

The Story Behind Comprehension and the Importance of Visualizing

"Do you know why _____ is struggling?" asked one of my parent volunteers after she overheard him reading to me.

"Not really. He has found decoding and memorizing his sight words more challenging than most of the children. I'm hoping when he gains more fluency things will improve."

"Have you considered the idea that he might not be visualizing?"

I paused. This was something I had never thought of.

"Visualizing is key for comprehension."

"How can you tell if someone is visualizing?"

"You have to ask the right questions."

Inwardly, I was caught off guard. As a teacher, I asked a lot of questions. What could she mean by asking the "right" questions? Thinking I should know the answer and didn't, I left the matter temporarily.

This parent volunteer was kind enough to give me room to process and by the next week when she returned, I was very curious. It turned out she was a trained clinician who worked part-time for an educational psychologist in Calgary.

"So, what type of questions should I ask to find out if a child is visualizing?"

She gave me a few tips and during my recess lunch break, I took the child aside and read him a story about a German shepherd. I read the story aloud to make sure that my student's own decoding was not a factor in his understanding. Afterwards I proceeded to use the questions she had suggested.

"So what was the story about?"

"A dog," he replied

So far, so good.

"How big was the dog?"

"It was big."

"Can you show me with your hands how big?"

The little boy held up his hand and spread his index finger and thumb about three cm apart.



NOTE:

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"Yes," I agreed. "The artist drew the dog that small in order to fit it in the pictures. Now, could you show me with your hands how big a German shepherd is in real life?"

Once again, the little boy held up his hand and spread his index finger and thumb about three cm apart.

I was dumbfounded!

"Have you ever seen a dog that size in real life?"

The child was silent and so I asked him a different question.

"How tall is your Mom? Is she about my height?"

"No, she's way taller."

"How tall is she?"

He pointed at the light standard outside in the parking lot.

It was all I could do to contain my surprise. His Mom was a petite woman of around five feet two inches. The significance of what the parent volunteer was talking about began to sink in. My thoughts raced as I jumped to other relevant things six year olds should know by the month of March. I wrote down the word "dog" on a paper and asked my student to show me the beginning, middle and ending letters in the word. He could not. Next, I asked him to show me the beginning (head), middle (tummy), end (feet) of his own body. He could not. At last, I thanked him and dismissed him for the last ten minutes of lunch recess.



Sitting in a hushed silence, I remembered a conversation we had on the second day of school. During lunch, this little boy had approached my desk and startled me.

"When are you going to do something so I can read?"

"Pardon me?"

"You know—teach me to read so I don't have to come here. I just want to go home and play Lego with my little brother."

"Oh dear," I smiled. "There's a little more to it than that. I'm going to help you each day and you will practice what you learn. Little by little as you and I work together for a whole school year, you will learn to read."

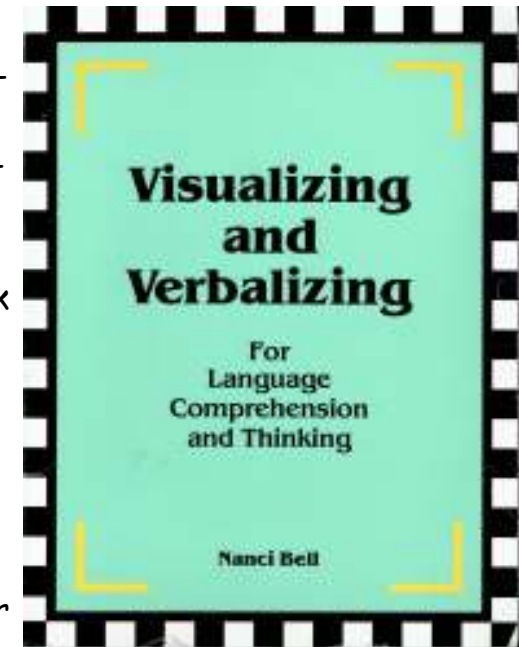
His face fell. "Oh, I thought it would be like when my Mom gets me ready for school. She puts on my jacket and my boots and takes me to school. I thought because you are a teacher that you could just do something and I would be able to read. I didn't know I had to do something."

My mind returned to the present. I sat at my desk and wept for this student. How could I have missed so much?

The next week when my parent volunteer returned, I asked her if there were some strategies I could use to help my student. She offered some and suggested the book called Visualizing and Verbalizing by Nanci Bell. I bought the book and read it all in one week-end. The book described her groundbreaking discovery and also the teaching process she created for one-on-one tutoring. According to her book, it was easiest to apply the strategies when the reading level of the material was at or below the third grade. The book was like being in a dark room and having someone open the door just a crack. I was fascinated.

Nanci Bell documented that when children who had good comprehension skills were asked a question, they looked away from the teacher and their eye movement tracked upwards to their right. These children momentarily stopped focussing on the teacher and appeared to be searching for the answer from within. Regardless of whether they retrieved an answer or not, their eyes would then reconnect with the teacher's eyes and they would respond with an answer or reply they did not know. This really resonated with me. Whenever I asked this student a direct question about his schoolwork, he stared at me without speaking. He would wait until I ran out of time to listen to his response and then provide him with the answer. To my recollection, he did not look away to indicate he was engaging with the question, and I did not know how to get him to process questions.

One of Nanci's most important strategies involved using paired questions. When a student did not answer a direct open-ended question, she followed up with a set of paired questions. For example, if I asked what the story was about and the student was silent, I might have followed up by asking if the story was about a dog or a cat. Next, I could ask what kind of dog it was. If the child did not respond again, I might ask if it was a German shepherd or a poodle. I also found that showing pictures of the choices or making a quick sketch was helpful to find out what he was thinking. Paired questions are invaluable, because they place responsibility back on the student by helping them to engage with ideas. Nanci Bell's basic model was based on helping a child build a mental picture using paired questions. The questions were built around the most important idea/thing/character, followed by developing the setting.



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1. **One way** to remember what we read is to make a picture in our minds.

2. **We can imagine:**

What/Who the story was about and its/his...

*size (gesture to show size)

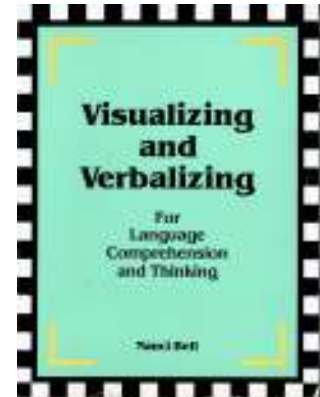
*color

*shape

*amount

*position

*location







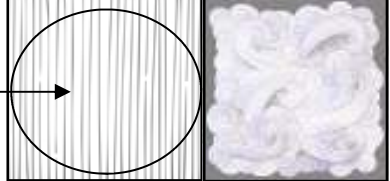



and its actions (my own addition).

*Children who struggle with comprehension often learn to interpret the facial expressions and body language of their teacher to find answers to questions.

*When working with these children it is important to pair questions with two choices for answers.

Adapted from Visualizing and Verbalizing by Nanci Bell

<p>1. Was the story about a dog or a cat? <i>Tip: show child pictures of a dog and cat</i> Answer: dog <i>Tip: have child point to the picture indicating their answer</i></p>	
<p>2. Was the dog a poodle or a German shepherd? <i>Tip: show child pictures of a poodle and a German shepherd</i> Answer: a German shepherd <i>Tip: have child point to the picture indicating their answer</i></p>	

<p>3. Was it small or big? <i>Tip: show child small and big dog sizes with your hands</i> Answer: big <i>Tip: have child gesture with hands to indicate the size</i></p>	
<p>4. Was it white or brown? <i>Tip: show child your colour chart</i> Answer: brown <i>Tip: have child point to the picture indicating their answer</i></p>	
<p>5. Did it have curly or straight fur? <i>Tip: sketch straight and curly lines</i> Answer: straight fur <i>Tip: have child point to straight lines from your sketch</i></p>	
<p>6. Were there three dogs or one dog? <i>Tip: show child your number chart and have child point out corresponding amount</i> Did the dog have four legs or six legs? <i>Tip: if the child laughs or comments about the silliness of a dog having six legs, celebrate! It is a wonderful sign the child is processing the question and learning to visualize.</i></p>	
<p>7. Was the dog standing up or laying down? (position words require learning the meaning of prepositions) Answer: laying down <i>Tip: have child demonstrate his answer by laying down</i></p>	
<p>8. Where was the dog? Was it in a doghouse or in a tree house? <i>Tip: sketch a doghouse and a tree house</i> Answer: doghouse (hopefully child finds it silly to think of a dog in a tree house) <i>Tip: have child point to the appropriate house from your sketch</i></p>	

After finishing the book, I made a list of classroom behaviours I had observed in this child.

- rarely participated in class discussions
- usually chose to sit at the back of the class during carpet time
- had difficulty following instructions—would watch other children and take cues from them
- asked to go to the bathroom during story time and often didn't return until I had finished reading the story
- was quiet, passive and hard to interest
- struggled with fluency
- showed little interest in the reading process
- avoided answering questions
- did not initiate many questions
- if asked a direct question regarding schoolwork, he would silently look at me and wait until I ran out of time to listen to his response and then provide him with the answer
- frequently asked other children for answers to schoolwork
- often took schoolwork home to complete

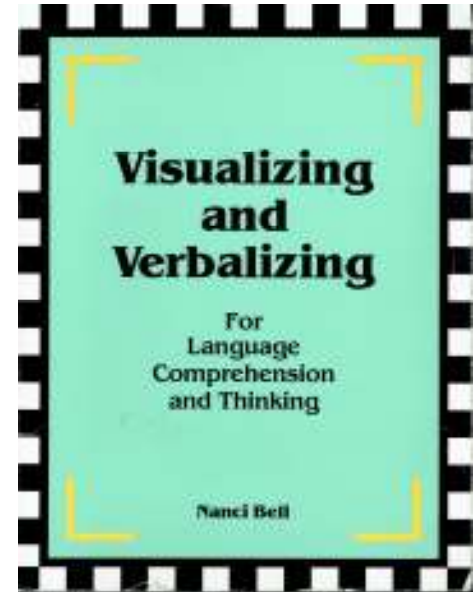
Since the book had not been adapted for classroom teaching, I began processing how I could integrate some of Nanci Bell's ideas. In one of my university classes, the professor had discussed the use of tally marks. At the time, I could not see any value in them, but now recognized their helpfulness. I used tally marks under several categories to keep track of this particular student's daily behaviour. I wanted to know if the child was beginning to engage in learning.

Date:	Name:	Tally Marks
1.	took a front row seat during carpet time	
2.	asked his/her own question	
3.	answered a direct question	
4.	accurately repeated instructions back to me	
5.	was present during story time	
6.	verbally asked a question about the story	
7.	verbally answered a question about the story	

I also began to make a concerted effort to:

- involve this student in class discussions
- ask the student to sit near me during carpet time
- to pair all students up and have them repeat my instructions to each other
- to be this student's partner and have him repeat instructions to me
- make sure my student was present during story time
- continue working on developing decoding fluency
- implement Nanci Bell's questioning techniques

This wonderful volunteer was soon hired by the parents to tutor this child during school hours under the umbrella of the school. Slowly and wonderfully he began to make progress. Words cannot express how grateful I am for the insight shared at such a crucial time in this student's learning and for having been introduced to the work of Nanci Bell. What a learning adventure lay ahead!



More Comprehension Strategies

The more I thought about Nanci Bell's comprehension strategies the more I wanted to integrate them into as many subject areas as possible. Identifying colours, quantifying numbers, understanding sizes and shapes are all necessary skills for visualizing. Piaget's theory of cognitive development in children describes them as important developmental milestones. They are essential for comprehension in reading, math, science and social studies which explains why they are an important focus of many preschool, kindergarten and grade one programs. The long standing television show Sesame Street was instrumental in teaching preschoolers their alphabet letters, colors, numbers, sizes and shapes. Although many children have these concepts clearly established when they enter grade one, others do not. Those that do find learning to read much easier. Eventually, I began to see how the Alberta curriculum topics and objectives were designed to help develop reading comprehension strategies across the subject areas.

Strategies for Teaching Colours in Science

Knowing colours improves a child's ability to visualize characters, settings, interpret science experiments, read graphs and maps, etc. By the end of the grade one Alberta science unit on colour exploration children should be able to identify colours and should know:

1. The primary colours are red, yellow, blue.
2. Secondary colours are created by mixing primary colours:
 - red + yellow = orange
 - red + blue = purple
 - blue + yellow = green
3. Brown is created by mixing red, yellow, blue.
 - red + yellow + blue = brown
4. Tints are made by mixing white with any colour.
5. A shade is what you get when you mix black with any colour.
6. A tone is what you get when you mix grey with any colour.
7. The colours of a rainbow are a result of white light reflecting through water droplets which act as a prism after a rainstorm. An easy way to remember the order of colours in a rainbow is with the acronym Roy B Giv

R = red O = orange Y = yellow B = blue G = green I = indigo V = violet

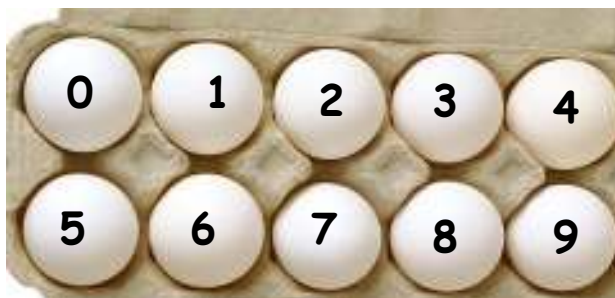




Strategies for Teaching **Numbers**: One to One Correspondence in Math

An understanding of numbers begins with learning what quantity any given number represents. Numbers are an abstract representation of quantity. Being able to quantify numbers is an important comprehension skill used in all subjects—not just math. Here are some activities I used with my students to help them practice one to one correspondence.

Egg Carton Counting



Materials:

- empty egg carton
- old buttons, marbles, large beads, dry cereals such as Cheerios, Fishy Crackers

Instructions:

1. Using a black felt marker, print the numbers one through twelve on the bottom of the empty egg carton as shown above. There should be one carton for each child.
2. Give each child approximately 1/2 cup of math manipulatives (e.g. buttons).
3. Call out a number between one and twelve.
4. Have children locate the number on the egg carton and then count out the matching number of math manipulatives from their cups. Next place the correct number of math manipulatives into the basket with the corresponding number.

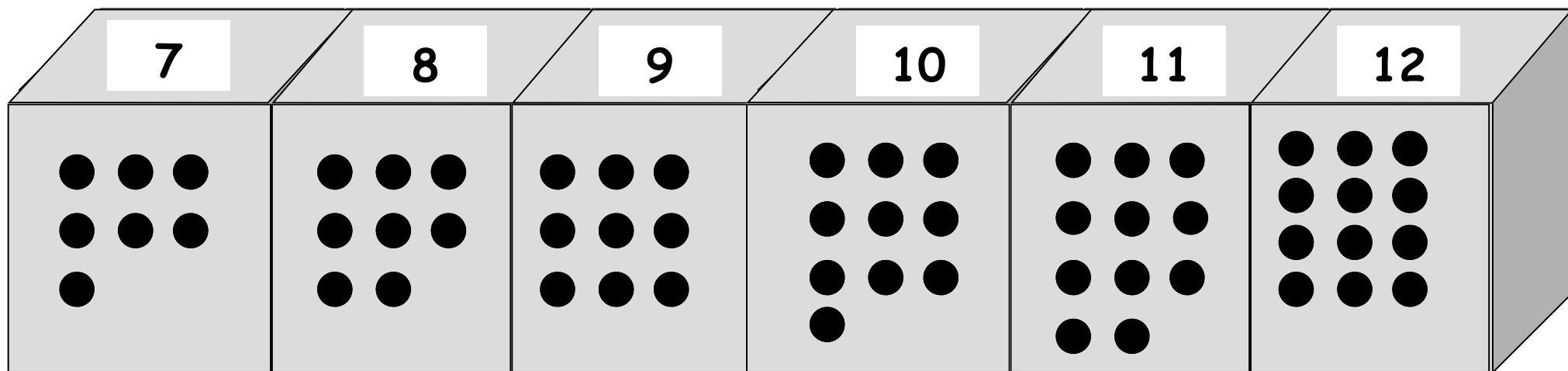
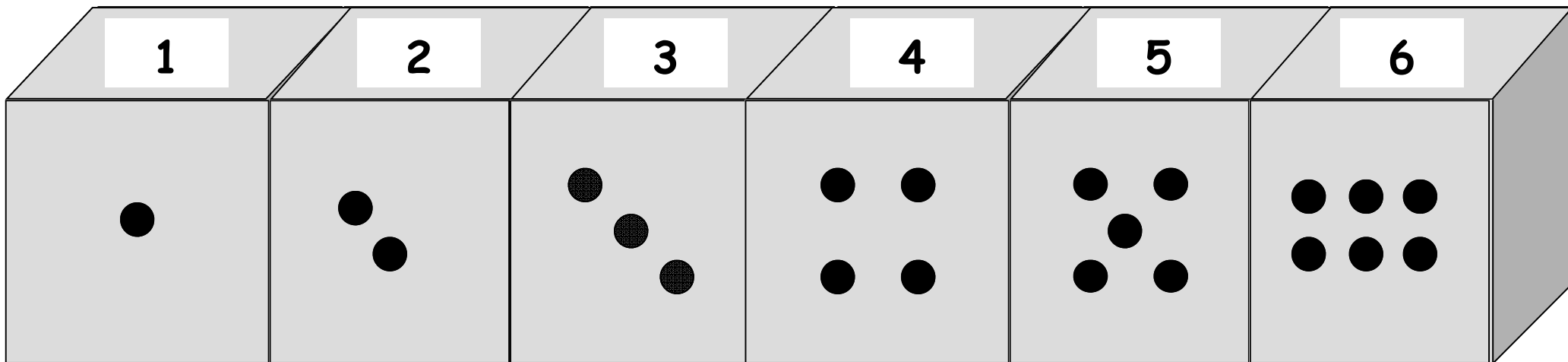
Counting Chart

I created this chart and gave one to each of my first graders to use as a reference for learning:

*one to one correspondence

*addition facts

Name _____



Number Lotto



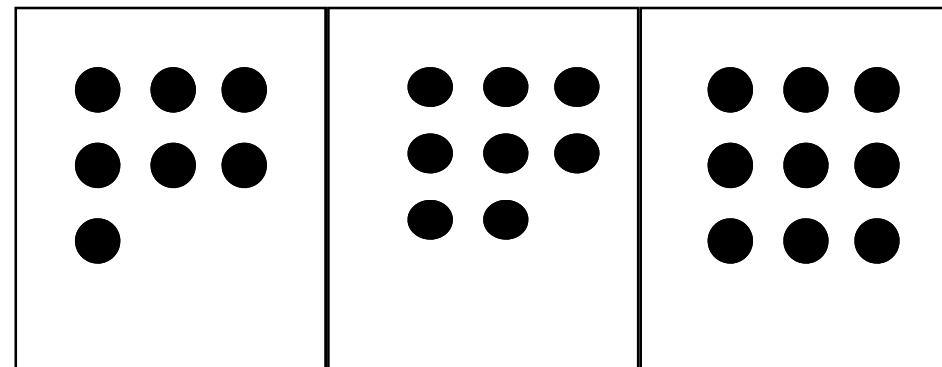
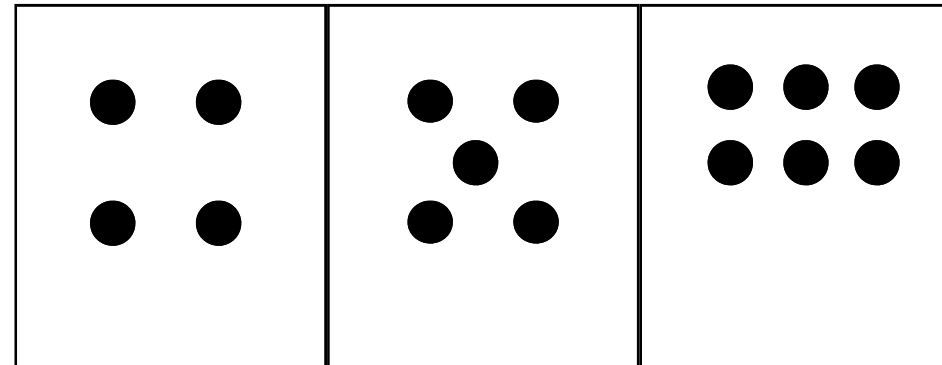
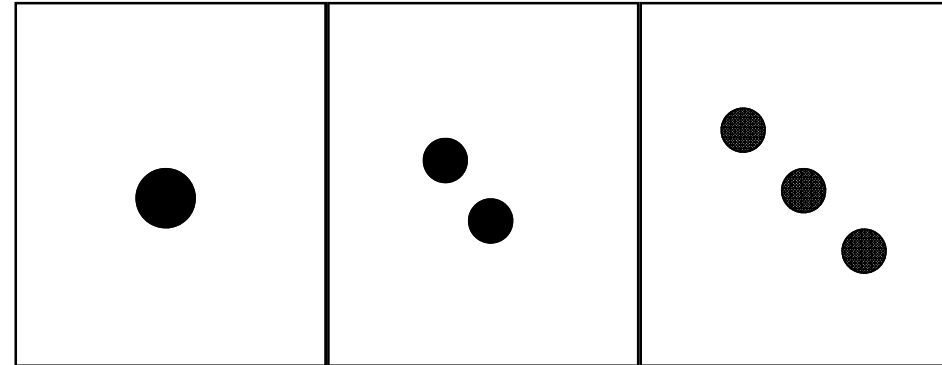
Laminate Lotto cards. Cut up dot cards and laminate them.

One to One Correspondence

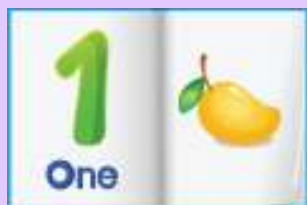
Number of Players: 1 to 5

Game Instructions: Mix up dot cards and place face down. Play lotto game alone or have a race between two and five players to see who matches dot cards to the numbers on his/her lotto card.

1	2	3
4	5	6
7	8	9



Number Lotto



9

8

7

6

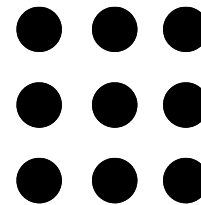
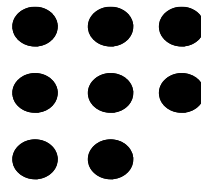
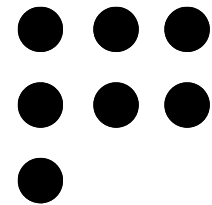
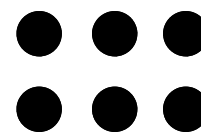
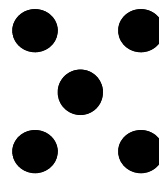
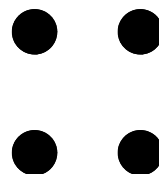
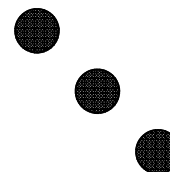
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Number Lotto



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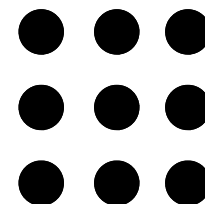
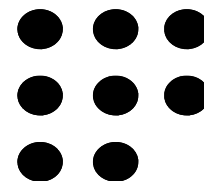
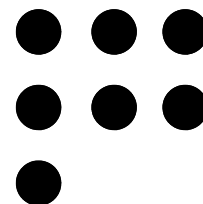
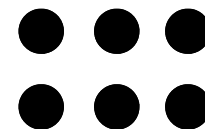
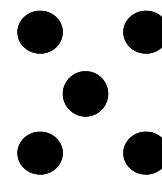
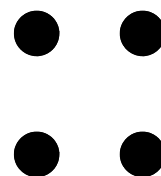
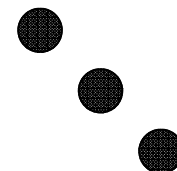
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Number Lotto



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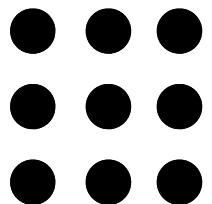
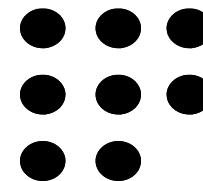
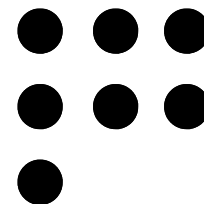
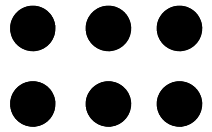
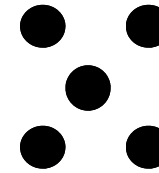
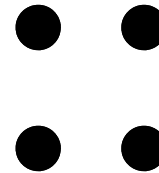
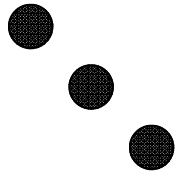
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Number Lotto



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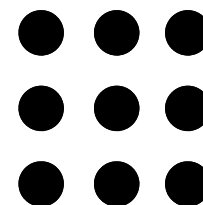
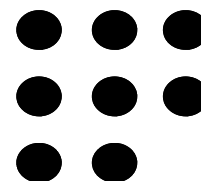
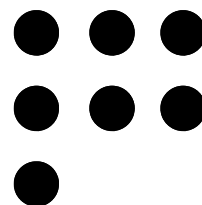
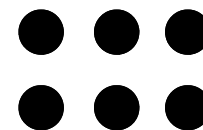
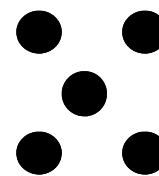
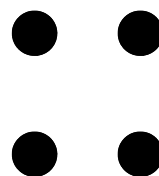
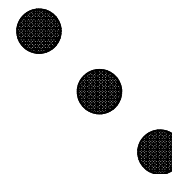
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Strategies for Teaching **Size** in Math:

Game One:

Divide class into groups of five. Take turns selecting different students to be the leader. The leader arranges the other four students in his group from shortest to tallest or from tallest to shortest.

Game Two

Divide class into groups of five. Take turns selecting different students to be the leader. The leader must take one shoe from each group member and arrange them from smallest to largest or from largest to smallest.

Strategies for Teaching **Amounts** in Math:

Game One

Divide students into partners. One partner is given twenty blocks/ buttons/pieces of dry cereal and asked to divide them into three groups which show a small amount, a medium amount and a large amount. Switch partners and try it again.

Game Two

Take turns selecting different students to be the leader. Instruct the leader to arrange bottles containing different amounts of liquids from the smallest amount to the largest amount or from largest to smallest.

Strategies for Teaching **Beginning, Middle, End** in Spelling.

Game One:

Divide students into partners. Display alphabet poster and select three letters. e.g. y-d-m. Have partners race to write down the alphabet letters in the order of beginning, middle, end (according to where they are found in the alphabet). Answer: d=m-y Repeat game.

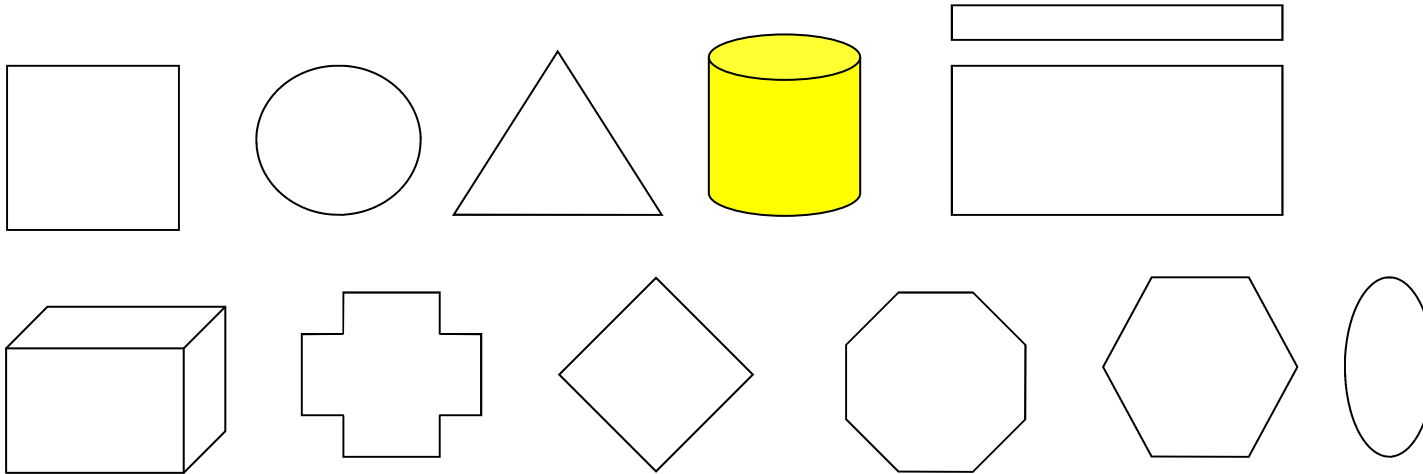
Game Two:

Dictate the spelling of a short vowel word. e.g. d-o-g. Have students copy down the word. Ask students to circle the beginning letter, draw a square around the last letter and draw a triangle around the middle letter. Repeat activity with a different short vowel word and vary instructions.



Strategies for Teaching Shapes in Art:

1. Divide students into partners. Give them a photocopied sheet with these shapes: square, circle, triangle, cylinder, rectangle (skinny and wide), cube, cross, diamond, octagon, hexagon, oval. Direct students to identify the shapes by coloring them. For example: color the cylinder yellow.



2. In art teach or challenge students to use the shapes to draw objects such as a:

- house
- stop sign
- face with a hat
- baseball diamond
- hop scotch
- office building
- a dog

Strategies for Teaching Sounds, Shapes, Colours, Touch, Smells, Tastes in Science:

In Alberta there is a unit in science on the five senses for grade one students. Sensory imagery is a wonderful tool used for visualizing in reading as well as a tool used in creative writing for describing settings and encounters and descriptions of new places and experiences. Combining sensory activities with sensory writing is a great way to develop better comprehension as well as developing an important writing tool. Sensory experiences create the basic memories necessary for written descriptions to make sense to the reader. This is one reason why this grade one science unit is so important. One example of a five sense teaching strategy is to make and eat popcorn together. Then write about what it sounded like, looked like, smelled like, felt like and tasted like. By writing one sentence at a time we can use the process:






WORD WEB

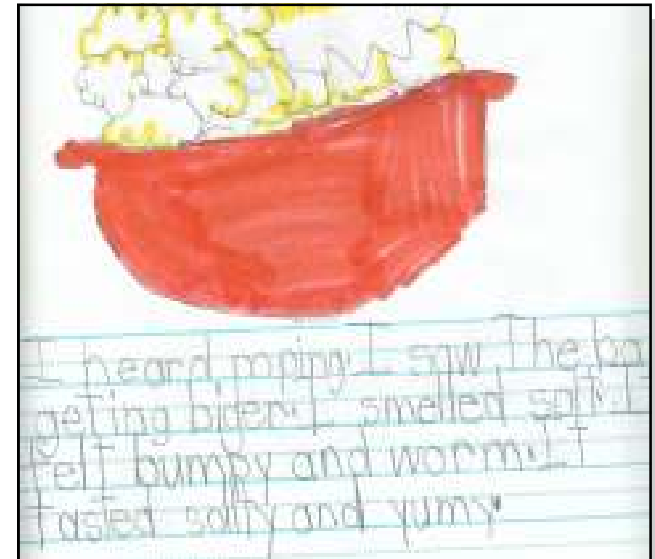
MODEL

WRITE

SHARE

EDIT

	I <u>heard/listened</u>	popping/snapping/exploding
	I <u>saw/watched</u>	popcorn bag popcorn
	Popcorn <u>felt</u>	hot/warm/soft/
	Popcorn <u>smelled</u>	yummy/delicious/wonderful
	Popcorn <u>tasted</u>	buttery/crunchy/salty



IMPORTANT NOTE:

Draw rebus pictures for vocabulary help and have students use the single page sight word dictionary when writing. Record one sentence worth of vocabulary at a time. Model how to use the vocabulary. Next, ask students to write a single sentence, share the sentence with a partner, and edit it. Erase the vocabulary for the first sentence and repeat process for all the rest of the sentences until the paragraph is complete.

Dear Mom,
I would love it if you used
my story(s) to help other kids
learn how to write.
Love, Hana

Sound Effects for Creative Writing (Onomatopoeia)

B

bang bump bop bark blip blink blast blurt burp boom buzz

C

chomp chug clump clunk clip clop clunk cluck crash
clink clank click clack crack clap clomp click crunch

D

drip drop

F & G

flip flop flap glug

K

kaboom kerplunk kersplash kerplop

P

plink plop plunk pop peck peep pow

S

spurt splash snap snip swish smash snip split splish
stomp stump swat smack stomp snap screech swoosh

T

tweet thud thump thunk

W

wham whack wigwag whirr whiz whoosh

Z

zip zoom zing zig zag



Using onomatopoeia to connect sounds with sensory imagery experiences not only makes creative writing come alive, but develops comprehension skills.



Strategies for Teaching **Prepositions** in Reading:

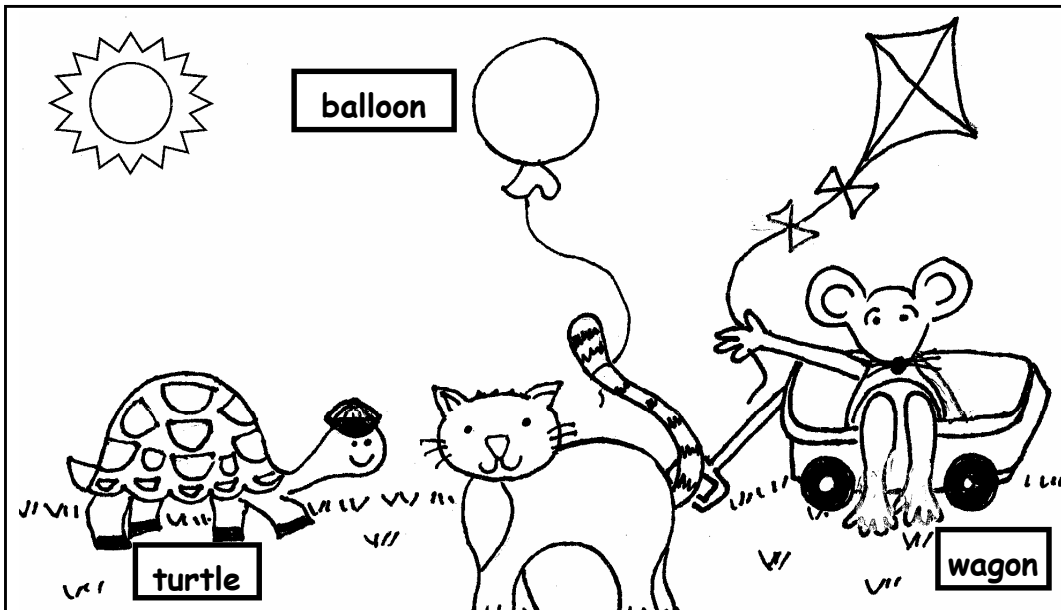
Give each student two plastic cups and a button.

Instruct students to:

- place the button under a cup
- place the button above a cup
- place the button across from two cups
- move the button around one cup
- place the button before two cups forming a line
- place the button behind one cup
- place one cup below another cup
- place the button beside one cup
- place the button between two cups
- place a cup in another cup
- put a button inside a cup
- put a button into a cup
- take one cup off your desk
- show your button jumping over one cup
- show a cup moving through the air
- show one cup moving toward your other cup
- place one cup under your desk
- place your button underneath your hand
- lift your button up as high as you can
- place a cup upon your head
- hold one cup off the floor with both your feet



Instructions: Use the word box to finish the sentences.
Outline each item in the picture with the correct color.



turtle balloon kite wagon sun

1. The brown rat held a blue _____.
2. The green _____ had a red hat.
3. An orange cat had a purple _____.
4. The red _____ had a rat inside.
5. The yellow _____ was in the sky.

Reviewing Colors and Prepositions

I wrote and illustrated a number of exercises for the revised Smart Start in Language Arts School Edition and for the Smart Start Home Education Edition. These exercises (shown on the left) give children practice with following instructions and reviewing color words and prepositions.

wwwbooks4resultscom
Smart Start in Language Arts
School Edition
by JoAnne Moore

Smart Start in Language Arts
Home Education Edition
by JoAnne Moore

above	across	after	lost	around	behind	below
beside	between	by		down	in	inside
into/onto	over	through		toward	under	underneath

Farm



Step 1: choose a word to substitute for "went"
 Step 2: circle a positional word and an object (see above)
 Step 3: circle another positional word and an object
 Step 4: circle a final positional word and object used to take your character where he wants to go.

Ginger, the horse, galloped over a fence,
 through a haystack, and past an apple tree.

Dear Mom,
 I would love it if you used
 my story(s) to help other kids
 learn how to write.
 Love, Maria

Strategies for Writing with **Prepositional Phrases**

This exercise teaches children in grades two to four how fun it is to apply prepositions to their writing.

Download Story Writing Mini-Lessons
 PDF book at www.books4results.com



Strategies for Teaching Emotions in Health:

NOTE: One of the curriculum topics for health in grade one is on identifying and understanding emotions.

"Amy's crying again!" yelled some of the children as they tumbled into my classroom after lunch recess.

The petite little girl arrived late with tear-stained cheeks just as we were beginning our lesson on emotions in health. I had been teaching them how to describe emotions using face and body parts with verbs. We began with our eyes and thought of verbs to describe what our eyes did if we felt happy, sad, scared, mad or surprised. Eyes might sparkle if you are happy. Can anyone show the class what that might look like? What would your eyes do if you were sad? They might leak tears. The conversation continued on in this manner until I reminded the children that the expressions on one's face must match one's feelings and one's feelings must match one's words. This means that if you are feeling happy, your face shows it, your words show it and the sound of your voice shows it.

A hand went up and began waving.

"Yes?"

"I know why Amy's always crying at recess," said one of my students.

"You do?" I had not known how to get to the bottom of her problem.

"Yes, Amy doesn't match."

Amy turned around and stared at him in surprise.

"What do you mean?" I asked.

"Well, whenever she gets teased, Amy smiles and giggles and says

"Stop that!"

I asked the class, "What do you think she means?"

"Do it more!" the class chorused. "She likes it!"

Amy was shocked. "I do not!"

The little boy looked at her and said, "When you smile and laugh and say "Stop that!" your face doesn't match your words and so we think you like it."



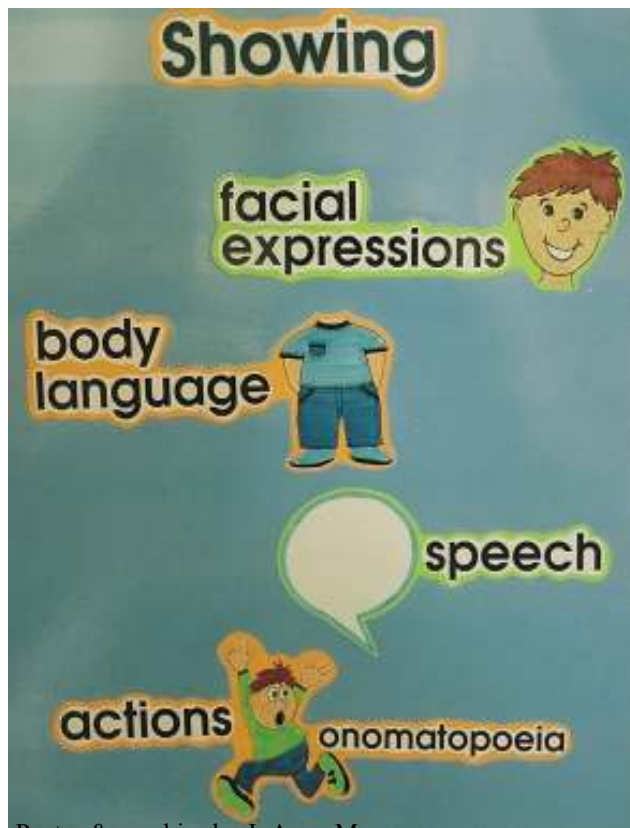
"Boys and girls, if someone's face doesn't match their words, which one do you believe?"

"Their face."

"Amy, why don't you go home and practice making a serious face in the mirror to match your words. Next time, when you get teased, try to make your face match your words."

Amy nodded and within a week her problem was solved and the teasing stopped. I was amazed at how important this lesson was.

Afterwards, I began keeping a mirror in my desk to show children their facial expressions when they were experiencing strong emotions. It was amazing how much better they became at regulating their own behaviour, just by viewing themselves in the mirror. In my experience, learning how to interpret and describe emotions increased the children's abilities to relate, comprehend, and write.



Poster & graphics by JoAnne Moore



Note: The student's name used in this anecdote is fictional.

Basic Emotions



1. Happy

smiled/grinned/beamed



2. Sad

tears: rolled/spilled/trickled/slid
welled/ rained/poured



3. Angry

face: turned red/purple
steam: poured/shot/spewed out his ears
shaking/quaking/stomping



4. Scared

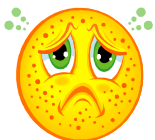
face: turned white
teeth: chattered/clattered



5. Surprised

eyes:

chin: dropped/gaped/fell open
twinkled/sparkled/shone

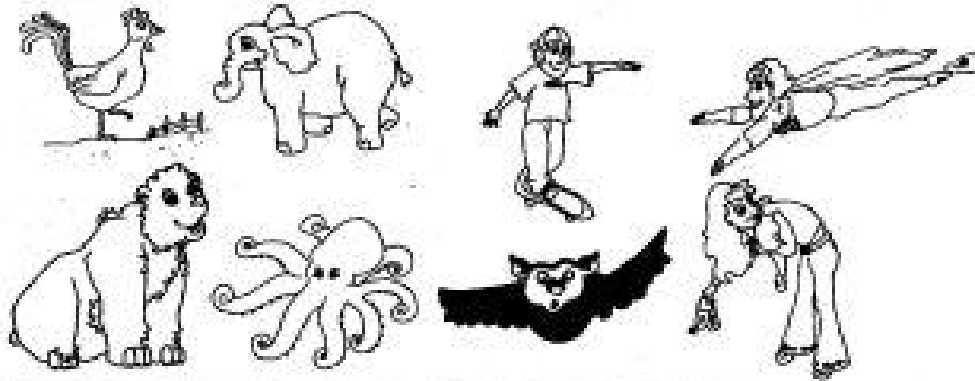


6. Sick

face: turned green

graphics Power Point 2003

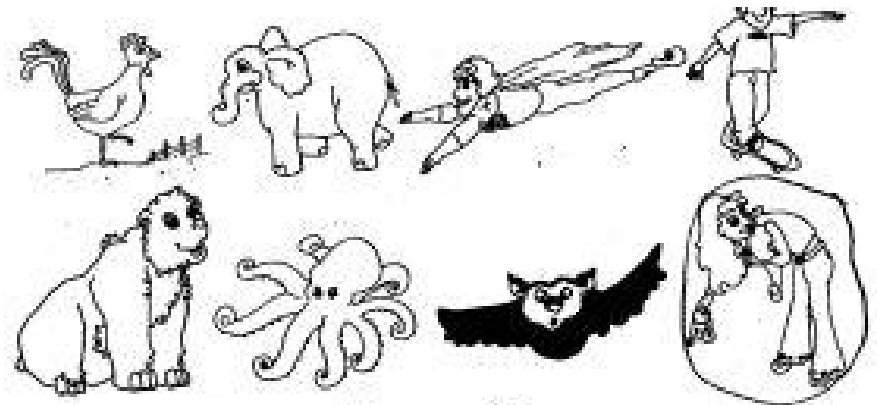
Student Assignment: "Show" a Character is Surprised



Strategy for Writing to Show Emotions

This exercise teaches children in grades two to four how fun it is to apply showing to their writing.

Download [Story Writing Mini-Lessons](http://www.books4results.com) PDF book at www.books4results.com



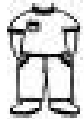
Eyes sparkling, Maya danced around the room holding Oatmeal in her arms.
"He's such a cute puppy!" she cried. "I can't believe my wish has come true!"

Dear Mom,
I would love it if you used my story(s) to help other kids learn how to write.
Love, Haria



Face Parts:

eyes: sparkled, twinkled, glowed, bugged out, popped out, bulged, shone, stared
chin: dropped, fell
mouth: dropped, fell, gaped



Body Parts:

hands: clapped, slapped knee, covered mouth, rubbed head
head: looked, snapped, popped



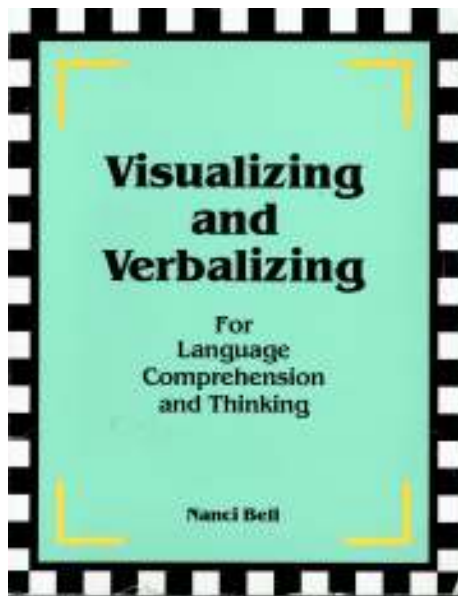
Said Synonyms:

gasp, cried, grinned, gaped, stuttered, beamed



Actions:

collapsed, danced, cartwheeled, spun circles, twirled, hugged, clasped



In summary:

1. Visualizing is an important part of comprehension.
2. Paired questions are useful in helping children visualize.
3. Children should be directed through paired questions to visualize what/who the story is about using: size, colour, shape, number/amount, position, location and action.
4. Gesturing helps the teacher understand what the child is thinking.
5. Verbalizing helps the child solidify their learning.
6. Summarizing verbally helps a child retain their learning.
7. Sharing questions/ideas with a partner is an easy way to integrate verbalizing into classroom routines.
8. Comprehension strategies can be integrated into all subject areas



REMEMBER: There are times when both children and adults do not visualize. This can occur if the learner is preoccupied with another matter, finds the topic boring, or the material is too hard.