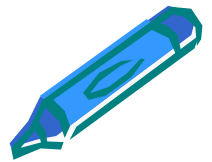


# Speech and Language Development

Rosi Fry, Lauren Mulvaugh, Stephanie Pham, Martha Pyatt  
Speech-Language Pathologists

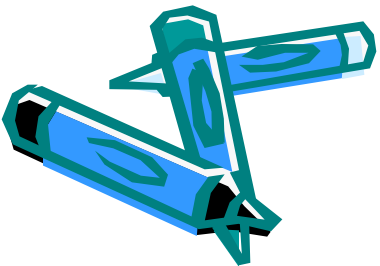
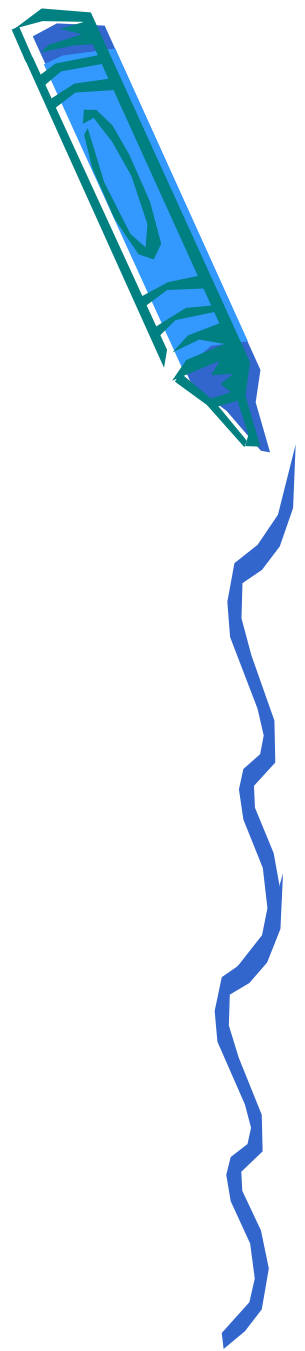
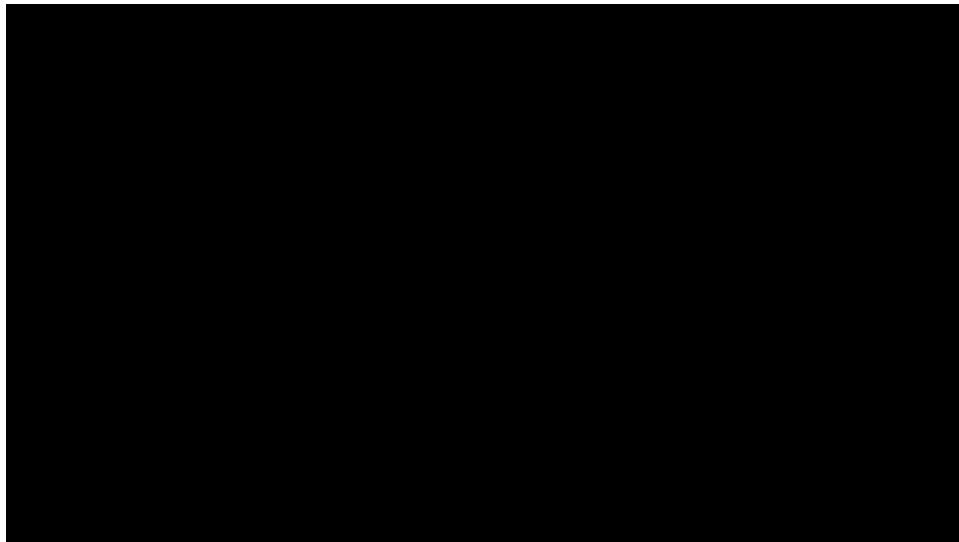
San Juan Board of Cooperative Educational Services



# What are they saying?

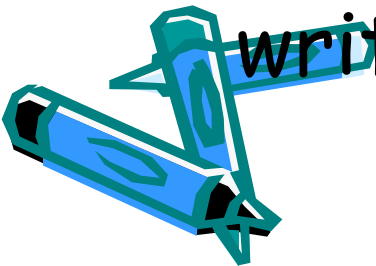
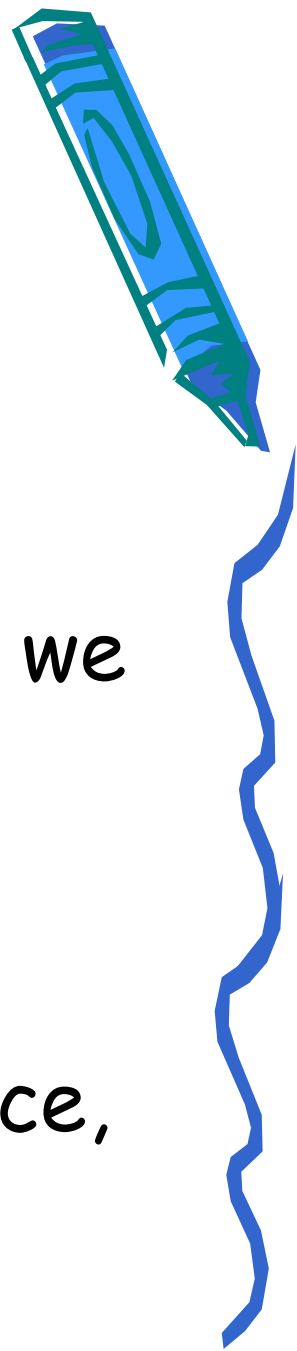
I wike da du i du di (I like the sun in the sky)

I want the thingy. No the thingy. That thingy...

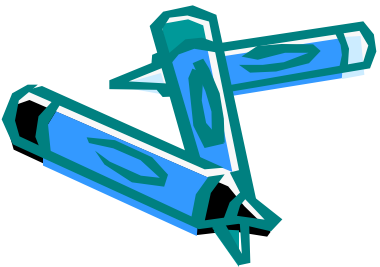


# What is communication?

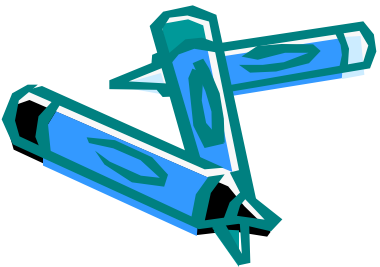
- Communication is the process by which we exchange information. Language is the structure in which we typically communicate.
- Communication is not just verbal.
- Gestures, facial expressions, body language, ASL, communication device, writing.



What makes  
communication  
successful?

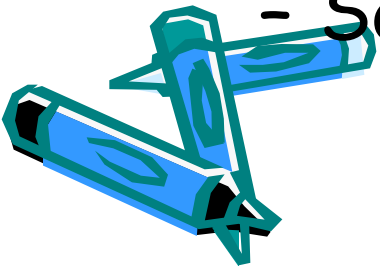


What causes  
communication  
breakdown?

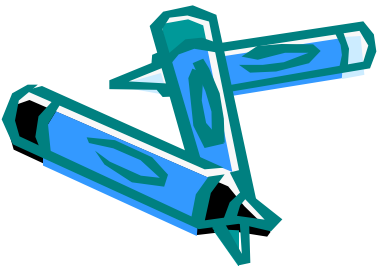
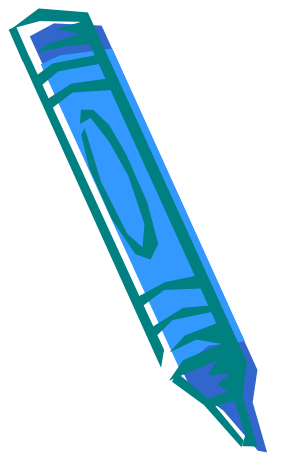


# Communication Breakdowns

- Can occur from problems with:
  - Articulation
  - Language skills (receptive and expressive)
    - Vocabulary
  - Fluency
  - Voice
  - Social (pragmatic) language skills

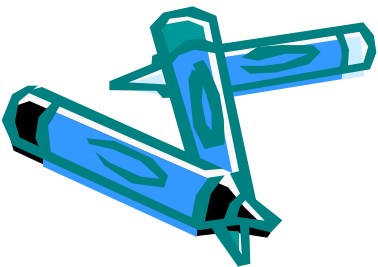
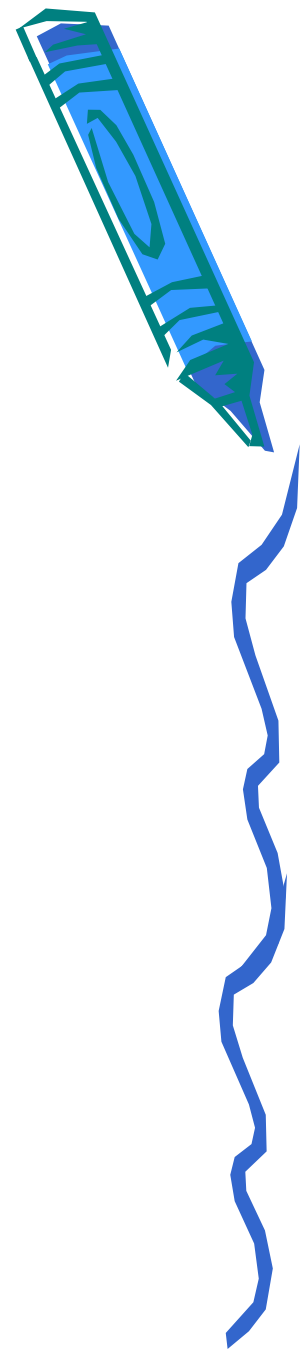


Think of a child....



# Articulation: Developmental norms

wide range of normal





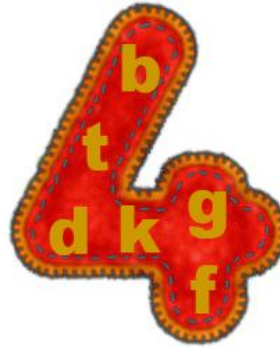
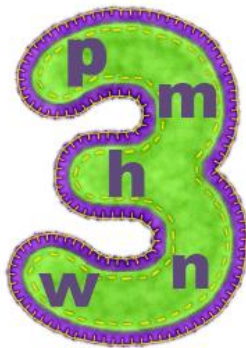
# Developmental norms

Dear parents, guardians, and teachers,

The chart below shows at what age 90% of children can articulate the English consonants correctly. Vowels should be correctly produced by age

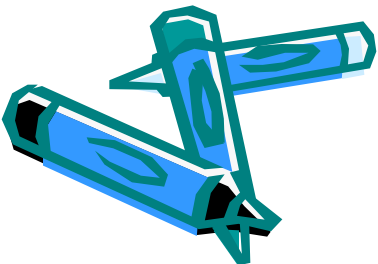
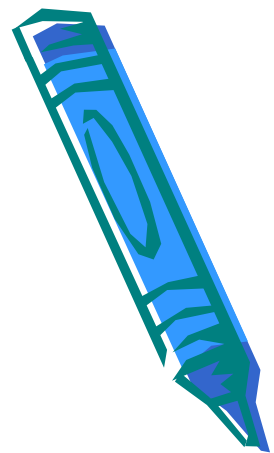
3. All children do not develop at the same rate, so we can not expect correct speech from every child in the primary grades. If you have questions about this or other speech/language milestones, contact your school's Speech-Language Pathologist.

© Jessica Schulman, MA, CCC-SLP Figuratively Speeching SLP



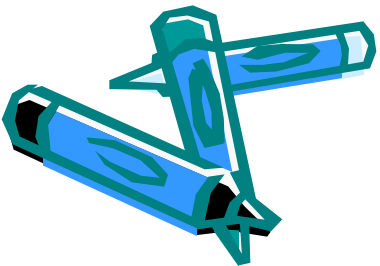
Norms compiled from the following sources: Poole, Sander, Hena, Fudala, Templin, and Wellman

Number clip art courtesy of awaywiththepixels.com



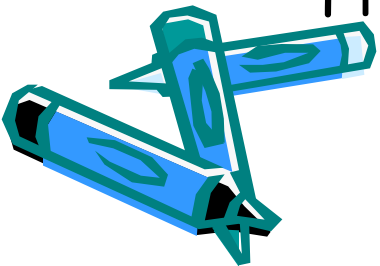
# Speech Intelligibility

- By 18 months a child's speech is normally 25% intelligible
- By 24 months a child's speech is normally 50 -75% intelligible
- By 36 months a child's speech is normally 75-100% intelligible
- Source: Lynch, J.I., Brookshire, B.L., and Fox, D.R. (1980). A Parent - Child Cleft Palate Curriculum: Developing Speech and Language. CC Publications, Oregon. Page 102



# Phonological Processes

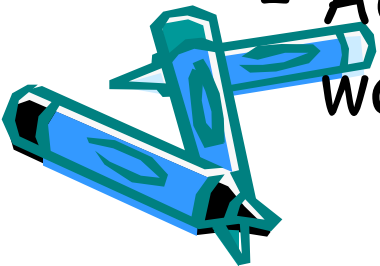
- Typically developing children use a variety of phonological processes, but their use should be extinguished by a certain age. The most common phonological processes are:
  - Final consonant reduction - gone by age 3
  - Cluster reduction - age 4
  - Stopping (produce p,b,t,d,k,g, for f,v,s,z,sh,zh,th) - age 4 for all but "th"
  - Fronting (produce t,d for k,g,ng) - age 3:6



# Parents and Teachers can help by:



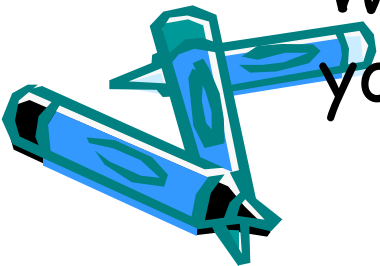
- **Conversation** - standing behind, next to, sitting
- **Stimulability** - trying the sound in isolation.
  - many children who are stimulable for a sound will acquire the sound without intervention.
- **Recast what the child says, providing an immediate model after the error:**
  - Child : I saw a tat
  - Adult: Oh, you saw a cat. What color was the cat?



# Practice



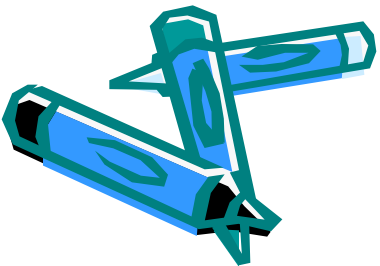
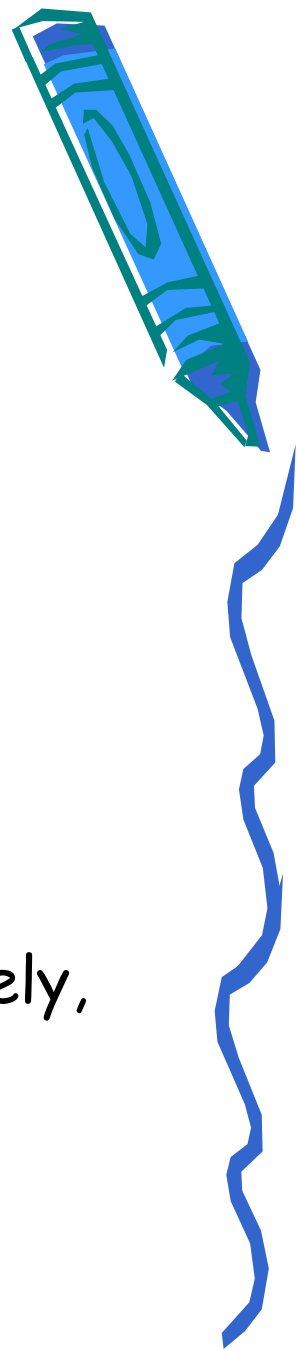
- Choose a sound -sing a tune using only that consonant vowel
- Pair activity - one is child/one is adult, child cannot say /s/ sound, adult recasts what child says.
- Think of a child you know...
  - What sound do they misarticulate
  - What is something they would say that you could recast?



# Language

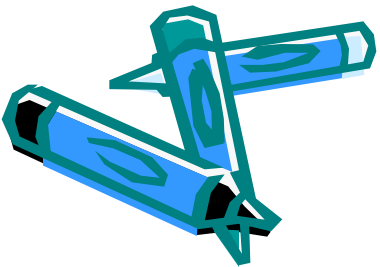
- Let's have a conversation:
  - With single words
  - With 3 word phrases
  - Now a normal conversation

Requires receptive, expressive and pragmatic language skills - follow directions, form sentences, ask questions, respond appropriately, eye contact...



# More practice

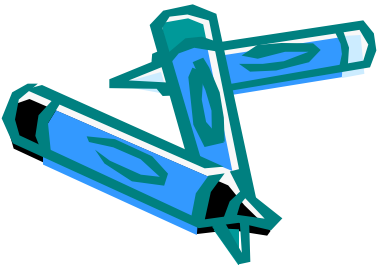
- Articulation activity



# Language Development



- Approximate average timeline of language development in children during the first three years of life. There is a wide variation between individual children.
- Birth - respond to prosody
- 6 months - recognize phonemes
- 9 months - recognize word boundaries
- 12 months - attach meaning to words
- 18 months - recognize noun/verb differences
- 24 months - recognize other grammatical functions
- 36 months - most language activity moves to left hemisphere
- General Rule of thumb for sentences length is:
  - 1 word at 1 year.
  - 2 words at 2 years
  - 3 words at 3 years.

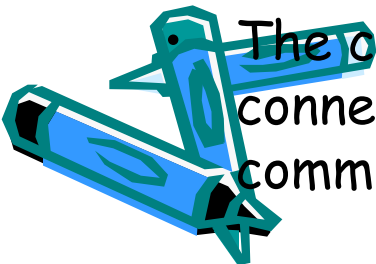
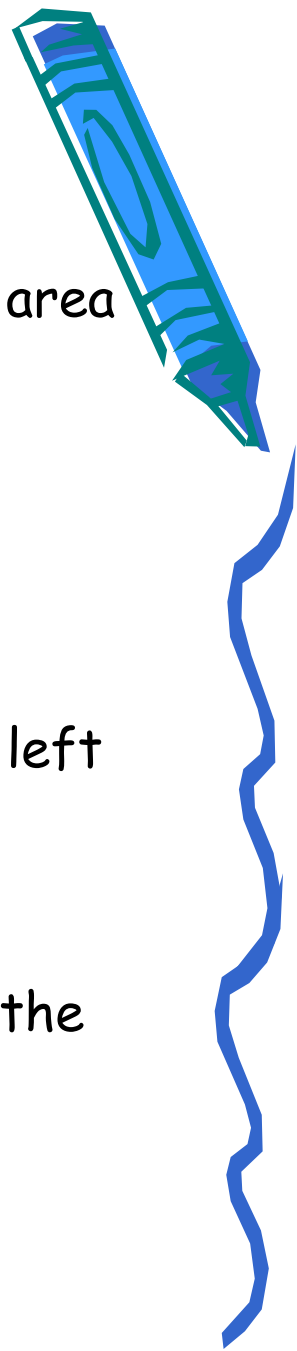




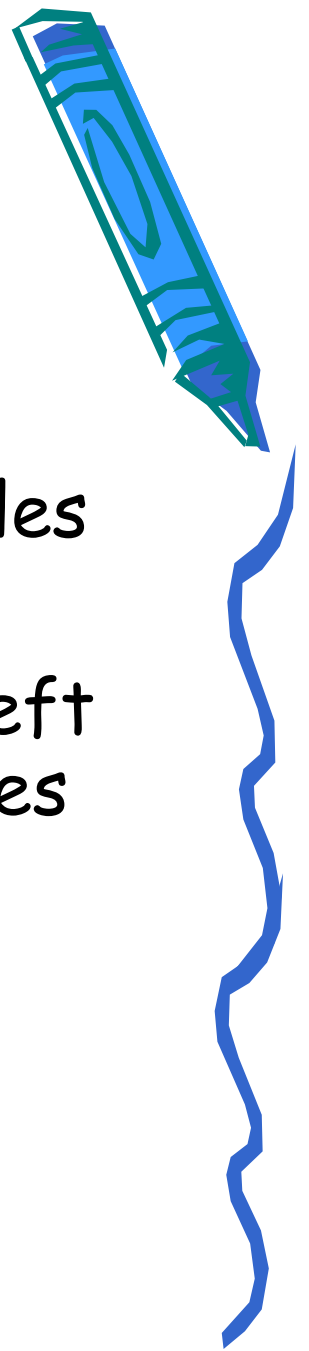
# Language areas of the brain

- 2 primary language areas: Broca's area and Wernicke's area
- Broca's area is in the left frontal lobe (near the left temple)
  - Responsible for vocabulary, syntax, and rules of grammar
- Wernicke's area is in the left temporal lobe (above the left ear).
  - Processes the sense and meaning of language.
- Emotional content of language is processed by areas in the right hemisphere.

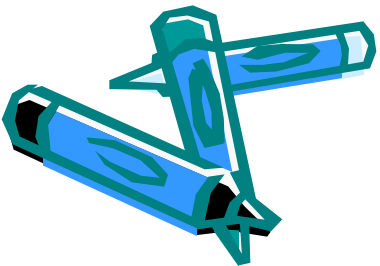
• The corpus callosum is a large bundle of neurons that connects the two hemispheres and allows them to communicate.



# Gender Differences



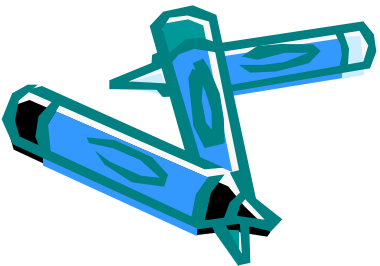
- More common for males to have speech/language difficulties than females
- Males tend to process language in the left hemisphere, females in both hemispheres
- Corpus callosum is larger and thicker in females than in males



# Precursor to Reading and Writing

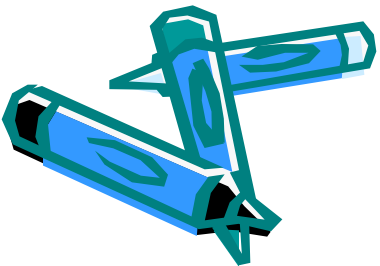


- Language is an innate-learned skill that is necessary for the learned skills to develop reading and writing.
  - Phonological awareness
  - Morphology and grammar
  - Vocabulary
  - narrative



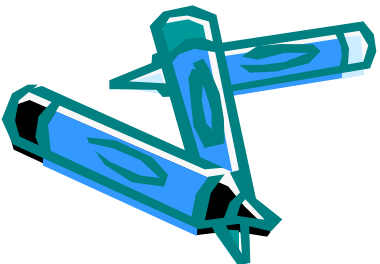
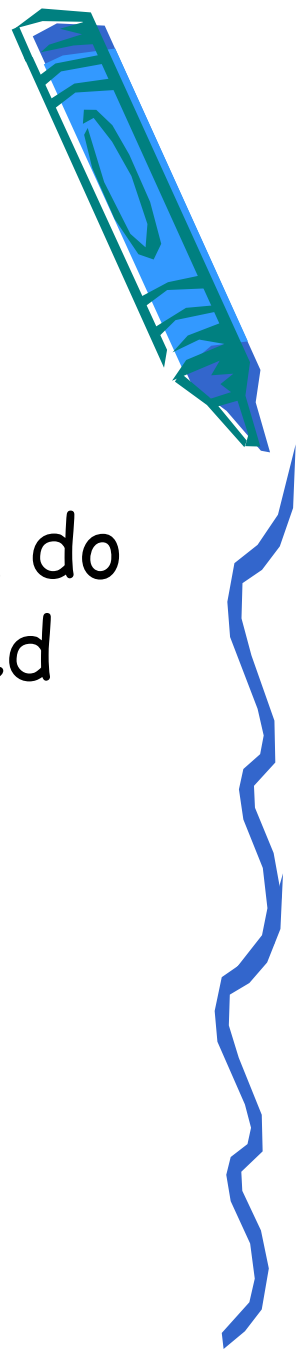
# Precursor to reading and writing

- Learned skills
  - Print concepts
  - Alphabet knowledge
  - Sound-symbol correspondence
  - Metalinguistic awareness

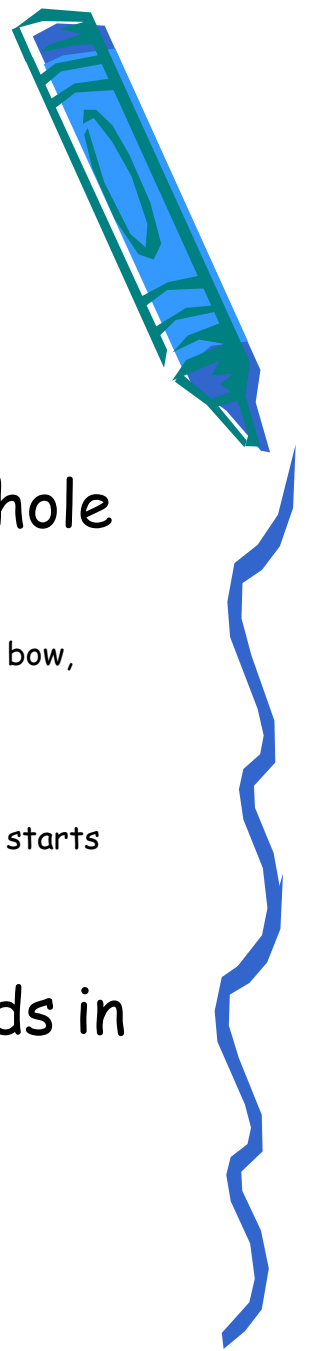


# Phonological Awareness

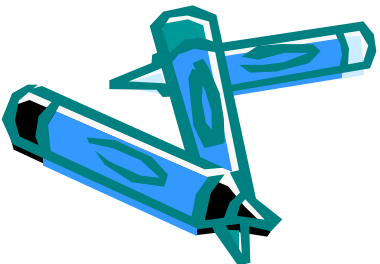
- Playing with (manipulating) speech and sounds...activities that you can do in the dark or with your eyes closed
  - Breaking sentences down into parts
  - Breaking words apart...segmenting, blending, deleting, inserting sounds
  - rhyming



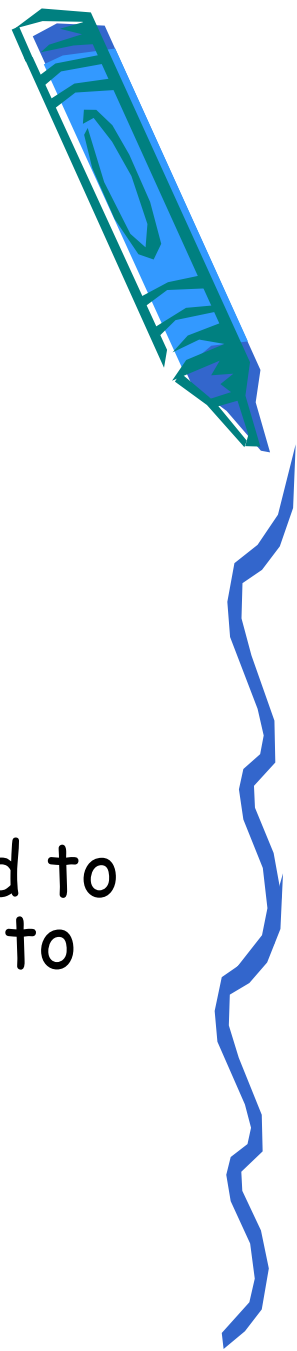
# Phonological Awareness Activities



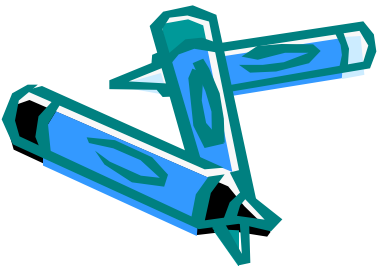
- Songs and Nursery Rhymes
  - Sing a song using the same sound for the whole song.
  - Change the first sound (row, row, row your boat becomes, bow, bow, bow your boat bently bown the beam).
  - Rhyming games
  - Make up your own songs to tunes (I know a word that starts with "t" ...Tool is a word that starts with "t")
  - Sound games (I'm going camping and I'm taking...)
  - Clap for # of words in sentence, # of sounds in word



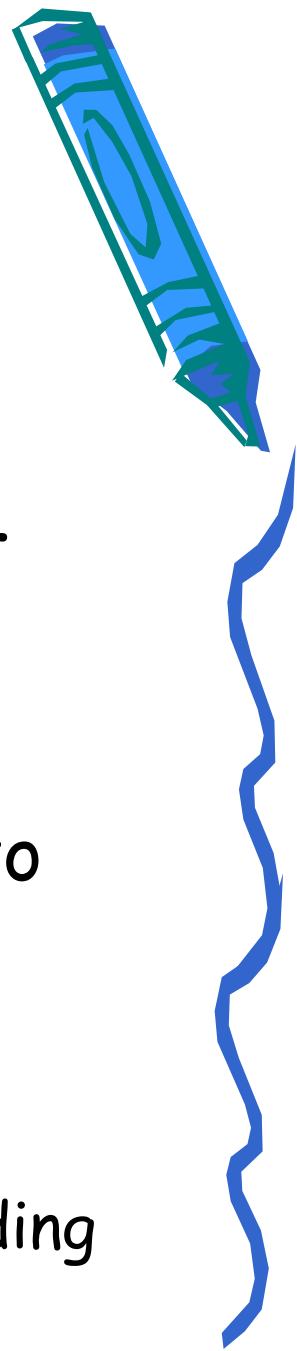
# Phonological Awareness development



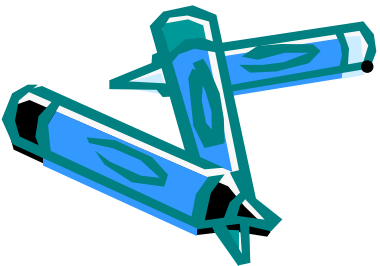
- Words as units of sentences by 4-5
- Syllables as units of words by 4-5
- Intra-syllabic segments around 5
- Phonemes as units of syllables by 6-7
  
- Phonological awareness ability is related to reading achievement "One cannot learn to read without some threshold of phonological awareness" (Justice, L 2005)



# Written Language Awareness

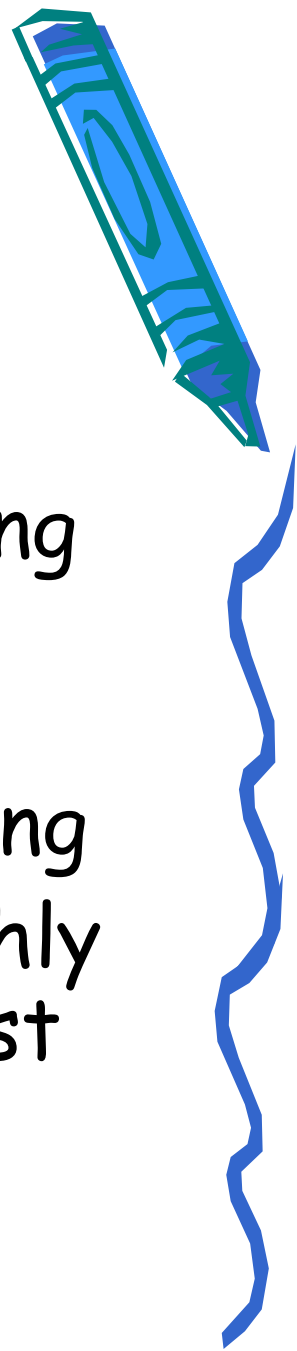


- Includes Print Concepts, Alphabet Knowledge and Environmental print reading
  - Print interest, print functions, print conventions, print forms, print part to whole relationships
    - Label items
    - Show words while reading
    - Talk about what you are doing while reading

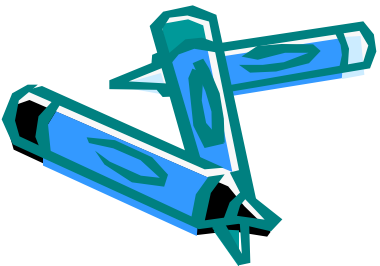




# Importance of written language awareness



- Letter naming is the single most important predictor of later reading
- Other written language awareness measures show moderate to high predictive validity with later reading
- Written language awareness is highly influenced by exposure and interest



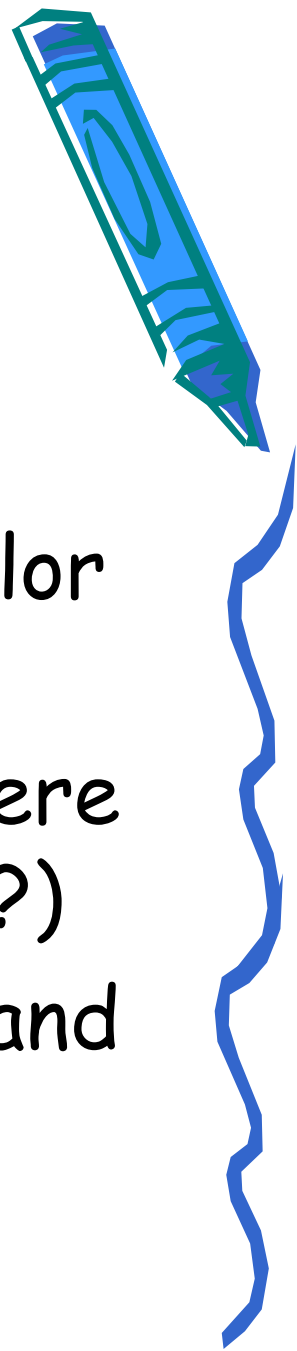
# Shared storybook reading



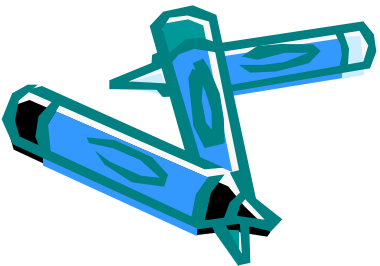
- **Dialogic reading** - gradually shifts storytelling role from adult to child - has been shown to increase children's oral language skills.
- **Complex Conversations** - conversations in books are more linguistically complex and challenging than children experience during their play.
- **Decontextualized language** - Exposes children to actions, events and ideas that are not in the "here and now".



# Shared Storybook Reading



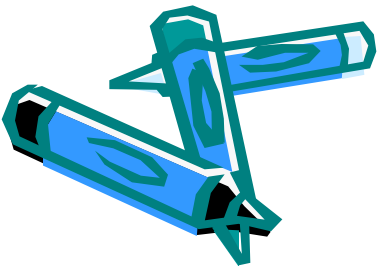
- Goal is active involvement
- Avoid test questions (e.g. What color is the dog?)
- Ask prediction questions (e.g., Where do you think the dog is going to go?)
- Model connections between story and life

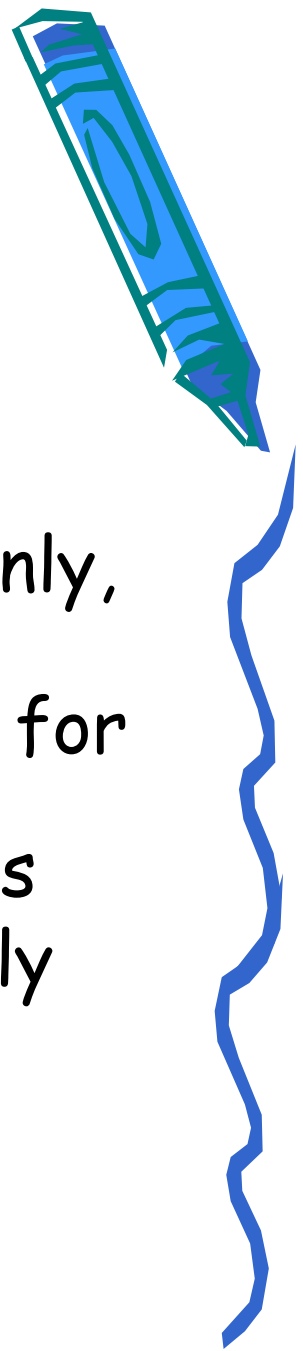


# Vocabulary

- 4 stages of vocabulary
  - 1 never heard it before
  - 2 heard it but don't know what it means
  - 3 in context I know it has something to do with...
  - 4 know it and use it

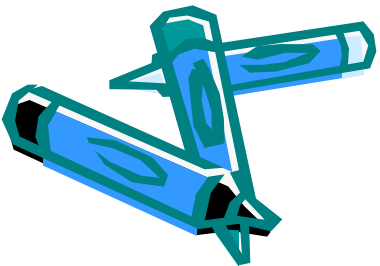
» (Beck, McKeown, & Kucan, 2002)





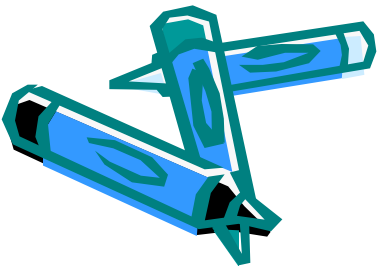
# Three tiers of vocabulary

- Tier one words - Basic words. Early speech and early reading words...mostly nouns and function words. Used commonly, everyone should know them.
- Tier two words - High frequency words for mature language users. all types of words...nouns, adjectives, adverbs, verbs
- Tier three words - Low frequency, highly specific to a subject. Mostly nouns.



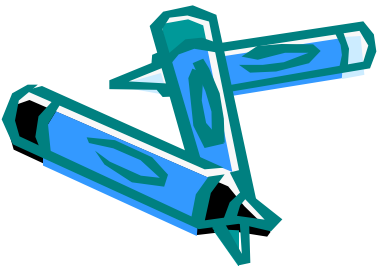
# Vocabulary development

- Before age 9 children learn vocabulary from spoken language, after age 9 they learn vocabulary from reading.
- Learn about 5 words a day
- Age 2 = 150-300 words
- Age 3 = 900-1000 words
- Age 4 = 1500-1600 words
- Age 6 = 6000 words



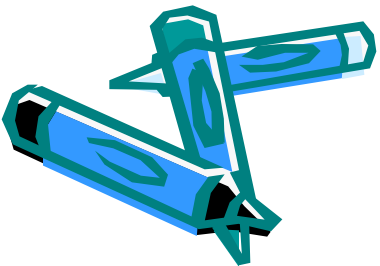
# Vocabulary Gap

- Children from poverty end up with a 30 million word vocabulary gap.
- Increase vocabulary by:
  - Shared storybook reading
  - Talk about what you're doing
  - Expanding
  - Categories - sorting toys



# Language Strategies and Activities

- Everyone come up with a few





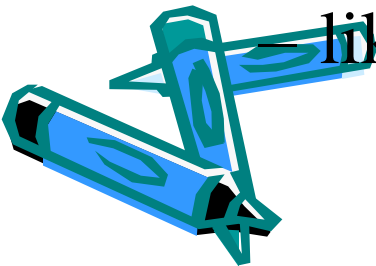
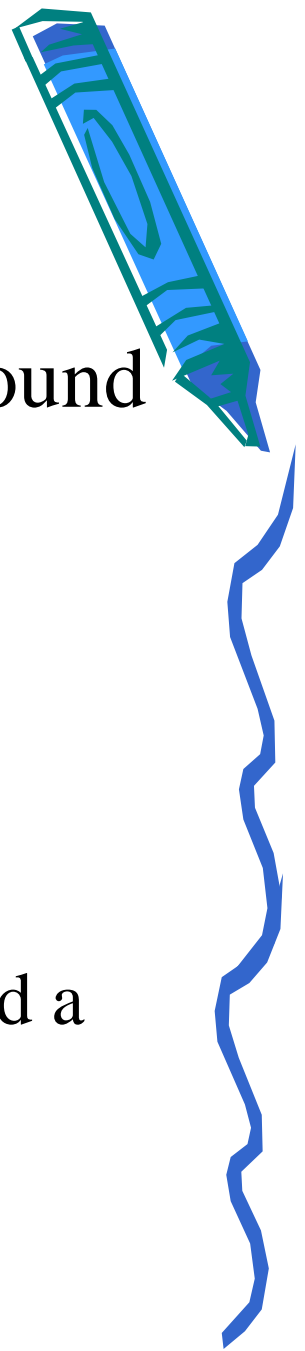
# FLuency

- Reduce the pace - "turtle talk"
  - Don't say "slow down" or "just relax"
- Listen with Undivided Attention
- Resist drilling with questions
- Ensure everyone takes turns when speaking
- Praise to build confidence
- Set aside special time
- Provide normal discipline
- Expect same quality and quantity of work

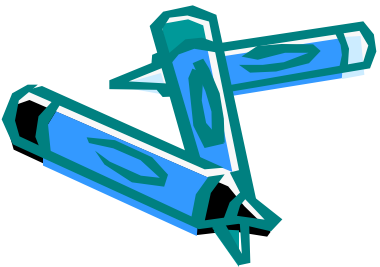
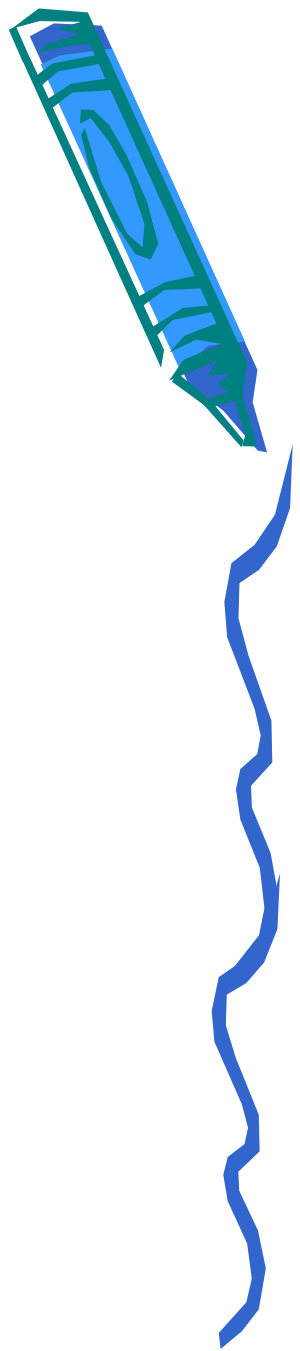


# Voice

- If you have a voice disorder, you may sound
  - hoarse or breathy
  - like you are talking out of your nose, (hypernasality)
  - like you have a cold and are stuffed up (hyponasality)
  - like your voice is too high or too low, called a pitch problem
  - like you are talking too loudly or too softly

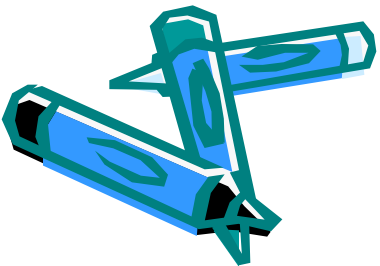


# Pragmatics



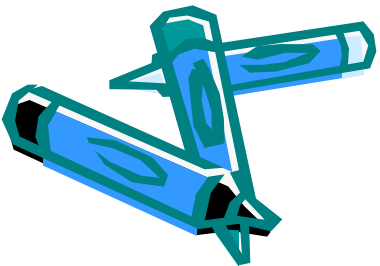
# More Activities

- Think of your child
- Homework plan

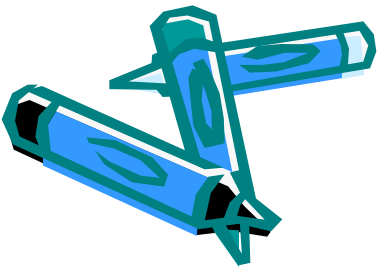


# Think of your child...

- Think of your child that you noted at the beginning.
- Make a homework plan for yourself with that child in mind.

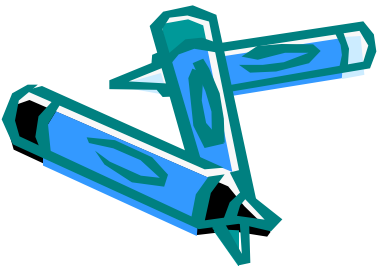


Where to go for help?

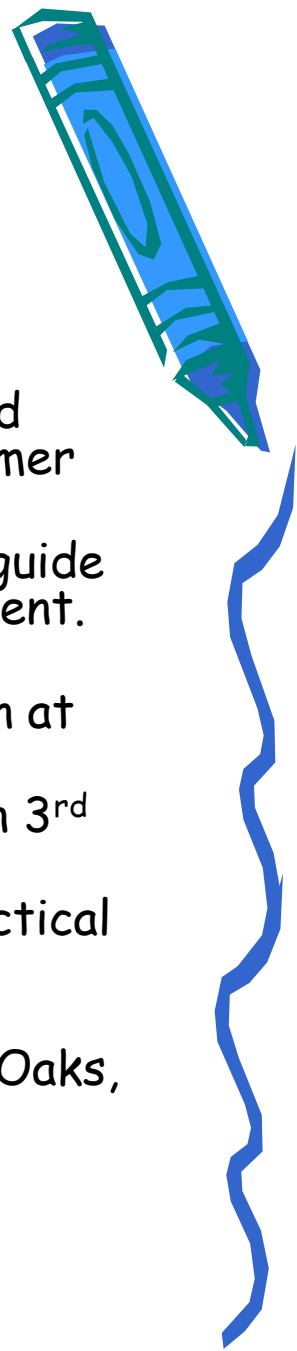


# Questions???

- Thanks for Coming
- Rosi Fry [rfry@sjboces.org](mailto:rfry@sjboces.org)
- Lauren Mulvaugh [lmulvaugh@sjboces.org](mailto:lmulvaugh@sjboces.org)
- Stephanie Pham [spham@sjboces.org](mailto:spham@sjboces.org)
- Martha Pyatt [mpyatt@sjboces.org](mailto:mpyatt@sjboces.org)



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