

# Phonological Awareness, Reading and Spelling

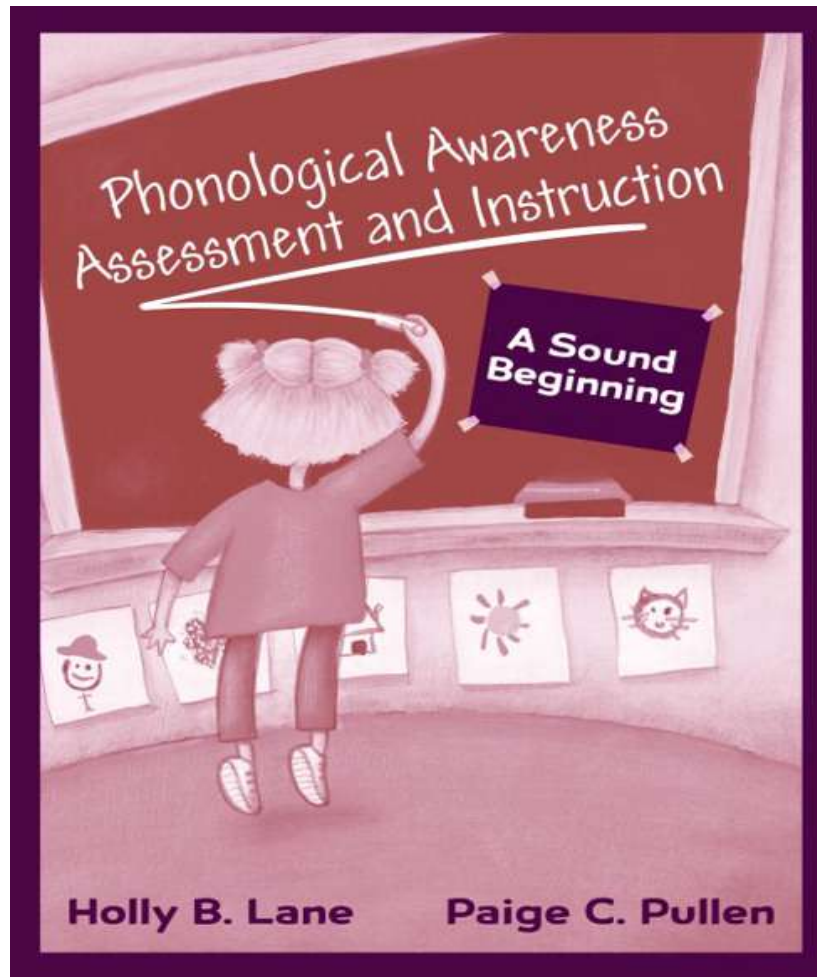
Sharon Walpole  
University of Delaware

Presented By: Dr. Sallie Mills  
Georgia Department of Education

# General Questions

- ▶ Do you have adequate understanding of the role of phonological awareness in word recognition and spelling?
- ▶ Does your reading program include adequate attention to instruction in phonological awareness?
- ▶ Does your reading program include a sensible plan for phonological awareness assessment?
- ▶ Does your reading program include adequate attention to intervention in phonological awareness?

# Today's Resource Book

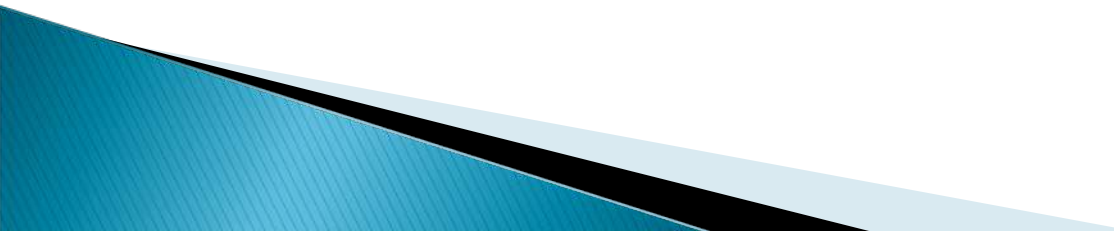


Test your understanding  
of Phonological  
Awareness. Answer true  
or false to the following

■

Survey of Knowledge taken from the Georgia Teacher's Academy

# We will answer these questions:

- ▶ Where does PA fit in the big picture?
  - ▶ Exactly what is PA?
  - ▶ How do I know who needs PA instruction?
  - ▶ What should PA instruction look like in my classroom?
- 

# 5 Dimensions of Reading

- ▶ Phonological Awareness
- ▶ Phonics
- ▶ Fluency
- ▶ Vocabulary
- ▶ Comprehension

# A Better Way to Think about the Five Dimensions of Reading

Phonemic Awareness

Phonics

Fluency

Vocabulary

Comprehension

Do not develop sequentially, but simultaneously:

Decoding Components

Phonemic Awareness

Phonics

Fluency

Meaning Components

Vocabulary

Comprehension

# Suggested Kindergarten Diet

Phonemic awareness	15% (Not more than 20 minutes per day)
Phonics / Decoding	20%
Fluency / Automaticity	20%
Vocabulary	35%
Comprehension	10%



# Suggested First Grade Diet

Phonemic awareness	15%
Phonics / Decoding	25%
Fluency	20%
Vocabulary	20%
Comprehension	20%

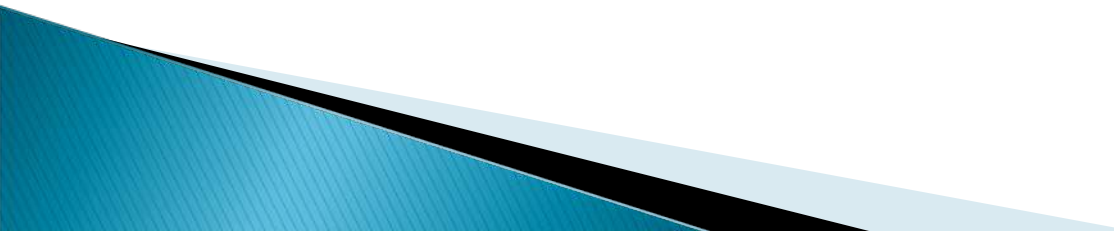
# Suggested Second Grade Diet

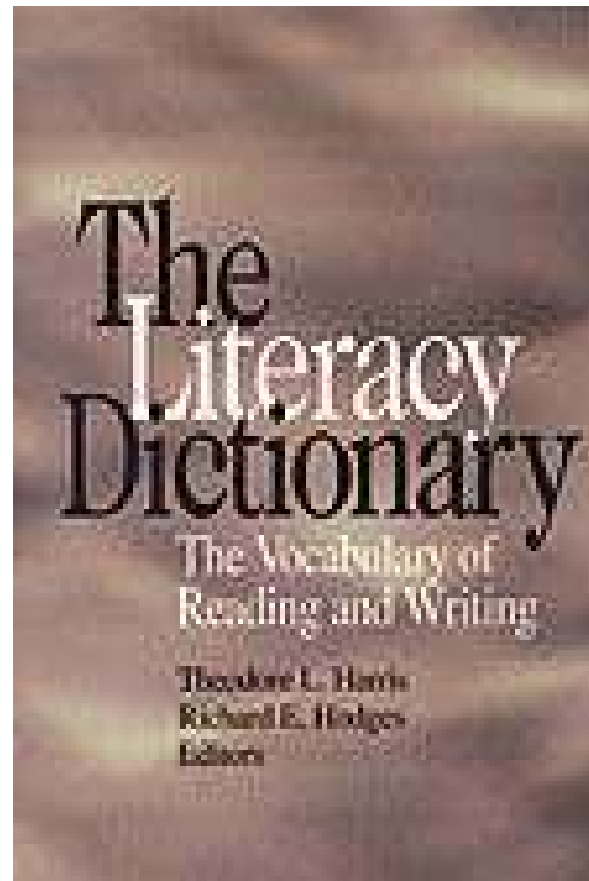
Phonemic awareness	
Phonics / Decoding	10%
Fluency	40%
Vocabulary	20%
Comprehension	30%

# Suggested Third Grade Diet

Phonemic awareness	
Phonics / Decoding	10%
Fluency	35%
Vocabulary	20%
Comprehension	35%

# We will answer these questions:

- ▶ Where does PA fit in the big picture?
  - ▶ Exactly what is PA?
  - ▶ How do we know it is important?
  - ▶ How do I know who needs PA instruction?
  - ▶ What should PA instruction look like in my classroom?
- 



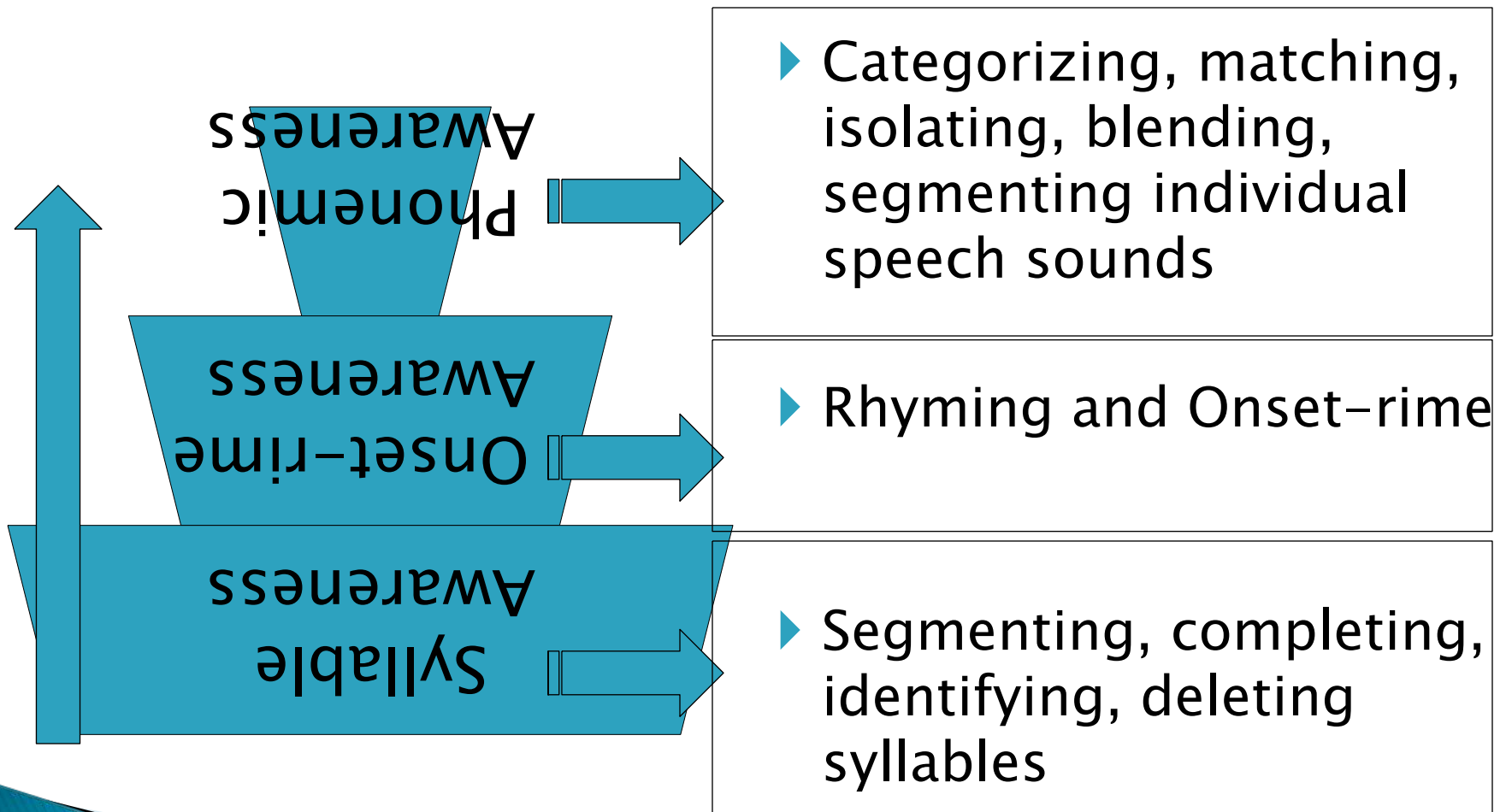
phonological awareness	awareness that words are made up of individual sounds
grapheme	a written or printed representation of a phoneme, as <i>b</i> for /b/ and <i>oy</i> for /oy/ in <i>boy</i> . ..can be a single letter or a group of letters.
phoneme	smallest unit of sound that influences the meaning of a word in a spoken /m/ + /a/ + /n/ = man

morpheme	smallest meaningful word part that cannot be divided into, as the word <i>book</i> , or the component <i>s</i> in <i>books</i>
phonics	teaching reading and spelling through sound–symbol relationships, the alphabetic principal

Source: *The Literacy Dictionary* (IRA)



# Levels of Phonological Awareness





# Onset and Rime

- ▶ Onset = All letters in a syllable preceding the vowel
- ▶ Rime = All the rest of the letters in the syllable

Onset	Rime
B	eet
Fl	eet
Str	eet

# Onset and Rime

# Rhyme

*Written,  
and may  
be in only  
one word*

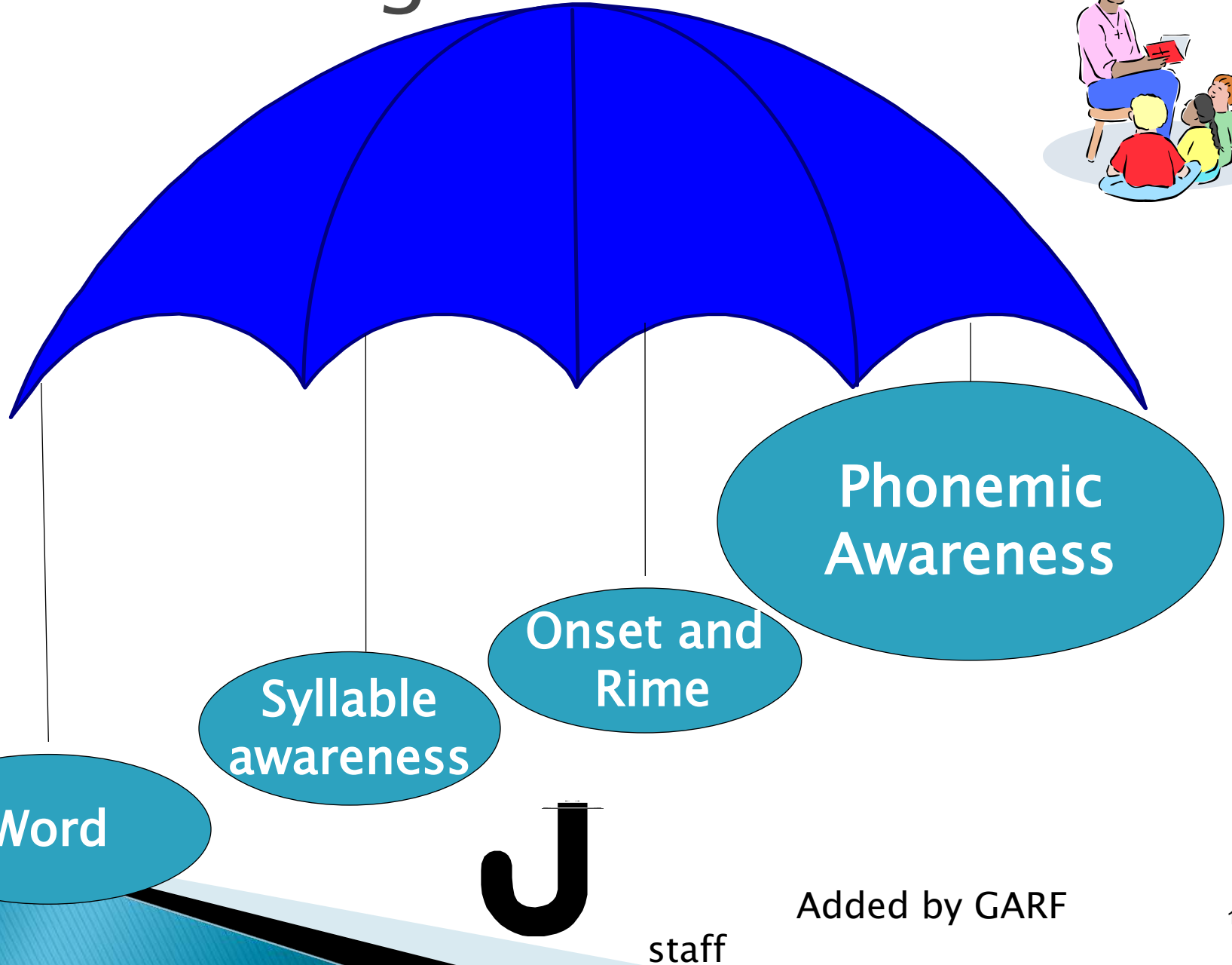
- B–eet,
- m–eat

*Last part  
of syllable  
is treated  
separately  
from the  
first*

*Oral and  
Written, must be  
at least two  
words*

- Beet, fleet
- Beat. street

# Phonological Awareness



Added by GARF

# Phonemes: 25 consonant (Gillon)

<b>bag</b>	<b>pie</b>	<b>the</b>	<b>go</b>	<b>tap</b>
<b>fir, cuff phone,</b>	<b>van</b>	<b>ring</b>	<b>lake, bell</b>	<b>wet</b>
<b>had</b>	<b>yes</b>	<b>teeth</b>	<b>measure</b>	<b>where</b>
<b>cat, key, duck</b>	<b>sun, miss, science, city</b>	<b>nail, know</b>	<b>jump, gem, rage, bridge</b>	<b>zoo, rose, buzz</b>
<b>mat</b>	<b>sheep</b>	<b>dog</b>	<b>rain, write</b>	<b>cheese, watch</b>

# 16 Vowel Phonemes (Gillon)

cat	sit	cup	wet, bread	box, saw, fraud
cake, rain, day, eight	my, tie, fine	boot, true, blew	tree, key, eat, happy	so, oak, ode, show
car		book, put	bird, fur, fern	for
		boy, coin		cow found

	Continuous	Stop
Voiced	a, e, i, o, u l m n r v w y z	b d g j
Unvoiced	f s	c h k p t


Q

X

# Phoneme Counting

shoe	spray	so	she
squid	sap	fox	smart
tax	three	thrift	thump
thrice	thought	though	threat

# Phonological Awareness

- 
- ▶ Phonemic Awareness  
    blending , segmenting, deleting
  - ▶ Onset–Rime
  - ▶ Syllable
  - ▶ Sentence Segmentation
  - ▶ Alliteration
  - ▶ Rhyme

Added by GARF staff



# Do you know the difference between PA and Phonics activities?

Clue:

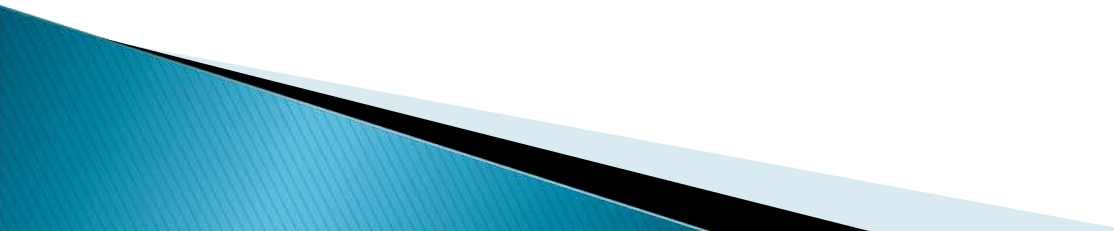
- ▶ PA is the ability to orally manipulate sounds.
- ▶ Phonics is the connection of a sound to a letter.

Note: /-/ indicates the sound that the letter makes

	PA	Phonics	Neither
• Write the word “pat” by sounding it out.			
2. What word rhymes with “pat”?			
3. The letters “ai” together say /ā/. *			
4. What sound do you hear at the beginning of “pat”?			
5. What letter do you hear at the beginning of “pat”?			
6. Find the two pictures that start with the sound /b/.			
7. Write the alphabet.			
8. Write your name.			
9. What sounds do you hear in “pat”?			

	PA	Phonics	Neither
10. Let's clap the syllables in "banana."			
11. What word is the robot saying? /t/a/p/ *			
12. What word do we get if we drop the /s/ from "scat"? *			
13. Write the word cat. Add the letter that makes the /s/ sound to the front. What word is it?			
14. Put these words in a-b-c order.			
15. Let's play the Game, "Anna, Banna, bo-banna, Fee-fi-fo-fanna."			

# We will answer these questions:

- ▶ Where does PA fit in the big picture?
  - ▶ Exactly what is PA?
  - ▶ How do we know it is important?
  - ▶ How do I know who needs PA instruction?
  - ▶ What should PA instruction look like in my classroom?
- 

# Juel, 1988

(Landmark Study)

## Simple View of Reading

Reading =  
Decoding X Listening Comprehension  
(a poor reader is either a poor decoder, a weak  
comprehender, or both)

# Juel, 1988

## ► Subjects

- 54 children (of 129) who remained in a school from first through fourth grade

## ► Low-SES school (but free/reduced-priced lunch numbers not reported)

- 31% African American
- 43% Hispanic
- 26% White

# Juel, 1988

Measures (generally Oct/April each year)

- ▶ Phonemic awareness
- ▶ Pseudoword decoding
- ▶ Word reading from basal series
- ▶ Word reading from standardized tests
- ▶ Listening comprehension from standardized test
- ▶ Reading comprehension from standardized test
- ▶ Spelling from standardized test
- ▶ IQ in second grade
- ▶ Writing samples
- ▶ Oral story samples

# Juel, 1988

Do the same children remain poor readers year after year?

*Yes. If a child was a poor reader at the end of first grade ( $ITBS < 1.2$  GE) probability .88 that he/she would be below grade level at the end of fourth grade*



# Juel, 1988

What skills do poor readers lack?

- ▶ *They began first grade with weak phonemic awareness.*
- ▶ *They ended first grade with improved (but still weak) phonemic awareness.*
- ▶ *They had weak pseudoword decoding ability at the end of first grade, and it continued through the fourth grade.*

# What about the Simple View?

There were 30 poor readers at the end of fourth grade:

- ▶ 28 were poor decoders
  - 25 of these ALSO had poor listening comprehension
- ▶ 2 were good decoders with poor listening comprehension

# What factors seemed to keep poor readers from improving?

- ▶ *Poor decoding skills! (and then less access)*
- ▶ *In first grade, good readers had seen over 18,000 words in their basals; poor readers had seen fewer than 10,000.*
- ▶ *In second grade, few children reported reading at home, but in third and fourth grades, average and good readers read much more.*

# Juel's Conclusions

1. Phonemic awareness is critical to learning to decode.
2. Success in learning to decode during first grade is critical.
3. Struggling readers need to be motivated to read and need attention to development of listening comprehension.

## Other Evidence (lots of it)

Torgesen, Wagner, & Rashotte (1994)

- ▶ Phonological processing skills before reading instruction begins predict later reading achievement
- ▶ Training in phonological awareness and letter-sounds enhances growth in word reading
- ▶ Older good and poor readers have different phonological processing skills
- ▶ When we measure different phonological skills, we find them correlated
- ▶ Phonological awareness in kindergarten is *causally* related to decoding in first grade

# Bradley and Bryant (1983)

Testing of over 400 4- and 5-year-olds, none of whom could read

Initial sound categorization (odd man out) related to reading and spelling 3 years later

Training study

Group I	Group II	Group III	Group IV
Picture sorts for beginning, ending, medial sounds	Same sorts, but plastic letters to show the common sound	Same pictures, but sort into semantic categories	No training

Sorting plus letters group (Group II)  
outperformed both controls (Groups III & IV)  
in reading and spelling

Sorting plus letters group outperformed  
sorting only (Group I) in spelling (but not in  
reading)



# Blachman et al., 1999

## Sample

159 kindergarten children (84 treatment)

Low-average PPVT (mean SS = 91)

85% free/reduced-price lunch

Average letter sounds = 2 (Jan., K)

## Treatment

41 15–20 minute lessons

Heterogeneous groups (4–5) working with teacher and/or paraprofessional

# Blachman et al., 1999:

## Kindergarten Lessons

1. Phoneme segmentation activity  
Say it and move it
2. (children hear word, isolate individual sounds while moving disks, then blend sounds to make word again)

Segmentation-related activity

2. (initial consonant picture sorts)
- Letter name and sound practice for  
a,m,t,l,s,r,f,b

# Blachman et al., 1999:

## Kindergarten Results

Significant differences between treatment and control for

- Phoneme segmentation
- Letter names
- Letter sounds
- Word reading
- Nonword reading
- Spelling

# First Grade Lessons

- ▶ Not all children made the same amount of progress in the program; continue to intervene during first grade
- ▶ Homogeneous reading groups (6 to 9 children) used in the classroom for 30 minutes in place of basal reading group

# Blachman et al., 1999, First Grade Lessons

1. Review of letter sounds, with cards
2. Phoneme blending/analysis for regular words using pocket charts and letter cards
3. Automaticity with phonetically regular and high frequency words
4. 10–15 minutes of reading from phonetically controlled texts
5. Dictation of words and sentences

# Blachman et al., 1999, First Grade Results

Treatment children outperformed control children in phoneme segmentation, in letter name knowledge, in letter sound knowledge, and in reading

# Blachman et al., 1999, Second Grade

Instruction was continued for children who remained in second grade; again they outperformed the control group in measures of reading, but not spelling

# Juel, 1988 & Blachman et al., 1999

These two studies provide two pictures that contribute to scientifically-based reading research. How do the instructional approaches here compare to the programs implemented in your schools?



# We will answer these questions:

- ▶ Where does PA fit in the big picture?
- ▶ How do we know it is important?
- ▶ Exactly what is PA?
- ▶ How do I know who needs PA instruction?
- ▶ What should PA instruction look like in my classroom?

# PA Assessments

Add these to your assessment toolkit:

- ▶ DIBELS ISF and PSF
- ▶ Yopp–Singer
- ▶ Holly Lane /Paige Pullen

# DIBELS PSF

## Phoneme Segmentation Fluency

- ▶ Let's test your phonemic awareness.
- ▶ Are you as phonemically aware as we ask kindergartners to be?

Added by GARF staff

# Yopp-Singer

Find your copy  
and  
review it with your partner.

Added by GARF staff

# Holly Lane/Paige Pullen Assessment

LET'S TRY IT!

Partner #1:

Administer Tapping Words pg. 103

Partner #2:

Administer Deleting Syllables pg. 104

# What should I do with the results?

- ▶ Analyze the data.
- ▶ Group students based on their instructional needs.
- ▶ Plan instruction to address the needs of each group as identified through informal testing.
- ▶ Provide explicit, systematic instruction daily.
- ▶ Monitor progress and adjust instruction.

# Sum It Up!

What should you consider when  
assessing PA?

Whom should you assess?

# We will answer these questions:

- ▶ Where does PA fit in the big picture?
- ▶ How do we know it is important?
- ▶ Exactly what is PA?
- ▶ How do I know who needs PA instruction?
- ▶ What should PA instruction look like in my classroom?



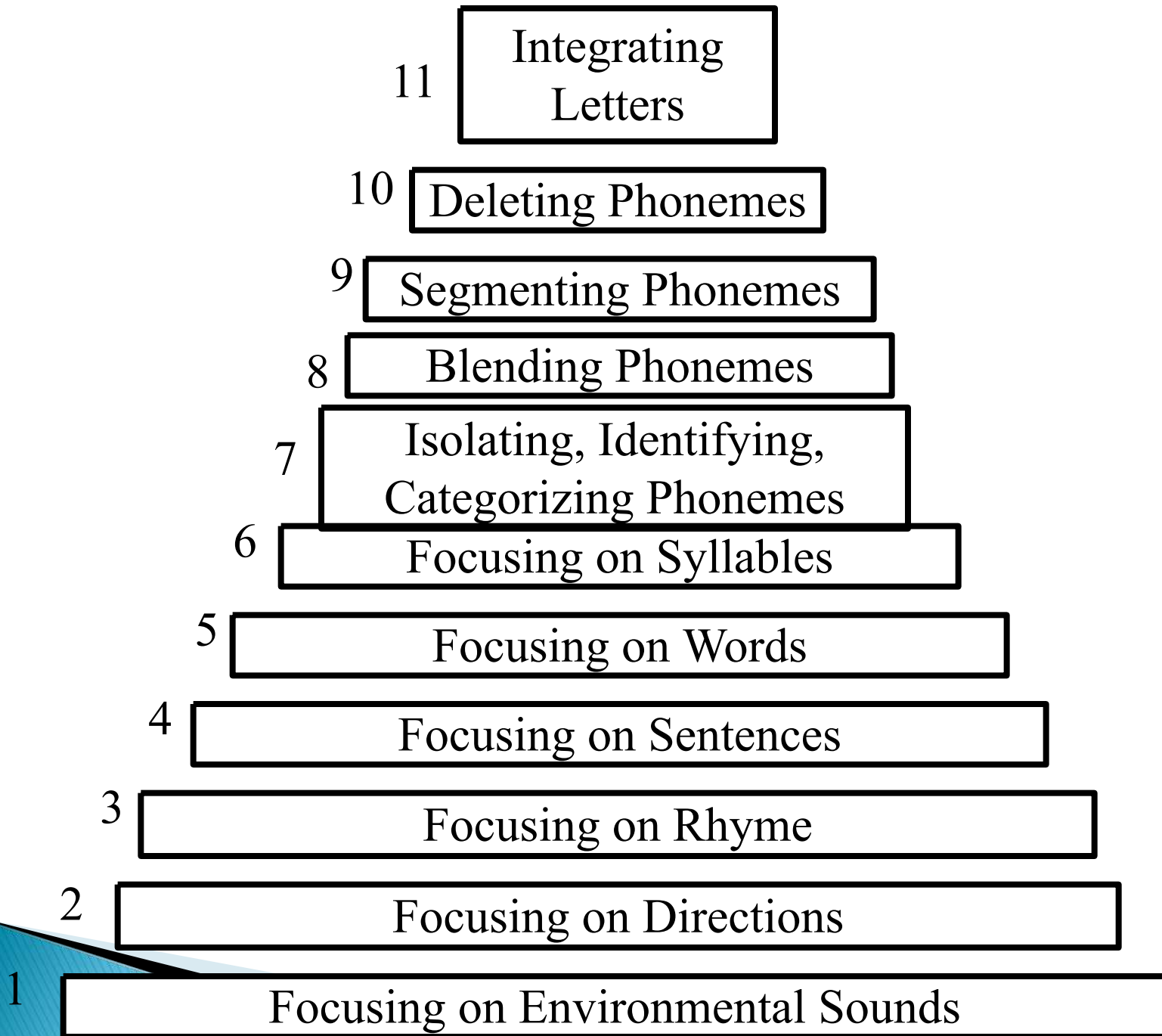
# Georgia Performance Standards

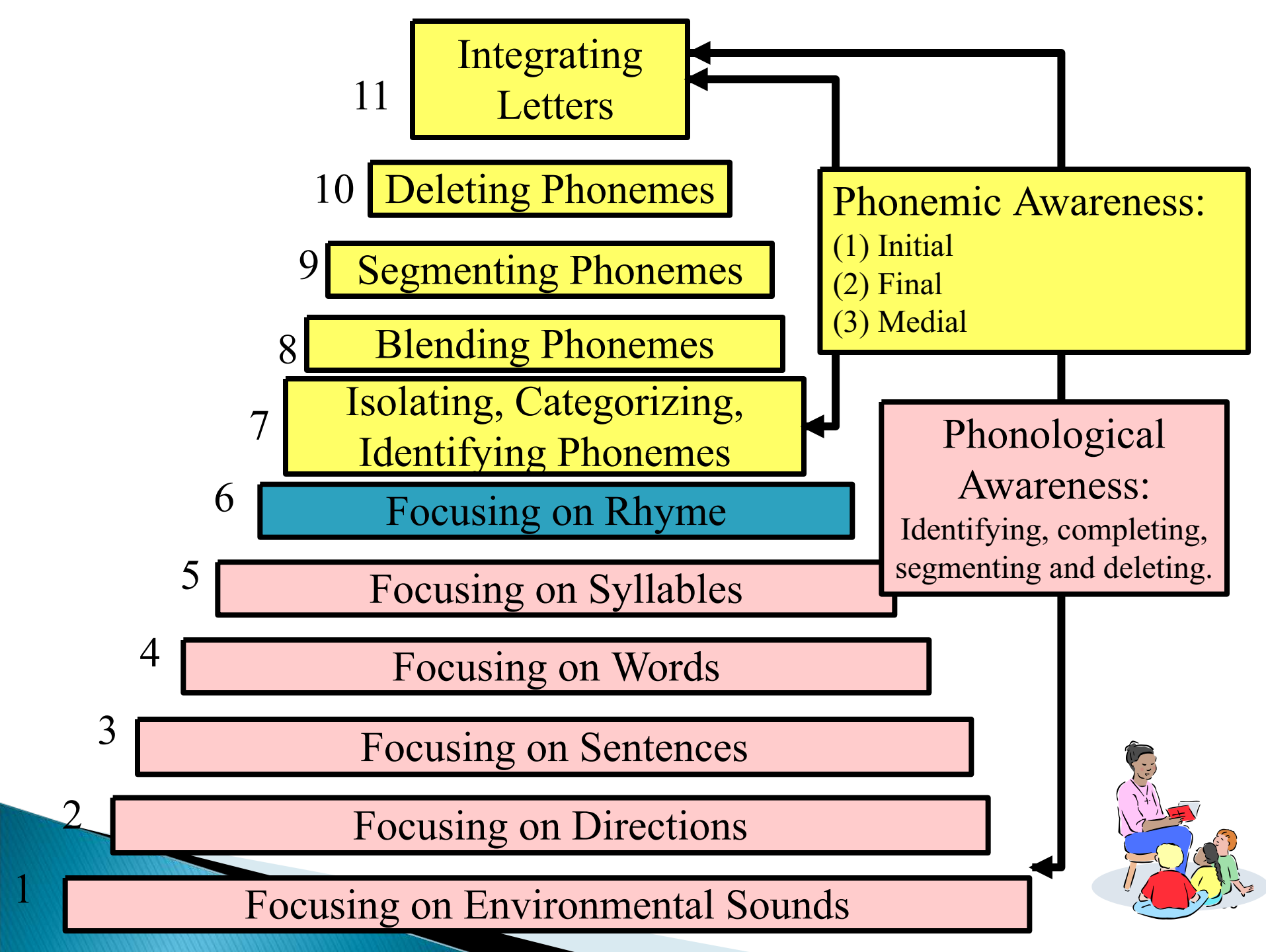
Let's find out how PA is addressed in the GPS at various grade levels.

Note: The information in the next 11 slides is taken from

*Phonemic Awareness in Young Children,*  
Marilyn Jager Adams, et al., 1998,  
and

*Phonological Awareness  
Assessment and Instruction,*  
Lane & Pullen, 2004.





Integrating  
Letters

11

10

Deleting Phonemes

9

Segmenting Phonemes

8

Blending Phonemes

7

Isolating, Identifying,  
Categorizing Phonemes

6

Focusing on Rhyme

5

Focusing on Syllables

4

Focusing on Words

3

Focusing on Sentences

2

Focusing on Directions

1

Focusing on Environmental Sounds




# Activities Sort

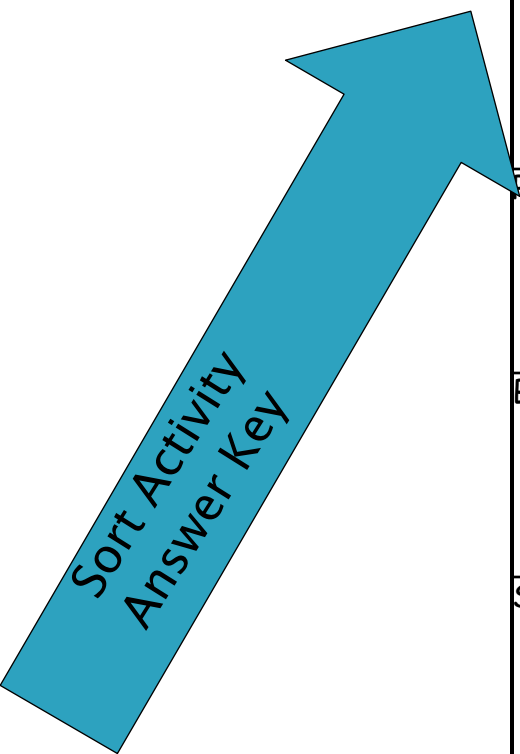
There are 6 types of PA skills (yellow) in your envelopes, with 3 examples of each: easy, moderate, difficult (white).

---

1. Match the types of skills (yellow) with the activities (white).
2. Arrange the activities (white) in order by difficulty.



1	1	2	3
2			
3			
4			
5			
6			

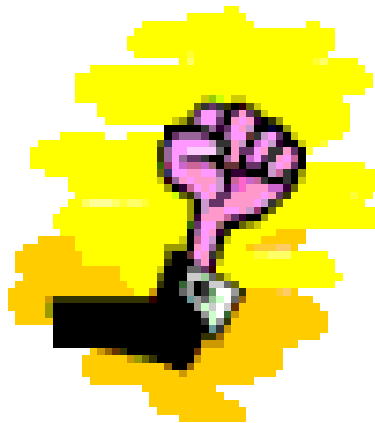


Syllable segmentation	How many syllables in teddy?	How many syllables in elephant?	How many syllables in anatomy?
Rhyme	Do cat and car rhyme?	Mat, sun, cat. Which doesn't rhyme?	Tell me words that rhyme with bat.
Phoneme identity	What's the first sound in man?	What's the last sound in mat?	What's the middle sound in tip?
Blending	C-at. What word?	D-o-g. What word?	S-t-o-p. What word?
Segmenting	Cat. Say the first sound and the rest.	How many sounds in sit?	How many sounds in stop?
Deletion	Say cowboy without the boy	Say part without the /p/.	Say step without the /t/.



When you are modeling a segmenting activity, be sure:

- ▶ That you make the sounds cleanly—without the -uh
- ▶ That you use your left hand facing forward



Let's try a

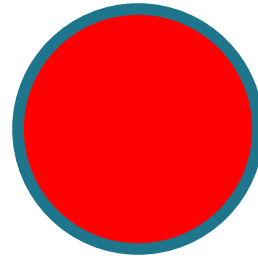
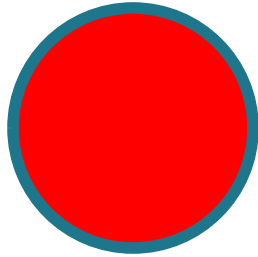
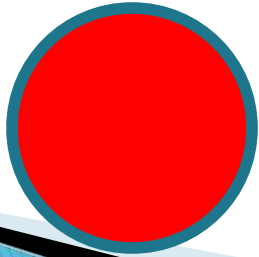
Say It, Move It Activity

without and with letters!!



# Say-it, Move-it

/c/ /a/ /t/



# Say-it, Move-it

/c/ /a/ /t/



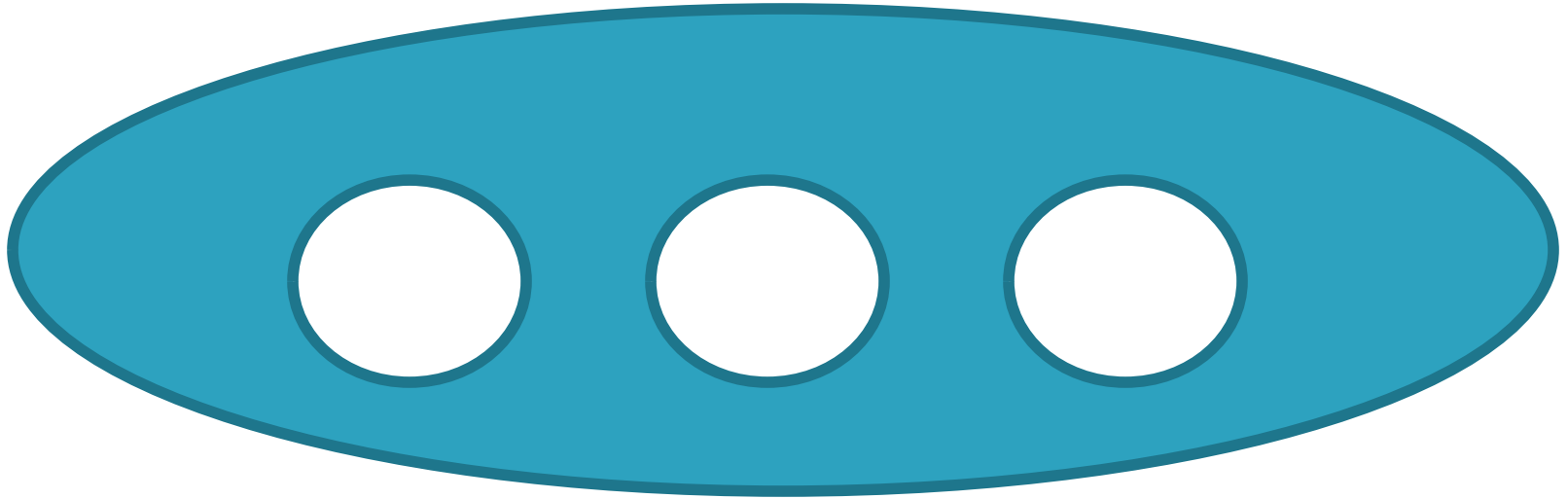
# Elkonin Boxes

One of the earliest researchers to link phonological awareness to reading was Elkonin (1963), a Russian psychologist. He developed a method of teaching children to segment the sounds in a word by moving markers into boxes on a piece of paper, hence the name "Elkonin boxes". This early use of Elkonin boxes to assist in the development of phonological awareness has since been adapted to accomplish many related objectives. Elkonin boxes may be used in several ways to help students hear the sounds in words and record the sounds in sequence.

**Count the sounds in a word.**

**Draw one box for each sound.**

**Using chips to represent sounds at first, move a chip into each box as the word is repeated slowly. Then insert the letter(s) for each sound into the boxes.**



# Let us “get up close and personal” with your book

- ▶ We will form 6 groups.
- ▶ You will sign up under a listed chapter. Please only sign where there is an available space for your name.
- ▶ Each group will become familiar with one of the chapters in the book.
- ▶ The group will decide on 2 or 3 activities to demonstrate for the class.(Ch. 6 and 7 have two groups)
- ▶ Please include the name of the activity and level of PA it addresses.

# Word Level Activities

**Hopping Words**: Children hop once for each word in a sentence.

**Counting Words**: Using bead strings or tally marks on a page, children count the words in a sentence.

**Silly Sentence Switching**: The teacher says a sentence. The first child changes one word in that sentence. After hearing the new sentence, the next child switches one word in the new sentence.

**Adding Attributes**: Using a picture or toy as the stimulus, each child adds a one-word attribute to the description.

**Matchsticks**: Each child is provided with a picture card (mounted on a stick) that represents one word of a compound word. Children find another child to combine words with to form a compound word.



# Syllable Level Activities

## Clapping/Tapping Syllables:

Children clap/tap once for each “word part” in a multisyllabic word.

## Counting Syllables With Picture Cards:

Select a picture card from the stack. Children clap or tap the number of syllables.

Variation: Each child has a picture card. They sort themselves in groups according to the number of syllables in their picture.

# **Syllable Level Activities** (continued)

## **Highlighting Syllables:**

After reading a book to children, the teacher takes the children back through the book looking for words with a given number of syllables. Each word found is highlighted with highlight tape.

## **Syllable Sorting:**

Children sort picture cards into categories according to the number of syllables in each word.

## **Junk Box Rock:**

A child chooses a toy from the “Junk Box”. The child names the item and does the “Junk Box Rock” by rocking his/her hips from side to side for each syllable.

# Onset-Rime Level Activities

## **Word Bird:**

A child says a word and tosses a beanbag (“bird”) to a classmate, who must generate a rhyming word. Continue around the circle of children.

## **CLUMP!:**

Each child is provided a picture card. When the teacher says “Clump!” the children walk around the room looking for classmates who have words that rhyme with theirs. They “clump” with these classmates.

## **Rime Graphing:**

Using the cards from the “Clump!” activity, children place their card in a pocket chart next to the phonogram for their word. The teacher can guide the children in determining which rimes are most important to know based on how many words it appears in.

# Onset – Rime level Activities

(continued)

## Rhyming Pairs:

Using a poem chart, the teacher covers the second word in a rhyming pair and asks children to generate possible words to go in the blank.

## Alphabet Sponging:

With wet sponges cut into alphabet shapes (onset and rime sponges), children make lists of words in the same word family on construction paper.

# Phoneme Level Activities

## Sound Detective:

Given a target phoneme, children determine which words on a list begin or end with that sound. Start this activity by listening for words that begin with the target sound. Then have children listen for words that contain the sound in the medial or final position.

## Sound Play:

Children practice inserting or deleting individual sounds in words to form new words. (Inserting—"Say cat. Now add a /s/ to the end of cat. Deleting—"Say Mike. Now say Mike without saying /k/.")

## Bead Counting:

Children use bead strings to count individual phonemes within a given word.

## Sound Bingo:

The teacher calls out a sound, children find pictures on their cards that represent a word with the same beginning sound.

# Phoneme Level Activities (continued)

## I Spy!:

The teacher finds an item in the classroom that begins with a target sound and says, “I spy something that begins with \_\_\_\_”.

The children try to guess the item.

## Sound Hound:

Played much like “Old Maid” but with picture cards that have pair sets with matching beginning sounds and one “Sound Hound” card.

Robbie Robot: Robbie can only say and understand words that are spoken one sound at a time.

## Say It, Move It:

Say a word. Count the phonemes in the word. Repeat the word slowly, moving a chip down to the arrow as you say each sound. Then blend the sounds and say the word fast as you sweep your finger under the chips on the arrow.

# Sum It Up

What activities will you use  
in your classroom?

# How should I choose and use these activities?

- Consider student needs based on data.
- Consider grade level.
  - 2<sup>nd</sup> grade and above should focus on segmenting and blending phonemes.
- Choose only one or two PA skills to work on daily.
- Consider the levels of difficulty on hierarchy.
- Prepare word lists to use with each activity.
- Repeat the same activities, changing the words used as needed.



# LET'S REVIEW

What do we know about phonemic awareness instruction with sufficient confidence to recommend for classroom use?


# Review of Findings from NRP

- ▶ PA training improves phonemic awareness.
- ▶ PA training improves decoding.
- ▶ PA training improves spelling.
- ▶ PA training improves comprehension.
- ▶ PA training works for pre-k, K, 1 and older disabled readers.
- ▶ PA training works with high- and low-SES children.
- ▶ PA training does not improve spelling for reading-disabled students.

- ▶ PA training works in English and in other languages.
- ▶ Many different activities can be used in the trainings; however a focus on one or two skills appears more effective than more at one time.
- ▶ Blending and segmenting are most powerful.
- ▶ Using letters in training is better than not using them.
- ▶ Over learning letter names, shapes, and sounds should be emphasized along with PA training.

- ▶ Between 5 and 18 hours yielded the strongest effects. Longer programs were less effective. (But the panel cautioned against making “rules” about time.)
- ▶ Regular classroom teachers can effectively implement the training.
- ▶ Small groups were more effective than whole class or tutoring.

# So what can we do with what we know?

1. Use assessments to screen in K and 1<sup>st</sup> grade to identify students at risk in PA.
  2. Use instructional programs and activities that develop phonological awareness.
  3. Use assessments to monitor progress and inform instruction.
  4. Use intervention programs for those children at risk in PA.
- 

# Did we answer these questions?

- ▶ Where does PA fit in the big picture?
- ▶ How do we know PA is important?
- ▶ Exactly what is PA?
- ▶ How do I know who needs PA instruction?
- ▶ What should PA instruction look like in my classroom?

- Adams, M. J. (1994). Modeling the connections between word recognition and reading. In R.B. Ruddell & N.J. Unrau, (Eds.), *Theoretical models and processes of reading* (54<sup>th</sup> ed.) (pp. 838–863). Newark, DE: International Reading Association.
- Adams, M. J., et al., (2002) *Phonemic Awareness in Young Children*. Paul H. Brookes Publishing Co.
- Blachman, B.A., Tangel, D.M., Ball, E.W., Black, R., & McGraw, C. (1999). Developing phonological awareness and word recognition skills: a two-year intervention with low-income, inner-city children. *Reading and Writing: An Interdisciplinary Journal*, 11, 239–273.
- Bradley, L., & Bryant, P.E. (1983). Categorizing sounds and learning to read: A causal connection. *Nature*, 301, 419–421.
- Coltheart, M. (1978). Lexical access in simple reading tasks. In G. Underwood (Ed.), *Strategies of information processing* (pp. 151–216). London: Academic Press.
- Ehri, L.C., & McCormick, S. (1998). Phases of word learning: Implications for instruction with delayed and disabled readers. *Reading and Writing Quarterly: Overcoming Learning Difficulties*, 14, 135–163.
- Gillon, G. T., (2004). *Phonological awareness: From research to practice*. New York: Guilford Press.
- Harris, T.L., & Hodges, R. E. (Eds.) (1995) *The Literacy Dictionary: The Vocabulary of Reading and Writing*. International Reading Association.

- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.
- Ruddell, R.B., & Unrau, N.J. (2004). *Theoretical models and processes of reading* (5<sup>th</sup> ed.). Newark, DE: International Reading Association.
- Sadoski, M., & Paivio, A. (2004). A dual coding theoretical model of reading. In R.B. Ruddell & N.J. Unrau, (Eds.), *Theoretical models and processes of reading* (5<sup>th</sup> ed.) (pp. 1329-1362). Newark, DE: International Reading Association.
- Share, D.L. (1998). Phonological recoding and orthographic learning: A direct test of the self-teaching hypothesis. *Journal of Experimental Child Psychology*, 72, 95-129
- Torgesen, J.K., Wagner, R.K., & Rashotte, C.A. (1994). Longitudinal studies of phonological processing and reading. *Journal of Learning Disabilities*, 27, 276-286.