Combination" cards to use for practice at home two-three nights a week. Put your finger over the "digit" total and ask your child, "How many do you see?" Have your child use visual memory to tell you the combination they see.

Flash the card for no more than 3-5 seconds while encouraging your child to just tell you the total they see. Discourage your child from trying to count each dot on the card.

Soon you will discover which "facts" they know quickly and which "facts" need some more practice.

Encourage your child to tell you what he saw after he has told you the total. For example: $4+4=8$ I saw 4 red dots like a dice and 4 black dots like a dice, which is a total of eight.

Be sure to allow for a high rate of success with a small bit of challenge. This keeps your child interested yet challenged. This may require taking out some of the harder cards until they start to understand how to visualize of number groups or combinations.

Missing Part

Once Understanding Combinations is mastered, move on to Missing Parts. Follow this same procedure; however, this time cover a "part" using a post-it note or a dark colored piece of paper.

While flashing the card for no more than 3-5 seconds, say: "I wish I had 7, but I only have 2, how many is hidden?"

This is a great pre-algebraic skill and takes a child understanding of combinations a step further.

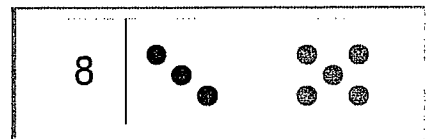
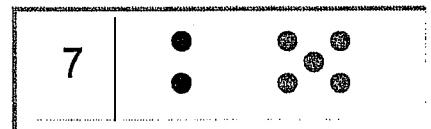
Encourage the child to visualize the other part that is hidden instead of trying to count out loud the missing part.

Pencil Paper

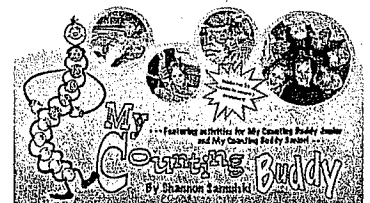
Once your child is able to do all of these activities successfully, start to bring in addition facts on paper while showing the visual representation for what they are seeing.

You will see a big difference in their understanding of these skills, which will help promote a lifetime of mathematical thinking!

What is something fun I can do to help my child understand combinations?



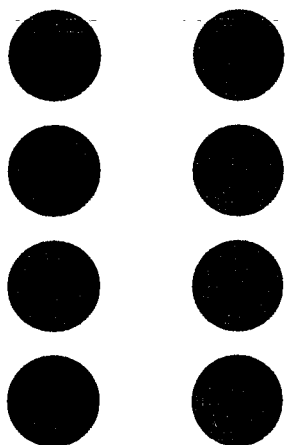
Other Products that work on this same skill:



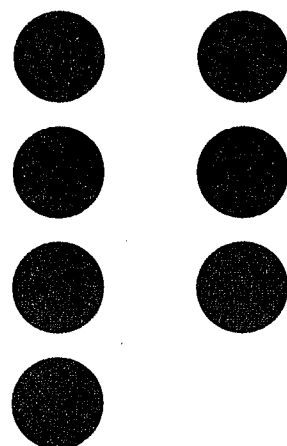
Visit:

www.strategicinterventionsolutions.org

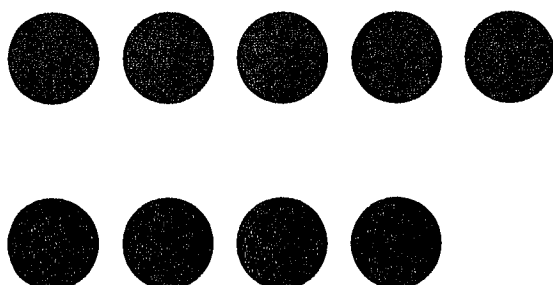
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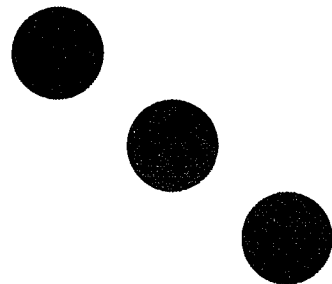
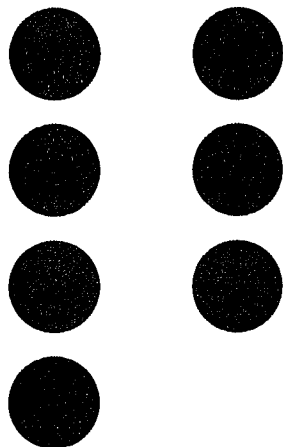
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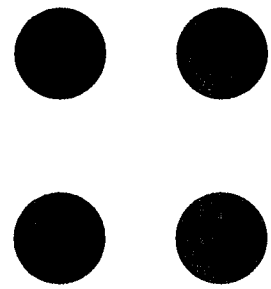
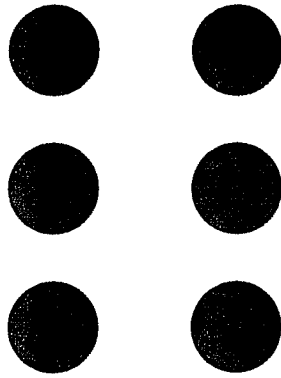
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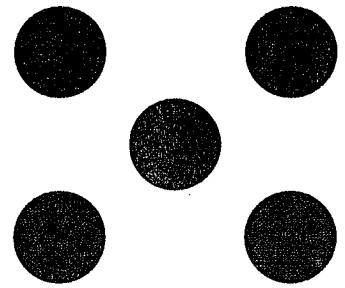
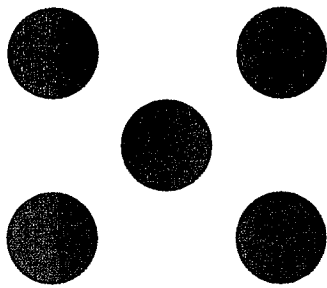
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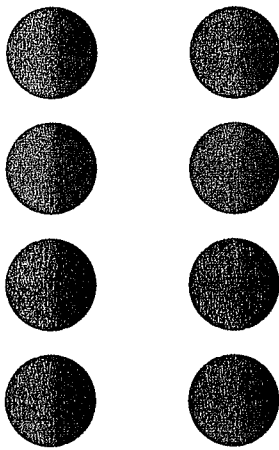
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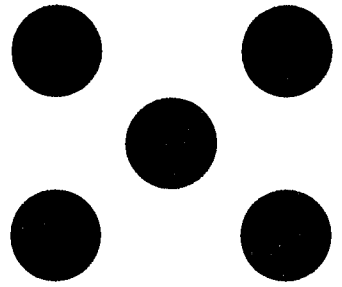
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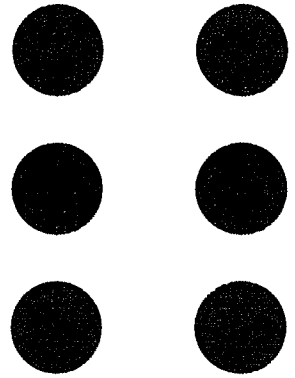
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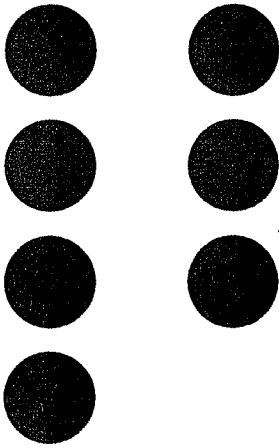
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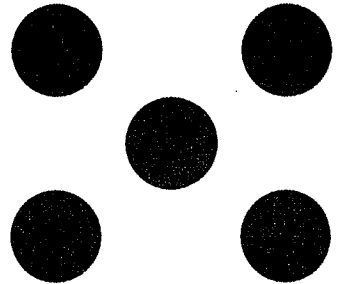
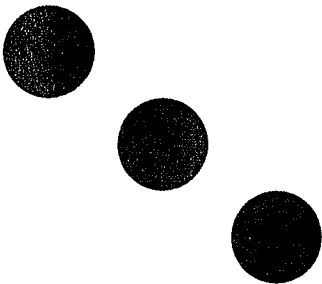
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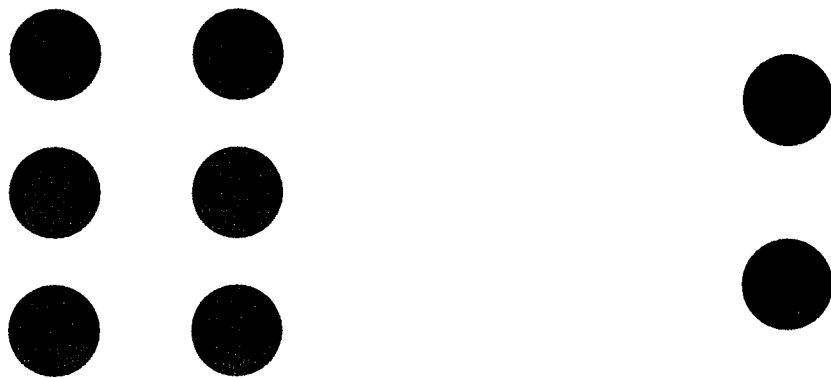
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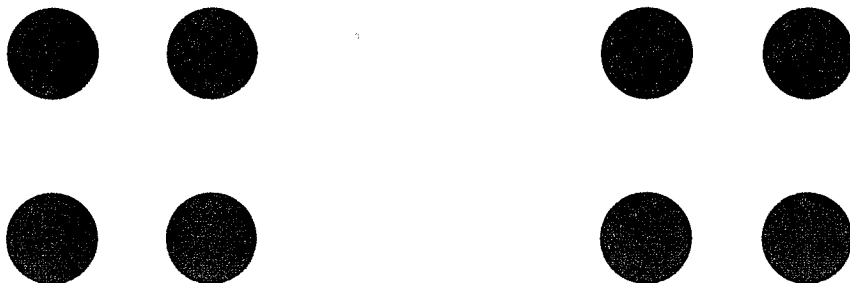
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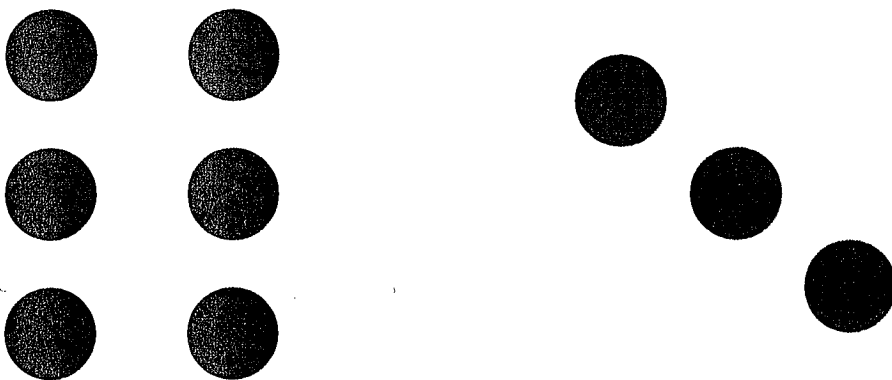
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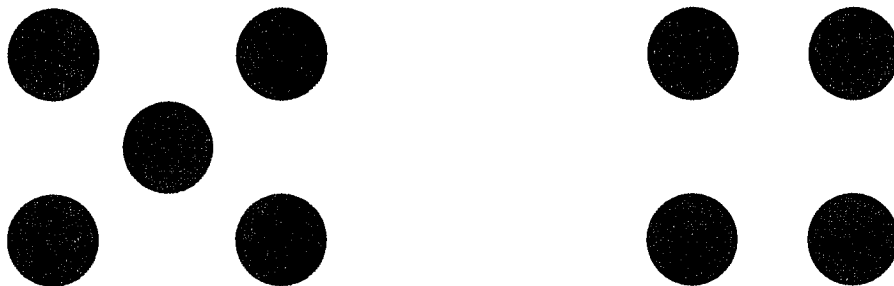
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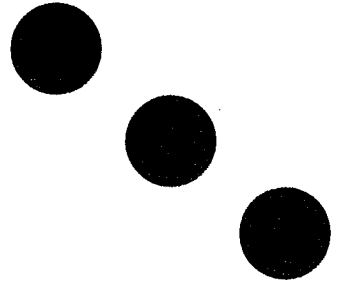
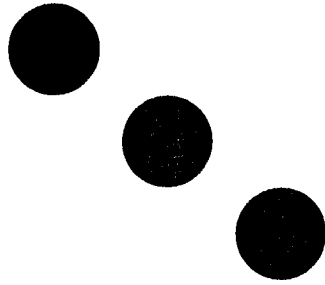
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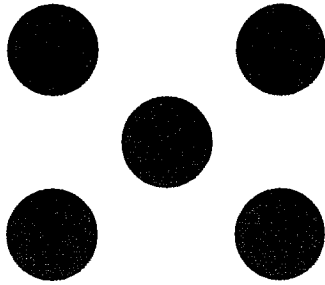
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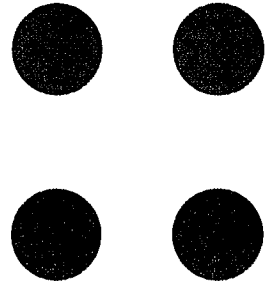
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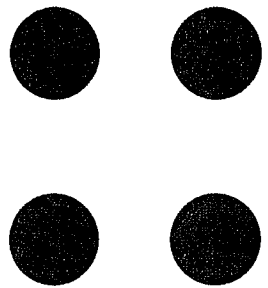
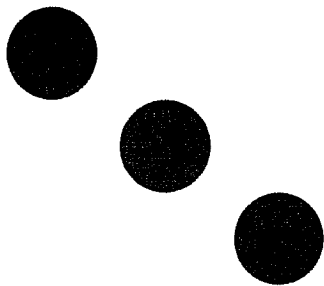
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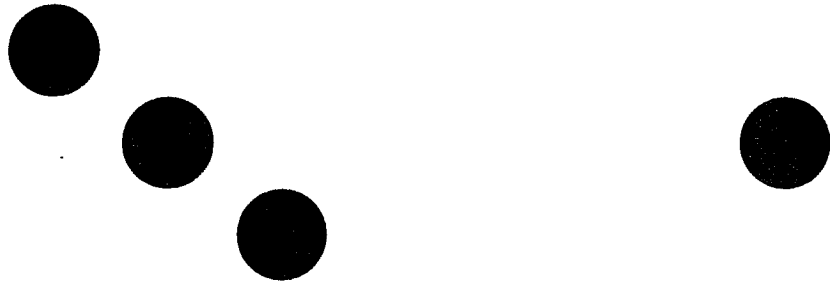
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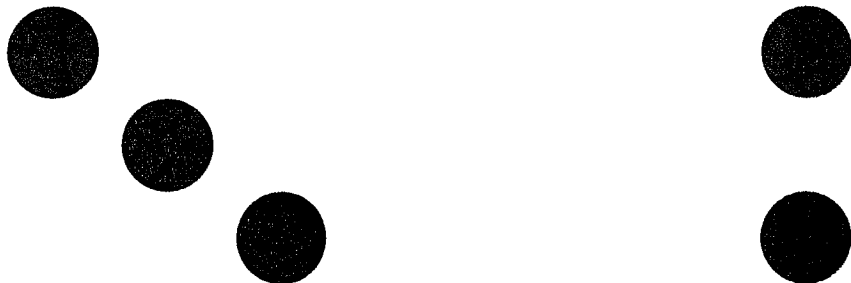
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